

**Compilation of Metadata Received  
on Indicators for Global Monitoring  
of the Sustainable Development  
Goals and Targets**

**(As of 23 October 2015)**

## Introduction

This document contains a compilation of metadata received from UN Agencies, Funds and Programmes, other UN offices and entities, Regional Commissions, and other international and regional organisations on the suggested indicators for global monitoring that are presented in the Summary of comments of 25 September 2015.

This information was provided in the lead up to, and following the first meeting of the Inter-Agency and Expert Group on Sustainable Development Goals Indicators, which took place on 1-2 June, 2015 (see <http://unstats.un.org/sdgs/meetings/iaeg-sdgs-meeting-01.html>, "Inputs from agencies and other entities on indicator proposals and metadata (as of 15 June 2015).” The metadata in this document only represents the “Suggested Indicators”, meaning those indicators that are highlighted in blue in the [Summary of comments](#) that has been made available on 25 September 2015 on the IAEG-SDGs website.

While every effort was made to include all metadata submitted, some previously metadata may have been overlooked or not identified during the compilation process. We apologise in advance if this occurred, and we ask any organisation that feels their metadata was omitted to resubmit it for inclusion in this background document for the IAEG’s second meeting that will take place at the end of October.

In addition, the document contains an Annex that contains metadata for additional, alternative or modified indicators as submitted by UN Agencies, Funds and Programmes, other UN offices and entities, Regional Commissions, and other international and regional organisations. Much of this metadata corresponds to the comments and proposals made by these same organisations during the Open Consultation that took place over the summer.

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# Goal 1 End poverty in all its forms everywhere

**Target 1.1 By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day.**

**Suggested Indicator: Proportion of population below \$1.25 (PPP) per day disaggregated by sex and age group and employment status (or Proportion of employed people living on less than \$1.25 PPP a day)**

**From ILO:**

## **Definition and method of computation**

This indicator provides the proportion of the total population and the proportion of the employed population living in households with per-capita consumption or income that is below the international poverty line of US\$1.25. It is calculated by dividing the number of persons living in households below the poverty line (disaggregated by sex, age and employment status) by the total number of persons (disaggregated by the same sex, age and employment status groups).

## **Rationale and interpretation**

This indicator combines the poverty indicator under the first target (1a) of the MDGs on the eradication of poverty with the corresponding working indicator for monitoring the second target (1b) of the MDGs on decent work. By combining poverty status with employment status, the concept of the working poor is captured, which aims to measure how many workers, despite being in employment, live in poverty.

## **Sources and data collection**

Household surveys (LFS, HIES, LSMS, Integrated HH surveys, etc.).

## **Disaggregation**

Data are available by sex and age.

## **Comments and limitations**

At the country level, comparisons over time may be affected by such factors as changes in survey types or data collection methods. The use of PPPs rather than market exchange rates ensures that differences in price levels across countries are taken into account. However, it cannot be categorically asserted that two people in two different countries, living below US\$1.25 a day at PPP, face the same degree of deprivation or have the same degree of need. This poverty line is not appropriate for high-income economies and may not be appropriate for upper-middle income countries.

## **Gender equality issues**

As this indicator is disaggregated by sex, it is well-suited for analysis of gender equality issues.

## **Data for global and regional monitoring**

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The ILO has estimates of the employed population (number and proportion) living below the US\$1.25 poverty line, disaggregated by age (youth and adult) and sex for the world as a whole and by (flexible) regional groupings. The global and regional estimates are based on estimates for 141 countries (with both reported and imputed values).

### Supplementary information and references

*Decent Work Indicators: ILO Manual - Second Version*, available at:

[www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/publication/wcms\\_223121.pdf](http://www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/publication/wcms_223121.pdf)

*Key Indicators of the Labour Market, 8th Edition*, available at:

[http://www.ilo.org/empelm/what/WCMS\\_114240/lang--en/index.htm](http://www.ilo.org/empelm/what/WCMS_114240/lang--en/index.htm)

### Responsible entities

World Bank and ILO.

### Current data availability

The ILO has estimates available by employment status for 119 countries.

### From World Bank:

#### **Update to the ‘International Poverty Line’ (defined earlier as ‘Proportion of population below \$1.25 (PPP) per day per capita’)**

As differences in the cost of living across the world evolve, the global poverty line has to be periodically updated to reflect these changes. Since 2008, the last update, the World Bank used \$1.25 as the global line using 2005 prices. The 2014 release of a new set of purchasing power parity conversion factors (PPPs) for 2011 has prompted a revision of the international poverty line. In order to preserve the integrity of the goalposts for international targets such as the Sustainable Development Goals (and the World Bank’s twin goals), the new poverty line was chosen so as to preserve the real purchasing power of the earlier \$1.25 line (in 2005 PPPs) in poor countries. Using the new 2011 PPPs, the new line equals \$1.90 per person per day. The higher value of the line in US dollars reflects the fact that the new PPPs yield a relatively lower purchasing power of that currency *vis-à-vis* those of most poor countries. Because the line was designed to preserve real purchasing power in poor countries, the revisions lead to relatively small changes in global poverty incidence: from 14.5 percent in the old method to 14.2 percent in the new method for 2011. There are changes in the regional composition of poverty, but they are also relatively small.

After a new round of internationally comparable prices were collected in 2005, the international poverty line was set based on 15 national poverty lines from some of the poorest countries in the world. These national poverty lines were converted to a common currency by using purchasing power parity (PPP) exchange rates, which are constructed to ensure that the same quantity of goods and services are priced equivalently across countries. The average of these 15 lines was \$1.25 per person per day (in 2005 PPP terms), and this became the new international poverty line.

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In 2015, the poverty lines of those same 15 poorest countries from 2005 were used to determine the new global poverty line. The new global poverty line uses updated price data to paint a more accurate picture of the costs of basic food, clothing, and shelter needs around the world. As of October 2015, the new global line is set at \$1.90 using 2011 prices. The estimates have been back-casted for previous years, in order to assess the trends in poverty reduction over the last 25 years.

Note that the PPP is computed on the basis of price data from across the world, and the responsibility for determining a particular year's PPP rests with the International Comparison Program (ICP), an independent statistical program with a Global Office housed within the World Bank's Development Data Group. For the 2011 PPPs, prices were collected across 199 countries of the world.

For detailed information on this new line please consult:

<http://documents.worldbank.org/curated/en/2015/10/25114899/global-count-extreme-poor-2012-data-issues-methodology-initial-results>

For a short review see:

<http://www.worldbank.org/en/topic/poverty/brief/global-poverty-line-faq>

### **From ESCAP:**

ESCAP proposes to monitor this indicator for persons with disabilities. The Asia-Pacific regional framework to implement the Convention on the Rights of Persons with Disabilities during the Asian and Pacific Decade of Persons with Disabilities, 2013-2022, the *Incheon Strategy to "Make the Right Real" for Persons with Disabilities in Asia and the Pacific*, contains 10 disability inclusive development goals, 27 targets and 62 indicators to track progress in achieving goals and targets. Indicator 1.1 of the Strategy is "Proportion of persons with disabilities living below the US\$ 1.25 (PPP) per day international poverty line". All ESCAP member States are requested to establish a baseline data on the Incheon Strategy indicators including 1.1, by 2017, and some have already started reviewing their existing statistical instruments (e.g. household income and expenditure survey) to generate this indicator. The Washing Group short set of disabilities questions is recommended to be included as a module in the survey. Monitoring this indicator by age group would be practically impossible given that the main source is household income or consumption survey. It would be more practical to monitor the indicator by urban/rural area, and by social or ethnic characteristics (e.g. disability status, as is the case of Incheon Strategy indicator 1.1). Same for Indicator 1.2.2.

The Incheon Strategy and the ESCAP Guide on its indicators are accessible online at: <http://www.maketherightreal.net/incheon-strategy/>

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**Target 1.2** By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions.

**Suggested Indicator: Proportion of population living below national poverty line, disaggregated by sex and age group**

**From ILO:**

### **Definition and method of computation**

This indicator provides the proportion of the total population and the proportion of the employed population living in households with per-capita consumption or income that is below the national poverty line. It is calculated by dividing the number of persons living in households below the poverty line (disaggregated by sex, age and employment status) by the total number of persons (disaggregated by the same sex, age and employment status groups).

### **Rationale and interpretation**

By combining poverty status with employment status, the concept of the working poor is captured, which aims to measure how many workers, despite being in employment, live in poverty.

### **Sources and data collection**

Household surveys (LFS, HIES, LSMS, Integrated HH surveys, etc.).

### **Disaggregation**

Data are available by sex and age.

### **Comments and limitations**

Cross-country comparisons should not be made using national poverty lines, as these do not reflect any single agreed-upon international norm on poverty. However, when the focus is narrowed to one country and the same poverty line has been used consistently over time, analyses of trends and patterns of poverty may be informative and in many cases more useful for national inferences than analysis of international poverty lines.

### **Gender equality issues**

As this indicator is disaggregated by sex, it is well-suited for analysis of gender equality issues.

### **Data for global and regional monitoring**

Global and regional monitoring is not feasible since this indicator is not designed for cross-country comparability or aggregation.

### **Supplementary information and references**

*Decent Work Indicators: ILO Manual - Second Version*, available at:

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[www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/publication/wcms\\_223121.pdf](http://www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/publication/wcms_223121.pdf)

*Key Indicators of the Labour Market, 8th Edition*, available at:

[http://www.ilo.org/empelm/what/WCMS\\_114240/lang--en/index.htm](http://www.ilo.org/empelm/what/WCMS_114240/lang--en/index.htm)

### **Responsible entities**

World Bank and ILO.

### **Current data availability**

The ILO has data available by employment status for 44 countries.



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**Target 1.3 Implement nationally appropriate social protection systems and measures for all, including floors, and by 2030 achieve substantial coverage of the poor and the vulnerable.**

**Suggested Indicator: Percentage of population covered by social protection floors/systems, disaggregated by sex, composed of the following: a) Percentage of older persons receiving a pension; b) Percentage of households with children receiving child support; c) Percentage of working-age persons without jobs receiving support; d) Percentage of persons with disabilities receiving benefits; e) Percentage of women receiving maternity benefits at childbirth; f) Percentage of workers covered against occupational injury; and g) Percentage of poor and vulnerable people receiving benefits.**

**From ILO:**

## **Definition and method of computation**

Definitions are based on World Social Protection Report (ILO, 2014; p. 161) and on Recommendation No. 202 on Social Protection Floors.

The aggregate indicator is estimated based on the number of persons having access to social protection coverage over the lifecycle. This includes coverage in all the main areas of social protection but health (old-age pensions, support for the jobless, occupational injury, child benefits, maternity, disability)) in line with Convention No. 102 and Recommendation 202.

The definition of population covered by social protection should be based on each country's laws and regulations.

## **Rationale and interpretation**

The rationale is to monitor progress toward Target 1.3 following a life-cycle approach as reflected in the World Social Protection Report (ILO, 2014).

The indicators should be interpreted as a straightforward approximation the share of persons covered by social protection, offering insights into the distribution of such right by sex and area of coverage.

## **Disaggregation**

National estimates: total, by sex and area of coverage.

Global estimates: total, by region, national income level, sex, and area of coverage.

## **Comments and limitations**

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The availability of data is as follows: Old age pensions: 175 countries; Child benefits: 109; Jobless support: 79 countries; Disability: 171 countries; Maternity: 139 countries; Occupational injury coverage: 172 countries. Further data work feasible in the short-term.

### Gender equality issues

The indicator monitors progress by sex, allowing to track gender disparities in social protection.

### Data for global and regional monitoring

Data for global and regional monitoring are extracted administrative data. They are available in the Social Security Inquiry since 1949 (ILO, 2005).

### Responsible Entities

ILO.

### Supplementary information

No supplementary information.

### From ESCAP:

- The indicators for this target need to be based on a clear definition of the scope of social protection to be achieved by 2030, for instance by limiting its scope to basic social protection floor for all countries. In addition, the diversity of the definitions of the “poor” and “vulnerable” in different regions/countries might hinder capacity of this target to effectively be tracked.

- For (d) Percentage of persons with disabilities receiving disability benefits, ESCAP has a similar indicator in the Incheon Strategy, i.e. indicator 4.2 “Coverage of persons with disabilities within social protection programmes, ...” that accounts for those receiving disability benefits). The biggest challenge for this indicator is how you define a person with disability for data collection purposes. It is common in this region to count only those with very severe disabilities (e.g. unable to do ...) so that the prevalence of disabilities in many countries is only 1 to 2 per cent. In this case the percentage of persons with disabilities receiving disability benefits can be 100 per cent so that there is no need to monitor the indicator. We need to pay attention to the “less” severe cases resulting from work injuries or accidents, which may keep people unable to work for 6 months or 1 year but who still need support in form of disability benefits.

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**Target 1.4 By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance.**

**Suggested Indicator 1: Proportion of the population living in households with access to basic services.**

### **From Universal Postal Union (UPU):**

In the sections below, the UPU provides metadata regarding a postal component to be included in indicator 1.4.1 “Proportion of the population living in households with access to basic services”, namely the “Percentage of the population with access to home delivery for postal and parcels services”.

#### *Definition and method of computation*

Percentage of the population benefiting from home delivery for postal and parcel services: this is the percentage of the population having postal items and parcels delivered at their own home address. Delivery to community cluster boxes close to the recipient’s home address is regarded as home delivery.

This percentage is directly determined by postal operators in each country after distinguishing (i) the share of the population without street or postal address (namely the recipient can neither receive postal items at home nor pick them up in a post office box in his home area), (ii) the share of the population with postal address and access to postal delivery services in a P.O. box located at the post office premises (namely the recipient always needs to go to the post office in order to pick up postal items), and (iii) the share of the population with access to postal delivery services at their home address or in community cluster boxes close to their home address (namely the postal carrier, postmen or postwomen are transporting postal items from the post office to the recipient’s home address or to its community cluster boxes).

#### *Rationale and interpretation*

Street and postal addresses are not universal yet, particularly in developing and least developed countries. The UPU estimates that more than 2 billion people lack a proper street or postal address where postal items can be delivered to. Without a proper address, people are usually excluded from accessing a wide range of financial services, cannot be easily reached by emergency services, and citizens’ rights are jeopardized. In absence of home or street addresses, most citizens are constrained to rent post offices boxes at the post office away from their home location in order to receive postal items. Moreover, in least developed countries, most citizens cannot afford to rent these boxes. There is very often a lack of delivery boxes available for rent.

With the steady development of national and international e-commerce, access to delivery of goods ordered online has never been so critical. The development of Internet-based services and the expansion of mobile telephony could be substantially undermined in absence of addressing systems that enable postal and logistics networks to operate and ensure the

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physical movements of goods and merchandise in developing and emerging countries. The 2015 UNCTAD Information Economy Report confirms the negative impact of the absence of home delivery for the development of e-commerce in a country. E-commerce will play an essential development role for micro, small and medium-sized enterprises across the world in the coming two decades. However, this also requires the organization of a delivery infrastructure and the establishment of addressing systems and ways of geo-locating customers for final delivery.

### *Source and data collection*

The data is collected through the UPU Postal Statistics questionnaires sent to 192 UPU member countries every year since 1875. Although varying from one year to another, the response rate is usually high.

### *Disaggregation*

Besides the annual collection of country level data on home delivery, the Universal Postal Union regularly surveys postal delivery issues, including access to postal services in rural areas. The new UPU Postal Statistics questionnaire that will be launched in 2016 will collect more information on rural access to postal delivery services.

### *Comments and limitations*

The indicator would need to be enriched with gender and income group information.

### *Gender equality issues*

The proportion of male or female recipients of postal items could be estimated by sampling postal traffic in each country.

### *Supplementary information*

Postal, parcel and express delivery networks are dealing with at least half a trillion economic transactions every year. Besides electronic and physical access to e-commerce platforms and logistics, access to a wide range of financial services is also paramount to a sustainable development of an inclusive e-commerce ecosystem. Postal systems are very often providing a wide portfolio of payments and account services, either directly or in partnership with other financial institutions. Furthermore, post offices represent the largest physical retail network in the world with over 650,000 offices worldwide.

### *References*

UNCTAD. (2015). Information Economy Report 2015. Unlocking the Potential of E-commerce for Developing Countries. UNCTAD. At: [http://unctad.org/en/PublicationsLibrary/ier2015\\_en.pdf](http://unctad.org/en/PublicationsLibrary/ier2015_en.pdf)

UPU. (2012). Addressing the world – An address for everyone. White paper. UPU. At: <http://www.upu.int/fileadmin/documentsFiles/activities/addressingAssistance/whitePaperAddressingTheWorldEn.pdf>

UPU Postal Statistics website: <http://www.upu.int/en/resources/postal-statistics/about-postal-statistics.html>

### *Targets for which indicators are relevant*

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5.b, 9.1, 9.c, 10.3, 11.1, 16.7, 17.6, 17.8; and 1.4, 2.3, 5.a, 8.10

## Suggested Indicator 2: Share of women among agricultural land owners by age and location (U/R)

From: FAO

### 1. Precise definition of the indicator

Definition of indicator:

$$\left( \frac{\text{Female Agricultural Landowners}}{\text{Total Agricultural Landowners}} \right) \cdot 100$$

Definition of landowner:

*The landowner is the legal owner of the land. However, definitions of ownership may vary across countries and surveys. For instance, documented ownership means that ownership is verified through title or deed, while reported ownership relies on individuals' own judgment. Additionally, in some countries, it is more appropriate to investigate land ownership using proxies able to capture a "bundle of rights". Therefore, the indicator will need to be complemented with metadata that specify what definition(s) of ownership is employed.*

### 2. How is the indicator linked to the specific TARGET as worded in the OWG report and copied above?

The indicator is related to Goal 1, target 1.4: *"By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance."*

More specifically, this indicator monitors **"ownership of land"** and it is particularly useful in terms of framing gender differences in land ownership whilst relating them specifically to the population of interest, namely landowners. As such it gives a clearer picture of gender inequalities in land ownership, than for instance looking at the incidence of female ownership in the entire population of a country. An increase in the percentage of women owning land indicates that, within the population of interest (i.e., the landowners), progress is made towards achieving equal rights to land among men and women..

In addition, the indicator focuses on **agricultural** land, because agricultural land is a productive resource, and focusing on agricultural landownership gives a clearer indication of empowerment, compared to lands used for other purposes that are not economically-related. This is particularly true in developing countries.

### 3. Does the indicator already exist and is it regularly reported?

The indicator already exists.

Until now, the indicator has been collected mainly through the LSMS-ISA surveys and to a smaller extent through DHS surveys in collaboration with National Institutes of Statistics. At the time of writing,

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the indicator is readily available for 11 countries. Additional, but yet unprocessed surveys (e.g., DHS, LSMS, national household income and expenditure surveys etc.) lead to a conservative estimate of an additional 15 countries for which the indicator could be derived. It cannot be excluded that many other surveys not currently available to FAO would be potential sources as well, for countries not covered by LSMS or DHS.

Thanks to a fruitful cooperation with IFPRI, FAO is already disseminating the available data for through the Gender and Land Rights Database (GRLD). In the next future, the same data will be also disseminated through the Rural Livelihood Monitoring (RLM) platform. The new World Programme for Agricultural Census (WCA 2020) has proposed the collection of land ownership data disaggregated by sex as a supplementary item. Furthermore, the FAO Statistics Division is starting a project called AGRIS (Agricultural Integrated Surveys) through which methodological guidelines will be provided to countries on how to conduct farm surveys (i.e. key indicators to collect, definitions, methods for data collection, periodicity, etc.), and effort will also be made to support countries in the actual implementation of the farm surveys. By doing so, the availability of this indicator will increase substantially in the future.

While comparability across countries (mainly due to differing ownership definitions) and low current availability pose a challenge to this indicator, it is still fair to consider the indicator superior to the “share of female agricultural holders” because it captures ownership in a strict sense instead of management and, more importantly, because it provides intra-holding/household information.

It also worth mentioning, that the EDGE (Evidence and Data for Gender Equality) initiative<sup>1</sup> has chosen the “proportion of the (adult) population who own land, by sex”, as one of 16 total indicators to be collected across countries as part of the initiative<sup>2</sup>. It also figures as one of the 52 indicators included in the *Minimum Set of Gender Indicators* approved by the UN Statistical Commission. This further underlines the recognised importance of reporting on land ownership by sex.

#### **4. Comment on the reliability, potential coverage, comparability across countries, and the possibility to compute the indicator at sub-national level.**

##### Reliability

The indicator is expected to be reliable because the identification of the plot owner(s) in household surveys is a feasible task. Household surveys are usually done on a sample basis and are statistically representative at national and subnational level.

##### Coverage

The indicator is nationally representative insofar the survey data is nationally representative. The indicator can be collected periodically (about every 2-4 years) which is a reasonable frequency to capture significant changes in land ownership.

##### Comparability across countries

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<sup>1</sup> A joint UNWOMEN and UNSD project with the aim of accelerating existing efforts to generate comparable gender indicators on health, education, employment, entrepreneurship and asset ownership.

<sup>2</sup> <http://genderstats.org/EDGE>.

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Different country definitions of ownership can be problematic. Also, the indicator is collected in different years, depending on when surveys are conducted in individual countries. This can negatively affect comparability across countries.

### Sub-national estimates

It is possible to disaggregate the indicator by geographic areas if the surveys are representative for these areas. The level of disaggregation depends on the sample design of the surveys.

#### **5. Is there a baseline value for 2015?**

We do not expect this indicator to change rapidly.

It is worth highlighting that the baseline and follow-up values will be different across countries. To ensure correct comparisons linear interpolation between the actual data points will be necessary.

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**Target 1.5** By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters.

**Suggested Indicator: Number of deaths, missing people, injured, relocated or evacuated due to disasters per 100,000 people.**

**From UNISDR:**

**Definition:**

**Death:** The number of people who died during the disaster, or directly after, as a direct result of the hazardous event

**Missing:** The number of people whose whereabouts is unknown since the hazardous event. It includes people who are presumed dead although there is no physical evidence. The data on number of deaths and number of missing are mutually exclusive.

**Affected people:** People who are affected by a hazardous event.

Comment: People can be affected directly or indirectly. Affected people may experience short-term or long-term consequences to their lives, livelihoods or health and in the economic, physical, social, cultural and environmental assets.

**Directly affected:** People who have suffered injury, illness or other health effects; who were evacuated, displaced, relocated; or have suffered direct damage to their livelihoods, economic, physical, social, cultural and environmental assets.

**Indirectly affected:** People who have suffered consequences, other than or in addition to direct effects, over time due to disruption or changes in economy, critical infrastructures, basic services, commerce, work or social, health and physiological consequences.

In this indicator, given the difficulties in assessing the full range of all affected (directly and indirectly), UNISDR proposes the use of an indicator that would estimate "directly affected" as a proxy for the number of affected. This indicator, while not perfect, comes from data widely available and could be used consistently across countries and over time to measure the achievement of the Target B.

From the perspective of data availability and measurability, it is proposed to build a composite indicator which consists of "**directly affected**", or those who are

- Injured or ill,
- Evacuated,
- Relocated

and to measure the number who suffered direct damage to their livelihoods or assets,

- People whose houses were damaged or destroyed
- People who received food relief aid.

**Injured or ill:** The number of people suffering from physical injuries, trauma or cases of disease requiring immediate medical assistance as a direct result of a hazardous event.



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**Evacuated:** The number of people who temporarily moved from where they were (including their place of residence, work places, schools and hospitals) to safer locations in order to ensure their safety.

**Relocated:** The number of people who moved permanently from their homes to new sites due to hazardous event. Note: This definition excludes preventive relocation before the event.

**People whose houses were damaged or destroyed due to hazardous events:** The estimated number of inhabitants previously living in the houses (housing units) damaged or destroyed. All the inhabitants of these houses (housing units) are assumed to be affected being in their dwelling or by direct consequence of the destruction/damage to their housings (housing units). An average number of inhabitants per house (housing unit) in the country can be used to estimate the value.

**Houses destroyed:** Houses (housing units) levelled, buried, collapsed, washed away or damaged to the extent that they are no longer habitable.

**Houses damaged:** Houses (housing units) with minor damage, not structural or architectural, which may continue to be habitable, although they may require some repair or cleaning.

**People who received food relief aid:** The number of persons who received food /nutrition, by government or as humanitarian aid, during or in the aftermath of a hazardous event.

**Hazardous event:** The occurrence of a natural or human-induced phenomenon in a particular place during a particular period of time due to the existence of a hazard.

**Hazard:** A potentially damaging physical event, phenomenon or human activity that may cause the loss of life or injury, property damage, social and economic disruption or environmental degradation.

UNISDR recommends setting NO threshold for recording hazardous event in order to monitor *all* hazardous events. Small-scale but frequent hazardous events that are not registered in international disaster loss databases account for an important share of damages and losses when they are combined, and often go unnoticed by the national and international community. These events, when accumulated, are often a source of poverty in developing countries but can be effectively addressed by well-designed policies. The scope of the Sendai Framework for Disaster Risk Reduction 2015-2030 is “the risk of small-scale and large-scale, frequent and infrequent, sudden and slow-onset disasters, caused by natural or man-made hazards as well as relate environmental, technological and biological hazards and risks”.

Regarding the inclusion of biological and environmental hazards in natural hazards category and whether and how to integrate man-made hazards, UNISDR will discuss the issue with WHO and other organizations (for example, WHO would be in a better position in terms of data, knowledge and relationship with Member States and other stakeholders to monitor biological events including epidemics. However, we generally do not expect biological disasters will cause physical damages to facilities. ).

Note: Terminology will be discussed and finalized in the Open-ended Intergovernmental Working Group for Sendai Framework for Disaster Risk Reduction.

**Method of computation:**

## Goal 1 End poverty in all its forms everywhere

Summation of data on related indicators from national disaster loss databases. Make the sum a relative figure by using global population data (World Bank or UN Statistics information). Relativity is important because population growth (expected to be 9 billion in 2050) may translate into increased hazard exposure of population.

The Expert Group recommends not using the indicators related with the people whose houses were damaged/destroyed in the computation. UNISDR and IRDR groups recommend using them as they can be estimated from widely available and verifiable data and reflect vulnerability and livelihood issues. Data on housing damage and destroyed is essential for economic loss, so using these indicators would not impose additional data collection burden.

Double-counting: From practical perspective, double counting of affected people is unavoidable (for example, injured and relocated) in many countries. Minimum double counting is summing “number of injured” and Number of people whose housings were damaged or destroyed. Relocated is sub-set of number of people whose housings were destroyed.

The data can be disaggregated by hazard type. When applied to proposed target 13.1 and 15.3, hydrological, meteorological and climatological and indirectly biological disasters are monitored.

**Rationale and interpretation** (mainly based on TST Issue Brief 2, 5, 20 and 23-26):

Cities around the world, as well as rural populations, witness growing disaster risks. Impacts of climate change on sustainable development are observed through both slow-onset events (e.g. sea level rise, increasing temperatures, ocean acidification, glacial retreat and related impacts, salinization, land and forest degradation, loss of biodiversity and desertification) and extreme weather events. Human loss can be measured by the number of deaths, missing, injured or ill, evacuated, relocated, people whose houses were damaged/destroyed and people who received food relief aid as a direct result of the hazardous events.

Cities are some of the most vulnerable areas to natural disasters. Unplanned urban development (e.g. informal settlements, overcrowding, inadequate infrastructures) exacerbates urban vulnerability to climate change impacts and hydro-meteorological and geological hazards. Over half of all coastal areas are urbanized and 21 of the world's 33 mega cities lie in coastal flood zones. SIDS and coastal regions are particularly affected by sea level rise, coastal flooding and erosion, and extreme events (e.g. tsunamis and storm surges) due to undermining natural protective barriers, low levels of development combined with rapid population growth in low lying coastal areas and inadequate capacity to adapt. Poor urban populations must often resort to unsustainable coping strategies and mechanisms.

Large numbers of people remain perilously close to falling into poverty, experiencing shocks that they are unable to cope with. For the poor, a shock of even a relatively short duration can have long term consequences. Several dimensions of poverty are closely related to environment, which is often affected by natural disasters. The poverty reduction agenda could include well-designed social protection scheme to help protecting the poor against sudden shocks and the development of capacities to better predict and prepare for such shocks. Better management of natural resources can themselves strengthen the resilience of the poor, by both reducing the likelihood of natural hazardous events and offering resources to help cope with them.

Biodiversity provides ecosystem resilience and contributes to the ability to respond to unpredictable global changes and natural disasters. Healthy ecosystems act as buffers against natural hazards, providing valuable yet underutilized approaches for climate change adaptation, enhancing natural

## Goal 1 End poverty in all its forms everywhere

resilience and reducing the vulnerability of people, for example to floods and the effects of land degradation. These ecosystem services improve the sustainability and economic efficiency of built infrastructure, and are critical for sustainable and resilient urban areas.

This indicator will track human-related loss. The disaster loss data (particularly mortality) are significantly influenced by large-scale catastrophic event, which represent important outliers. UNISDR recommends countries to report the data by event, so complementary analysis can be done by both including and excluding such catastrophic events.

The indicator will build bridge between SDGs and the Sendai Framework for Disaster Risk Reduction because the reduction of human related loss is included in the Sendai Framework global targets and will also be monitored under the Sendai Framework Monitoring Mechanism.

**Sources and data collection:** National disaster loss database, reported to UNISDR

**Disaggregation:** by country, by event, by hazard type (e.g. disaggregation by climatological, hydrological, meteorological, geophysical, biological and extra-terrestrial for natural hazards is possible following IRDR\* classification), by death/missing/injured or ill/evacuated/relocated/people whose houses were damaged/people whose houses were destroyed/people who received food relief aid.

\*Integrated Research on Disaster Risk (2014), *Peril Classification and Hazard Glossary (IRDR DATA Publication No.1)*, Beijing: Integrated Research on Disaster Risk

Additionally, the Expert Group recommended disaggregation by age, sex, location of residence and other characteristics (e.g. disability) as relevant and possible. Aggregation of “location of residence”: ideally by sub-national administrative unit similar to municipality.

### Comments and limitations:

- ✓ This is proposal by UNISDR based on our experience and knowledge built in the period under the Hyogo Framework for Action (2005-2015). The proposed indicator was further reviewed and examined by other UN agencies including FAO, GFDRR, IOM, UNCCD, UNDP, UNESCAP, UNESCO, UNFPA, UNHCR, UNOCHA, UNOOSA, UNOPS, UNU, UNWOMEN, WHO and WMO (though not all organizations listed here provided comments for this indicator) and submitted to the IAEG process in early-July 2015, then again reviewed by the Technical Expert Group consisting of more than 60 experts from UN system, academic and research, civil sector and private sector in 27-29 July 2015 and submitted and examined by the Member States in the 1<sup>st</sup> Open-ended Intergovernmental Expert Working Group on Indicators and Terminology on Disaster Risk Reduction held in 29-30 September 2015. The suggested indicator is currently under review by the Member States and UNISDR is receiving written inputs from the Member States.
- ✓ The proposed indicators will be also used to monitor Sendai Framework global targets and therefore the detailed definitions shall be discussed and agreed in Open-ended Intergovernmental Expert Working Group on Indicators and Terminology on Disaster Risk Reduction, as outlined in Sendai Framework for Disaster Reduction 2015-2030. The Working Group is likely to finalize the discussion and submit the final report to the GA in December 2016.
- ✓ Not every country has a comparable national disaster loss database that is consistent with the UNISDR guidelines (current coverage is 85 countries. Additional 32 countries are expected to be covered in 2015-16). Therefore, by 2020, it is expected that all countries will build/adjust the database according to the UNISDR guidelines and report the data to UNISDR.

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**Gender equality issues:** Disaggregated by gender (if agreed by country in the Open-ended Intergovernmental Expert Working Group)

**Data for global and regional monitoring:** Summation of data from national disaster loss databases

**Main linkage with SDG Targets:**

*This indicator is proposed as “multi-purpose indicator”.*

**Target 1.5:**

By 2030, build **the resilience of the poor and those in vulnerable situations** and reduce their **exposure and vulnerability to climate-related extreme events** and other economic, social and environmental shocks and **disasters**

**Target 11.5:**

By 2030, significantly reduce **the number of deaths** and **the number of people affected** and substantially decrease the direct economic losses relative to global gross domestic product caused by **disasters**, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations

**Target 13.1:**

Strengthen **resilience and adaptive capacity to climate-related hazards and natural disasters** in all countries

**Target 1.3:**

Implement nationally appropriate **social protection systems and measures** for all, including floors, and by 2030 achieve substantial coverage of the poor and the vulnerable

**Target 14.2:**

By 2020, sustainably manage and protect **marine and coastal ecosystems** to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans

**Target 15.3:**

By 2030, combat desertification, restore degraded land and soil, including **land affected by desertification, drought and floods**, and strive to achieve a land-degradation-neutral world

**Target 3.9:**

By 2030, substantially reduce the number of **deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination**

**Target 3.6:**

By 2020, halve the number of **global deaths and injuries from road traffic accidents**

**Target 3.d:**

Strengthen the capacity of all countries, in particular developing countries, for **early warning, risk reduction and management of national and global health risks**

**Supplementary information:**

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## Related targets in the Sendai Framework for Disaster Risk Reduction 2015-2030:

Substantially reduce global disaster **mortality** by 2030, aiming to lower average per 100,000 global mortality between 2020-2030 compared to 2005-2015.

Substantially reduce the number of **affected people** globally by 2030, aiming to lower the average global figure per 100,000 between 2020-2030 compared to 2005-2015.

## Sendai Framework for Disaster Risk Reduction 2015-2030:

([http://www.preventionweb.net/files/43291\\_sendaiframeworkfordrren.pdf](http://www.preventionweb.net/files/43291_sendaiframeworkfordrren.pdf))

## From Joint submission by DESA, Internal Displacement Monitoring Centre, IOM, Joint IDP Profiling Service, OCHA, UNHCR, UNRWA, Special Rapporteur on the Human Rights of Internally Displaced Persons:

OWG targets addressed	<p>11.5: By 2030, significantly reduce the number of deaths and the number of people affected and decrease by [x] per cent the economic losses relative to gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations</p> <p>Including the revised target proposed by co-chairs of the IGN:          11.5: <i>By 2030, <b>substantially</b> reduce the number of deaths, the number of <b>affected people</b> and the <b>direct economic losses</b> relative to <b>global</b> gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations, <b>including through humanitarian assistance</b></i></p>
Rationale	<p>According to the Internal Displacement Monitoring Centre (IDMC), almost 22 million people were displaced in at least 119 countries in 2013. On average, disasters displaced 27 million people each year between 2008 and 2013. Major disasters are irregular and relatively infrequent, but they cause displacement on a vast scale when they do occur. Thirty-five disasters that each forced more than a million people to leave their homes accounted for 70 per cent of all displacement between 2008 and 2013.</p> <p>Also according to IDMC, risk of disaster-related displacement has quadrupled since the 1970s. It has increased at twice the rate of population growth, meaning that people are twice as likely to be displaced by disasters now than they were in the 1970s. The number of mega-events that displace more than 3 million people has been increasing. These mega-events are responsible for the overall increase in displacement risk. Displaced persons are increasingly living in urban settings. In fact, the primary driver of increase in exposure to natural hazards since the 1970s has been rapid, unplanned development in hazard-prone areas in developing countries. This rapid urbanisation concentrates large numbers of vulnerable people in dangerous locations. Weak or corrupt governance structures can further exacerbate this dangerous process by creating incentives for people to move into hazard-prone areas – or forcing them to live there. Conflict and generalised violence affects several of the most at-risk countries, further increasing the vulnerability of communities, undermining their ability to resist and cope with natural hazards.</p>
Method of computation	The number of refugees and IDPs who have been forcibly displaced by disasters [and, if expanded, crises and shocks] during a calendar year.
Data sources and number of countries for which data is currently available	<p>Centre for Research on the Epidemiology of Disasters (CRED) EM-DAT International Disaster Database</p> <p>Existing/developing (national level) Government statistics and population data. National disaster loss databases and other government data and statistics. Data sources include administrative data maintained by host countries (ministries and agencies in charge of adjudication of refugee status, immigration authorities in charge</p>

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	<p>of refugee resettlement, interior ministries in charge of issuing work and residents permits and naturalization procedures)</p> <p>OCHA situation reports (in ongoing humanitarian emergencies)</p> <p>Registration and documentation of IDPs and refugees, in particular UNHCR registration (figures disaggregated by age, gender and disabilities – AGD mainstreaming) and profiling exercises, annual refugee flow and stock figures and number of asylum applications, participatory needs assessments and population surveys by humanitarian actors.</p> <p>IOM Displacement Tracking Matrix</p> <p>Internal Displacement Monitoring Centre (IDMC) IDP Database and Annual Global Estimates Reports for displacement induced by conflict/generalized violence and disasters, as well as UN Population Fund (UNFPA) figures to normalize displacement estimates.</p> <p>Joint IDP Profiling Service (JIPS) (collects data disaggregated by sex, age, location and diversity)</p> <p>[If expanded to cover crises and other shocks:] Uppsala Conflict Data Programme (counts annual number of people killed as a result of conflict, wars etc.)</p>
Responsible entity	<p>CRED EM-DAT, UNHCR, Internal Displacement Monitoring Centre, IOM, OCHA, UNRWA, JIPS, [Uppsala Conflict Data Programme], Global Migration Group</p>
Other targets for which this indicator is relevant	<p>1.5 <i>By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters</i> (including the revised target language proposed by the co-chairs of the IGN: <i>By 2030, build the resilience of the poor and those in vulnerable situations, <b>including through assistance to those affected by complex humanitarian emergencies</b>, and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters</i>);</p> <p>10.7: <i>Facilitate orderly, safe, regular and responsible migration and mobility of people, including through implementation of planned and well-managed migration policies;</i></p> <p>13.1: <i>Strengthen resilience and adaptive capacity to climate related hazards and natural disasters in all countries;</i></p> <p>16.1: <i>Significantly reduce all forms of violence and related death rates everywhere.</i></p>
Comments	<p>"Displaced" to replace / encompass both "evacuated" and "relocated" as data on displacement per se more readily available at global level than in the case of evacuations and relocations. However, should be noted that the effectiveness of evacuations and resulting reduced loss of lives is one of the main ways to confirm reduced disaster risk/impacts. At the same time, while evacuations are mostly temporary and often coordinated, displacement encompasses the more longer-term forced uprooting of people and resulting impacts on their lives and vulnerability. In addition, the category and definition of "affected" needs to be clarified and, where possible, harmonized.</p> <p>Rationale for expanded revised indicator: expand the revised indicator for 11.5 to include also other shocks (in line with the proposed revised formulation of target 1.5) that would expand the coverage of the indicator to social, economic and environmental shocks as well as complex humanitarian emergencies (including conflict). This presumes and may involve the 'detachment' of the indicator from individual indicators and the usage of such indicator as a genuinely multi-purpose indicator linked and contributing to multiple other goals and targets. Hence a multi-purpose global indicator covering the number of people killed, injured, displaced or otherwise</p>

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	<p>affected by disasters, crises and [social, economic and environmental] shocks (linked to 1.5, 11.5, 13.1, 16.1 as well as 10.7) would be advisable, complemented by the above alternative indicator 1 for 1.5 (linked also to 11.5, 13.1, 16.1 as well as 10.7) ) that would measure the (number and) percentage of forcibly displaced people who have found a durable solution to their displacement as a measure of resilience among particularly vulnerable and marginalized groups (i.e. refugees and internally displaced persons). This suggestion would also be in line with and establish a strong linkage to the proposed target language revisions of the co-chairs of the IGN that include references to (in 1.5) “assistance to those affected by complex humanitarian emergencies”, and (in 11.5) “through humanitarian assistance”.</p>
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## Goal 1 End poverty in all its forms everywhere

**Target 1.a Ensure significant mobilization of resources from a variety of sources, including through enhanced development cooperation, in order to provide adequate and predictable means for developing countries, in particular least developed countries, to implement programmes and policies to end poverty in all its dimensions.**

**Suggested Indicator: Share of total overall government spending (incl. subnational) on programs directed to bottom 40% of population of country (%).**

**NO METADATA RECEIVED**



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**Target 1.b Create sound policy frameworks at the national, regional and international levels, based on pro-poor and gender sensitive development strategies, to support accelerated investment in poverty eradication actions.**

**Suggested Indicator: Number of national action plans related to multi-lateral environmental agreements that support accelerated investment in actions that eradicate poverty and sustainably use natural resources.**

**NO METADATA RECEIVED**

## Goal 2 End hunger, achieve food security and improved nutrition and promote sustainable agriculture

**Target 2.1 By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round.**

### **Suggested Indicator 1: Prevalence of undernourishment**

#### **From FAO:**

##### **1. Precise definition of the indicator**

The Prevalence of Undernourishment (PoU) is defined as the probability that a randomly selected individual from the reference population is found to consume less than his/her calorie requirement for an active and healthy life. It is written as:  $PoU = \int_{x < MDER} f(x) dx$  where  $f(x)$  is the probability density function of per capita calorie consumption and MDER is a Minimum Dietary Energy Requirement. The MDER threshold is computed on the basis of normative energy requirement standards referred to a minimum level of physical activity. Estimates of the number of undernourished (NoU) - calculated by multiplying the PoU by the size of the reference population - are used to monitor progress towards the World Food Summit goal of reducing by half the number of people suffering from undernourishment. The parameters needed for the calculation of the indicator are: the mean level of dietary energy consumption (DEC); a cut-off point defined as the Minimum Dietary Energy Requirement (MDER); the coefficient of variation (CV) as a parameter accounting for inequality in food consumption; and a skewedness (SK) parameter accounting for asymmetry in the distribution. The DEC as well as the MDER are updated annually, with the former calculated from the FAO Food Balance Sheets. The MDER is calculated as a weighted average of energy requirements according to sex and age class, and is updated each year from UN population ratio data. The inequality in food consumption parameters are derived from National Household Survey data when such data is available and reliable. Due to the limited number of available household surveys, the inequality in food access parameters are updated much less frequently over time than the DEC and MDER parameters<sup>3</sup>.

##### **2. How is the indicator linked to the specific TARGET as worded in the OWG Report?**

The indicator refers to food available for consumption over a period on one year. It refers to a severe condition of lack of food. In this respect, it is fully consistent with the spirit of the developmental goal. Energy intake is a very specific aspect of food insecurity, which applies where conditions are more severe.

Ideally, undernourishment should be assessed at the individual level by comparing individual energy requirements with individual energy intakes. This would enable the classification of each person in the population as undernourished or not. However, this approach is not feasible for two reasons: individual energy requirements are practically unobservable with standard data collection methods; and individual food consumption is currently measured with precision in only a few countries and for relatively limited samples. The individual-level consumption data that can be estimated from National Household Survey data are largely approximated owing to disparities in intra-household food allocation,

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<sup>3</sup> More detailed information on the indicator can be found in: Wanner N., C. Cafiero, N. Troubat, P. Conforti (2014), Refinements to the FAO Methodology for estimating the Prevalence of Undernourishment Indicator, FAO Statistics Division Working Papers Series 14-05, Rome 2014 (available at: <http://www.fao.org/3/a-i4046e.pdf>) and in: Cafiero, C. Advances in hunger measurement. Traditional FAO methods and recent innovations FAO Statistics Division Working Papers Series 14-04, Rome 2014 (available at <http://www.fao.org/3/a-i4060e.pdf>).

## Goal 2 End hunger, achieve food security and improved nutrition and promote sustainable agriculture

the variability of individual energy requirements, and the day-to-day variability of food consumption that can arise for reasons independent of food insecurity. The solution adopted by FAO has been to estimate the PoU with reference to the population as a whole, summarized through a representative individual, and to combine available micro-data on food consumption with macro-data.

The Prevalence of Undernourishment indicator is still one of the most reliable tools to monitor progress towards reducing global hunger. Recent innovations to the methodology, such as those presented in *Wanner et al. (2014)* allow to improve the quality of global monitoring, and to capture more accurately progress in reducing hunger and how the problem is currently distributed globally. In 2012 the functional form of habitual food consumption was modified. The Skewed Normal functional form was introduced to take into account the asymmetry of the distribution. This was a major improvement, as it allowed better capturing the characteristics of the distribution, and how this would change when calories consumption increases. At the same time, a strong increase was promoted in the number of Household Budget Survey employed in the calculation of the CV and SK parameter. Household Budget Survey now cover about 70 percent of the total number of undernourished estimated. Another main recent refinement, introduced in 2014, is a data-driven flexible selection criterion for the choice of the functional form of the distribution of per capita habitual calorie consumption that maintains the probability framework. Further improvements to the calculation of inequality in food access parameters, both directly and indirectly, have been made in 2014 to allow for time-varying parameters that take into account economic progress and demographic changes.

At the same time, the indicator does not convey information on the quality of food, nor on its nutritional value. The reason is that it focuses on the most severe aspect of hunger, and it is therefore solely based on the number of calories consumed through food. The parametric approach adopted by FAO allows obtaining reliable estimated for relatively large population groups.

Information about the sufficiency of calories from food for specific population groups, such as the poor and the vulnerable, can be derived if such groups can be identified within the population, and if sampling allows drawing inference on the habitual food consumption of these groups.

In principle, the indicator can be computed for specific population groups, such as the poor and the vulnerable. However, this requires that such groups are clearly identifiable in the population, and that sampling allows drawing inference on their habitual food consumption. In fact, such information is seldom available.

### **3. Does the indicator already exist, and is it regularly reported?**

Yes, the indicator exists. FAO maintains the data and reports on it annually.

Metadata are available at the FAO Statistics website <http://www.fao.org/economic/ess/ess-fs/ess-fadata/it/#.VM89cGjF-VM> as Excel sheets associated with the data; and from the FAOSTAT website, at [http://faostat3.fao.org/download/D/\\*/E](http://faostat3.fao.org/download/D/*/E).

### **4. Comment on the reliability, potential coverage, comparability across countries, and the possibility to compute the indicator at sub-national level.**

#### Reliability

Reliability depends on the quality of the background data, specifically on Dietary Energy Supply, the distribution of habitual food consumption in the population – which is derived from household budget

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surveys whenever possible -- the population, its structure and height distribution. No statistical margin of error can be determined for the prevalence of undernourishment.

The ability of the indicator to approximate access to food depends upon the extent to which existing data allow characterizing effectively the probability distribution of habitual food consumption in the reference population. As mentioned, the FAO methodology combines available micro-data on food consumption derived from surveys with macro-data from food balance sheets. Food balance sheets provide information on the amount of food that is available for consumption after taking into account all the possible alternative uses of the food items; hence, they provide approximate measures of per capita consumption, which are available for a large number of countries and are homogenous. The methodology adopted for computing these data is currently under revision, together with the estimates of waste parameters employed to derive the DEC, so the level of accuracy is expected to increase in the next few years. Survey data, where available and reliable, are employed in the FAO methodology to compute the variability (CV) and skewedness (SK) parameters that characterize the distribution of food consumption  $f(x)$ . It is therefore essential that surveys are improved to obtain more accurate measures of undernourishment. Such improvement will require promoting greater standardization across existing surveys, particularly household budget surveys, and conducting more refined surveys that capture food intake at the individual level.

### Coverage

Consistent time series for the indicator exist from 1990-92 for about 140 countries. The indicator is regularly reported in the annual State of Food Insecurity in the World Report published by FAO, IFAD and WFP since 1999 and in the Millennium Development Goal Report of the UN Statistics Division. Data on the indicators are published on the FAO Statistics website, at <http://www.fao.org/economic/ess/ess-fs/ess-fadata/it/#.VM89cGjF-VM> and updated every year. From year 2014 they are also available in FAOSTAT, at [http://faostat3.fao.org/download/D/\\*/E](http://faostat3.fao.org/download/D/*/E).

### Comparability across countries

Comparability across time and space is relatively strong. The only potential cause of lack of homogeneity is the quality of the background data. Not all countries monitored undertake regular and reliable surveys of food consumption. In countries where this information source is of poor quality or missing, the distribution of habitual food consumption is estimated indirectly, through an econometric exercise that relates the CV of food consumption to food prices, incomes and their distribution.

### Sub-national estimates

In principle the indicator could be defined at sub-national level. However, reliable information has to be available on the amount and distribution of habitual food consumption in the population of the sub-national areas of interest. In fact, this information is frequently available only for wide population sub-groups – such as rural and urban areas and some major geographical areas. The global monitoring exercise has therefore always relied only on the Prevalence of Undernourishment at national level, and never used the indicator at sub-national levels.

#### **5. Is there already a baseline value for 2015?**

Yes. A target for 2030 can be identified in terms of a minimum level, allowing for the possibility that lack of food has become marginal in the reference population. The choice of the threshold should

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also reflect the ability of the indicator to be accurate at such level, and effectively capture changes in the level.

### **Suggested Indicator 2: Prevalence of population with moderate or severe food insecurity, based on the Food Insecurity Experience Scale (FIES)**

#### **From FAO:**

#### **1. Precise definition of the indicator**

These are in reality two related indicators, representing the percentage of individuals in the national adult population (15 or more years of age) that have experienced *moderate or severe levels* and *severe levels of food insecurity* respectively, during the previous year.

Severity of food insecurity is defined as the extent to which people have difficulties in accessing food of adequate quality and/or quantity due to lack of money or other resources. Difficulties include also psychological concerns associated with the struggle in accessing food.

#### **2. How is the indicator linked to the specific TARGET as worded in the OWG Report?**

This indicator is a direct implementation of the concept of “access to food” that informs the target. Experience-based food insecurity scales are the only available tools that address the effective ability to access food at the individual or household level, directly. Reliable measure at individual level, as afforded by these indicators, is crucial to respond to the need to ensure monitoring access “by all people” and that monitoring can be conducted “in particular for the poor in vulnerable situations”.

#### **3. Does the indicator already exist and is it regularly reported?**

The indicators and the global reference standard necessary to ensure proper cross-country comparability of the measures are being developed and will be maintained by the FAO Statistics Division, “Voices of the Hungry” team.” Metadata are available at: <http://www.fao.org/economic/ess/ess-fs/voices/fiessscale/metadata/en/>.

#### **4. Comment on the reliability, potential coverage, comparability across countries, and the possibility to compute the indicator at sub-national level.**

##### Reliability

Reliability of an experience-based measure of food security could be compromised by issues related to (a) the choice and performance of the items used to form the scale and (b) limited sample sizes.

- (a) Choice and performance of the FIES items. Key results from the analysis of the data collected by FAO in 2014 in 145 countries through the GWP confirm the reliability of the FIES based measure of the prevalence of food security at different levels of severity even after relatively minor efforts of adaptation of the questions to local languages. Items’ performance has been tested through the *infit* statistics and only in one case only one of the items showed an *infit* value outside the range 0.7-1.3 that is considered appropriate to ensure sufficient reliability. This confirms the appropriateness of the items chosen (a result of decades of experience with

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development and application of experience-based food security scales in North and Latin America and throughout the world.)

- (b) Sample size: Samples of 1000 individuals, characteristic of the GWP,<sup>4</sup> have proven sufficient to ensure margins of errors lower than 2% for prevalence of moderate or severe food insecurity, and lower than 1% for prevalence of severe food insecurity at national level. Larger sample sizes might further reduce these margins of error.

### Coverage

By leveraging on the GWP as a data collection vehicle, FAO can ensure global coverage (about 150 countries every year covering more than 95% of the world population) annually, for national level assessments.

### Comparability across countries

The Voices of the Hungry project has successfully developed and tested the methodology to scale individual measures to a single global reference standard and to make estimates of the prevalence of food insecurity comparable across countries. The method is possible due to the reference to Item Response Theory for measurement and it inspired by existing practice in equating educational and psycho-attitudinal tests.

### Possibility to compute the indicator at sub-national level

The indicators can be computed at any level of disaggregation. Reliability of the measure is of course conditioned by the available sample size and representativeness of the specific sample. FAO suggests that, for meaningful disaggregation at subnational level, the data should be collected with surveys that are designed to be representative of the target population.

### **5. Is there already a baseline value for 2015?**

While SDG target 2.1 calls for an eradication of hunger, meaningful targets that would reflect bringing food insecurity to minimal “physiological” levels and the eradication of hunger could be offset for moderate and severe food insecurity and for developed countries and some transition economies.

Credible, yet ambitious targets for other countries could be defined based on an analysis of the 2014 benchmark that will be available in the first quarter of 2015.

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<sup>4</sup> Larger samples were formed in India (N=3000) and China (N=5000).

## Goal 2 End hunger, achieve food security and improved nutrition and promote sustainable agriculture

**Target 2.2 By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons.**

**Suggested Indicator: Prevalence of stunting (height for age <-2 SD from the median of the WHO Child Growth Standards) among children under five years of age**

**From UNICEF:**

### **1. Precise definition of the indicator**

Number of under-fives falling below minus 2 standard  
deviations from the median height-for-age of the reference population  
Children under 5 years of age in the surveyed population

### **2. How is the indicator linked to the specific TARGET as worded in the OWG Report?**

The target in the OWG report refers to stunting directly (i.e. By 2030, end ***all forms of malnutrition***, including achieving, by 2025, the internationally agreed targets on ***stunting*** and wasting...).

### **3. Does the indicator already exist and is it regularly reported?**

Yes, the indicator exists and is reported on annually. There is a joint country level dataset and joint global and regional estimates through collaborative effort between UNICEF-WHO and World Bank Group.

Metadata are available at the UNICEF Statistics website: ([uni.cf/jmedashbaord2015](http://uni.cf/jmedashbaord2015)) as Excel sheets containing the associated data; and from an interactive dashboard available at the same link.

### **4. Comment on the reliability, potential coverage, comparability across countries, and the possibility to compute the indicator at sub-national level.**

#### **Reliability**

In general the reliability of these data are high. At the global level, the confidence intervals for stunting prevalence have averaged about +/- 2 percentage points between 1990 and 2014.

At the national level, where reported, the confidence intervals for stunting prevalence are small in general. The joint dataset is being revised to include country level confidence intervals for stunting prevalence.

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### **Potential coverage**

At present the joint dataset contains 778 national surveys between 1983 and 2015, covering 150 countries (representing more than 90 per cent of the global under-five population). The number of national surveys is expected to increase annually and number of countries may also increase.

### **Comparability across countries**

Stunting rates are computed using a global reference standard<sup>5</sup> on child growth which ensure proper cross-country comparability. Data accepted into the dataset have been collected and analysed using standard equipment and methods.

### **Sub national data**

Subnational data are available in a majority of household surveys and UNICEF-WHO and World Bank Group have plans to publish a dataset that contains sub national estimates for the country level dataset.

### **5. Is there already a baseline value for 2015?**

As of September 2015, global and regional estimates for 2014 were released; we will release 2015 estimates in September 2016.

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<sup>5</sup> <http://www.who.int/childgrowth/en/>



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**Target 2.3 By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment.**

**Suggested Indicator: Value of production per labour unit (measured in constant USD), by classes of farming/pastoral/forestry enterprise size**

**From FAO:**

### **6. Precise definition of the indicator?**

The indicator refers to the value of production per labour unit operated by small scale producers in the farming, pastoral and forestry sectors. Data will be produced by classes of enterprise size.

### **7. How is the indicator linked to the specific TARGET as worded in the OWG report and copied above?**

The indicator is directly linked with the target's formulation. An agreed international definition of "small scale producer" in each sector needs to be developed.

### **8. Does the indicator already exist and is it regularly reported?**

FAO has been working in producing the indicator for agriculture using household survey data, within its program of work in "*small scale agriculture and development transformation*". To date, the indicator can be computed for nine developing countries in Asia, Africa and Latin America, based on data collected with the LSMS-ISA surveys. Results have not been disseminated yet.

Sources of information would be either agricultural surveys, or agricultural modules in integrated household surveys (e.g., LSMS-ISA) organized by the national statistical agencies, with the necessary support from the World Bank, FAO and other international agencies to ensure methodological rigor.

FAO Statistics, in collaboration with IFAD and the World Bank, are working towards the establishment of a harmonized program of Agricultural and Rural Integrated Surveys (AGRIS) that could form the basis for the collection of data on this, as well as on several other SDG indicators for the agricultural sector. Through the AGRIS program, methodological guidelines will be provided to countries on how to conduct enterprise surveys in agriculture. A special effort will also be made to support countries in the actual implementation of the farm surveys. This project, as well as the partnership with IFAD, the World Bank and the countries themselves, could substantially increase the availability of data to inform this indicator in the future.

### **9. Comment on the reliability, potential coverage, comparability across countries, and the possibility to compute the indicator at sub-national level.**

Reliability

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Reliability and accuracy of the estimates depend on sample size.

### Coverage

Data collection or data sharing might be difficult in some countries (i.e. countries at war etc.). In general, due to the relatively high cost, a periodicity of 3-5 year is advisable.

### Sub-national estimates

As long as farm or household level data are available, the indicator can be computed for specific population groups and geographical areas. The granularity of data disaggregation depends on the sample design and sample size in each specific country, but, in general, data can be tabulated by size of the farm, gender and age of the enterprise manager, etc.

### Comparability

International comparability of the estimates depends on the adoption international standards. A crucial issue to be addressed concerns the appropriate definition of “small scale” producer based on the relevant concept of the economic size of the enterprise in each sector.

#### **10. Is there already a baseline value for 2015?**

A baseline value for 2015 can be established only for a limited number of countries. A global data collection initiative needs to be launched to ensure progressively broader country coverage of the indicator.

The target of doubling the productivity of small scale producers may be more difficult to achieve (or relevant) for developed countries, given that their productivity may already be relatively high.

Its achievement in developing countries depends on a number of factors (e.g. investment in irrigation, machineries and new farming practices) that may improve labour productivity of small scale enterprises. In addition good governance and appropriate policies to promote agriculture and rural development can increase the chances that the target is reached, including by creating employment opportunities in other sectors to absorb excess supply of labour in agriculture.

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**Target 2.4 By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality.**

**Suggested Indicator: Percentage of agricultural area under sustainable agricultural practices.**

**From FAO:**

### **11. What is the *precise* definition of the indicator?**

The indicator is defined by the following formula:

$A = \frac{\text{area on which are conducted practices contributing to environmental sustainability of agriculture}}{\text{agricultural area}}$

Where

Agricultural Area = Arable land and Permanent crops + Permanent meadows and pastures (FAOSTAT)

Area on which are conducted practices contributing to environmental sustainability of agriculture = the surface area identified and/or acknowledged by the government as being affected by agronomic activities and practices that contribute to environmental sustainability of agriculture.

### **12. How is the indicator linked to the specific TARGET as worded in the OWG Report?**

The indicator is directly linked with the target, particularly to the aspects of sustainable production, adaptation to climate change and improvement of land and soil.

### **13. Does the indicator already exist and is it regularly reported?**

At global level, currently there is no data available. However many if not most of the countries record areas which are the object of practices contributing to environmental sustainability under various schemes, either of a regulatory nature, like protected areas for instance, or as part of a subsidies scheme or in a payment for environmental services scheme or as part of voluntary standards, public or private. Countries are also preparing, as part of national reports for the state of the world biodiversity for food and agriculture, statistics on practices contributing to biodiversity, most of which have a broader positive impact on the environment. Moreover, many countries are participating in internationally established strategic frameworks which promote the collection of data at country level. Hence, the data for computing the indicator should be collected through the records that are held in the process of the country participation to those schemes and strategies.

FAO is carrying on a consultation process to develop an indicator on “Area under sustainable land management”, to be developed by the end of 2015. The process will be within the framework of the “World Overview of Conservation Approaches and Technologies” (WOCAT) partnership and in the support of UNCCD implementation and will support countries to assess, map and monitor SLM as

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well as land degradation. The FAO process aims at providing support to policy makers in defining land use policies at national and sub-national levels as well, pursuing sustainable national development in line with Bonn Challenge, Aichi targets and other international agreements.

### **Comment on the reliability, potential coverage, comparability across countries, and the possibility to compute the indicator at sub-national level.**

#### Reliability

The denominator (Extent of agricultural area) is already estimated regularly by the FAO Member States and reported periodically within the FAOSTAT process, following agreed methods that are consistent across countries and over time. On the contrary, no international standards exist for the collection of data and information about the numerator (Area on which are conducted practices contributing to environmental sustainability of agriculture). Hence, the reliability of the indicator would vary across countries. However, FAO do have a basket of tools to be proposed to the countries to compute that part of the indicator. In particular, simple questionnaires can be used to collect the information needed for the compilation of the indicator, similar to those used by FAOSTAT and drawing from the LADA methodology and from the Guidelines for the preparation of the Country Reports for The State of the World's Biodiversity for Food and Agriculture. However, in order to increase the reliability and reproducibility of the indicator, countries will be required to produce metadata alongside to the actual data reported. The data and metadata will be subject to a review and harmonization process following the procedure generally applied in FAOSTAT.

#### Coverage

Data collection or data sharing might be difficult in some countries, due to political or security reasons. In general however, it doesn't make sense to compute the indicator every year, due to the slow variability of the indicator itself. Given the 15 years' timeframe of the SDGs process, an indicator's value every two to three years will allow the creation of a time series that will indicate the trend in the achievement of the target.

#### Comparability across countries

As the same methodologies are used throughout for all countries, the indicator would be directly and fully comparable. However, care has to be taken in providing countries with clear and concise guidelines, in order to limit the variability due to national interpretation of the various elements of information to be collected and to enable to understand the meaning of the data collected. The guidelines will outline the procedures for data collection and for the identification of sustainability measures in general terms, and will be tested in a collaboration with pilot countries. Specific care will be taken to reduce the risk of double counting of areas.

#### Sub-national estimates

As long as farm level and/or georeferenced data are available, the indicator can be computed for specific geographical areas. This is subject to the sampling frame and implied statistical representation in each specific country.

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**Is there already a baseline value for 2015?**

There is yet no baseline value for 2015.

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**Target 2.5 By 2020, maintain the genetic diversity of seeds, cultivated plants and farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at the national, regional and international levels, and ensure access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge, as internationally agreed.**

**Suggested Indicator: Ex Situ Crop Collections Enrichment index**

**From FAO:**

### **1. Precise definition of the indicator**

The **Ex-situ Crop Collections Enrichment index** is a dynamic measure of the bio- and geographical diversity contained within ex-situ collections across time.

Plant genetic resources for food and agriculture (PGRFA) are the biological basis of world food security. They consist of the diversity of genetic material contained in traditional varieties and modern cultivars grown by farmers as well as crop wild relatives and other wild plant species. It is widely believed that PGRFA are being lost. Agricultural systems are dynamic and the amounts and identity of the genetic diversity in them is constantly subject to change. Ex situ conservation of PGRFA represents the most trusted and popular means of conserving plant genetic resources worldwide. The measure of trends in ex situ conserved materials provides an overall assessment of the extent to which we are managing to maintain and/or increase the total genetic diversity required for current and future production and therefore secure under controlled conditions from any permanent loss of this type of genetic diversity occurring in the field.

The indicator proposed for target 15.5 under SDG serves also as indicator for the CBD's Aichi Target 13 on *genetic diversity of cultivated plants [...] and of wild relatives* and is described at the webpage of the Biodiversity Indicators Partnership (BIP), a network of organizations which have come together to provide the most up-to date biodiversity information possible for tracking progress towards the Aichi Targets (<http://www.bipindicators.net/cropcollections>).

### **2. How is the indicator linked to the specific TARGET as worded in the OWG Report?**

The indicator has a direct link to “biodiversity” and, indirectly to “food security”, as plant genetic resources are at the base of agricultural ecosystems and biodiversity, and make up to more than 90% of food calories consumed by the world's population. Ex situ collections represent the most accessible gene pool for breeding programmes to improve crop varieties and to find traits of resistance and adaptability to biotic and abiotic stresses, including climate change, salinity, drought, flooding, as well as pests and diseases. Sustainable crop production intensification heavily depends on plant genetic resources and their adequate management.

### **3. Does the indicator already exist and is it regularly reported?**

The indicator has been calculated by FAO/AGPMG in 2008 and 2014. It will be calculated again in 2015 and then periodically every 2-3 years based on data reported by member countries to the Commission

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of Genetic Resources of Food and Agriculture on the implementation of the Second Global Plan of Action for PGRFA, as agreed at CGRFA-15: <http://www.fao.org/3/a-mm181e.pdf>. The links to the BIP and CBD are provided above.

Country data are stored in WIEWS, the FAO PGRFA information system maintained by AGP (see <http://www.pgrfa.org/WIEWS/>). WIEWS responsible officer is currently Mr Stefano Diulgheroff ([wiew@fao.org](mailto:wiew@fao.org)).

Existing data sources should be identified, possibly with both time and country coverage. If there are no sufficiently dense data sources, a description of the kind of investment that is likely necessary to bring coverage to a sufficient extent to make global monitoring meaningful should be provided.

#### **4. Comment on the reliability, potential coverage, comparability across countries, and the possibility to compute the indicator at sub-national level.**

##### Reliability

Data on gene bank holdings which the indicator uses are relatively reliable as they have been periodically reported to FAO since 1996. For the majority of staple crops the largest collections are held by international research centres.

##### Coverage

Data from more than 2 million accessions conserved ex situ world-wide are already accessible. It is expected that by mid-2015 data from 0.5 to 1 million additional accessions will be gathered from countries around the world. This will allow a relatively accurate elaboration of the indicator, which nevertheless can be subsequently adjusted with the incorporation of missing gene bank data. The calculation of the indicator and its evolution overtime will be readjusted with the additional data.

##### Comparability across countries

The indicator can be calculated globally as well as for each individual country and region. National and regional values can be compared among themselves as calculation is done in the same way for all countries and regions.

##### Sub-national estimates

Not applicable.

#### **5. Is there already a baseline value for 2015?**

A numerical target for 2030 could be expressed as a minimum percentage *increase* of the indicator value, with respect to the value it had in a specific baseline year such as 1996, which is the year of adoption of the Global Plan of Action for the Conservation and Sustainable Use of PGRFA.

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**Target 2.a Increase investment, including through enhanced international cooperation, in rural infrastructure, agricultural research and extension services, technology development and plant and livestock gene banks in order to enhance agricultural productive capacity in developing countries, in particular least developed countries.**

**Suggested Indicator: The Agriculture Orientation Index (AOI) for Government Expenditures**

**From FAO:**

### 1. Precise definition of the indicator

The Agriculture Orientation Index (AOI) for Government Expenditures is defined as the Agriculture share of Government Expenditures, divided by the Agriculture Share of GDP, where Agriculture refers to the agriculture, forestry, fishing and hunting sector.

$$AOI = \frac{\text{Agriculture Share of Government Expenditures}}{\text{Agriculture Share of GDP}}$$

An AOI greater than 1 reflects a higher orientation towards the agriculture sector, which receives a higher share of government spending relative to its contribution to economic value-added. An AOI less than 1 reflects a lower orientation to agriculture, while an AOI equal to 1 reflects neutrality in a government's orientation to the agriculture sector.

Agriculture refers to the agriculture, forestry, fishing and hunting sector, based on the Classification of the Functions of Government (COFOG) developed by the OECD and published by the United Nations Statistics Division (UNSD), found at <http://unstats.un.org/unsd/cr/registry/regcst.asp?Cl=4&Top=1&Lg=1>.

Government expenditures are all outlays or expenses associated with supporting a particular sector or purse, including compensation of employees, and subsidies and grants paid as transfers to individuals or corporations in that sector. For a full description, see the Government Finance Statistics Manual (GFSM) 2001, developed by the International Monetary Fund (IMF), found at <http://www.imf.org/external/pubs/ft/gfs/manual/>.

The Agriculture Share of GDP is measured by the ratio of Agriculture Value Added over GDP, based on official data reported by countries to the United Nations Statistics Division or to the OECD.

The annual data and indicator, collected and compiled by the Food and Agriculture Organization of the UN (FAO), can be found on the FAOSTAT domain at: <http://faostat3.fao.org/download/I/IG/E>, covering the periods 2001-2012.

### 2. How is the indicator linked to the specific TARGET as worded in the OWG Report?

Government spending in Agriculture includes spending on sector policies and programs; soil improvement and soil degradation control; irrigation and reservoirs for agricultural use; animal health



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management, livestock research and training in animal husbandry; marine/freshwater biological research; afforestation and other forestry projects; etc.

Spending in these agricultural activities helps to increase sector efficiency, productivity and income growth by increasing physical or human capital and /or reducing inter-temporal budget constraints. However, the private sector typically under-invests in these activities due to the presence of market failure (e.g. the public good nature of research and development; the positive externalities from improved soil and water conditions; lack of access to competitive credit due to asymmetric information between producers and financial institutions, etc.).

Government spending in agriculture is essential to address these market failures. This leads to several potential indicators for the SDGs, which include: a) the level of Government Expenditures in Agriculture (GEA); b) the Agriculture share of Government Expenditures, and c) the AOI for Government Expenditures.

An indicator that measures GEA levels fails to take into account the size of an economy. If two countries, A and B, have the same level of GEA, and the same agriculture contribution to GDP, but country A's economy is 10 times that of country B. Setting the same target levels for GEA fails to take economic size into account.

An indicator that measures the Agriculture share of Government Expenditures fails to take into the relative contributions of the agricultural sector to a country's GDP. Consider two countries with the same economic size, C and D, where agriculture contributes 2% to C's GDP, and 10% to country D's GDP. If total Government Expenditures were equal in both countries, C would experience greater relative investment in Agriculture than D. If total Government Expenditures differed, the result could be magnified or diluted.

The AOI index takes into account a country's economic size, Agriculture's contribution to GDP, and the total amount of Government Expenditures. As such, it allows for the setting of a universal and achievable target.

### **3. Does the indicator already exist and is it regularly reported?**

The indicator is maintained and reported by FAO in FAOSTAT, with metadata soon to be available at [http://faostat3.fao.org/mes/methodology\\_list/E](http://faostat3.fao.org/mes/methodology_list/E).

The underlying annual data is official country data, from 2001 to 2012, reported by countries through a questionnaire jointly developed by FAO and the IMF using the COFOG and GFSM classifications. The database currently covers 139 countries.

### **4. Comment on the reliability, potential coverage, comparability across countries, and the possibility to compute the indicator at sub-national level.**

The use of the COFOG and GFSM classifications promotes international and inter-temporal comparisons. The expenditure data reported is typically based on administrative data based on a government's public accounts, while GDP and Agriculture Value Added is based on its National Accounts. The nature of the data typically prohibits indicators at sub-national level, as most countries do not compile sub-national GDP estimates, nor sub-national Government Expenditure figures.

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### Reliability

The numerator (Agriculture Share of Government Expenditures) is based on administrative data, which has no statistical margin of error. The denominator (Agriculture share of GDP) is based on a System of National Accounts, following international guidelines, in which either Agriculture Value-Added or GDP estimates can suffer from statistical errors, though it is difficult to measure. Errors and lack of reliability due to non-statistical errors can arise, for example, as a result of the mapping between national concepts to international classifications (by respondents), the use of different measures of government across countries due to reporting issues (budgetary central, central, and general, as described above).

### Coverage

It is relatively high for these particular indicators, with 139 countries included. However, some countries have not provided data for all 13 years from 2001 to 2012, and the level of government to which expenditures pertain can differ.

### Comparability across countries

It is facilitated by use of the Agriculture share of Government Expenditures in the numerator, which mitigates difference that arise when some countries report expenditures for all levels of government, and others only for the central government. This does not rule out the fact that state and local governments may spend a different share on Agriculture than the central government. For this reason, analysis of the trends in this indicator may be more reliable, for comparison purposes, than just the indicator alone.

While COFOG and GFSM facilitate international comparisons, not all countries report expenditures covering all three levels of government (Central, State and Municipal). The three levels of reporting include (from smallest to largest): 1) Budgetary Central Government; 2) Central Government, which includes Budgetary Central Government as well as extra-budgetary units; and 3) General Government, which includes Central, State and Local Government. Countries that fully report General Government Expenditures may not report Central Government Expenditures.

Since not all countries collect or share data on all three levels of reporting, the level with the most complete time series is used for each country. To the extent that the Agriculture share of Government Expenditures differs across levels of government (Central, State and Local), differences in this indicator may reflect differences in reporting.

### Sub-national estimates

They are not possible to compute sub-national or population group estimates, given the nature of the underlying data.

#### **5. Is there already a baseline value for 2015?**

There is no baseline value for this indicator for 2015.

There is some precedent for using government expenditures as a target indicator for Agriculture. Signatories to the Maputo Declaration set a target of 10% for the Agriculture and Rural Development *Share of Government Expenditures*. However, as Rural Development is not a purpose listed under the

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COFOG classification, there has been considerable difficulty in consistently measuring this indicator. Furthermore, in setting a universal target, this Share indicator suffers from the problems listed above (comparison of economies of different size, with different levels of government expenditures, and with different agricultural shares of GDP).

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**Target 2.b Correct and prevent trade restrictions and distortions in world agricultural markets, including through the parallel elimination of all forms of agricultural export subsidies and all export measures with equivalent effect, in accordance with the mandate of the Doha Development Round.**

**Suggested Indicator 1: Percent change in Import and Export tariffs on agricultural products**

**NO METADATA RECEIVED**

**Suggested Indicator 2: Agricultural Export Subsidies**

**NO METADATA RECEIVED**

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**Target 2.c Adopt measures to ensure the proper functioning of food commodity markets and their derivatives and facilitate timely access to market information, including on food reserves, in order to help limit extreme food price volatility.**

**Suggested Indicator: Indicator of (food) Price Anomalies (IPA) ( CBB )**

**From FAO:**

### **1. Precise definition of the indicator**

Indicators of price anomalies (IPA) identify markets prices that are abnormally high, as it may occur when markets do not function properly.

One version of the IPA relies on a weighted compound growth rate that accounts for both within year and across year price growth. This indicator directly evaluates growth in prices over a particular month over many years, taking into account seasonality and inflation, allowing answering the question of whether or not an observed change in price is considered normal for any particular period. The algorithm defines as a price anomaly any difference of one standard deviation or greater in the observed growth rate over its historical trend for the same period of time. This allows the indicator to not only quantify the number of price anomalies but also measure their intensity over time.

### **2. How is the indicator linked to the specific TARGET as worded in the OWG report and copied above?**

When applied to series of international commodity prices, such as – for example – those used for example to inform the FAO food price Index,

(<http://www.fao.org/worldfoodsituation/foodpricesindex/en/>), IPA allow early detection of abnormal market conditions, as signs that the underlying markets are not working properly, permitting the timely adoption of policies and measures aiming to limit extreme food price volatility. The indicators are able to accomplish this since one can directly measure both the number of events and their intensity pre and post the adoption of policies.

As such, they are uniquely suited to Target 2.c.

### **3. Does the indicator already exist and is it regularly reported?**

One version of the indicator is already implemented by FAO's Global Information and Early Warning System through its Food Price Monitoring and Analysis (FPMA) website at <http://www.fao.org/gIEWS/food-prices/indicators/all/en/>.

Similar versions can be easily applied to existing international commodity price series for which there are monthly figures (such as World Bank's pink sheets series <http://go.worldbank.org/4ROCCIEQ50> or IMF's Primary commodity price series <http://www.imf.org/external/np/res/commod/index.aspx> )

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### 4. Comment on the reliability, potential coverage, comparability across countries, and the possibility to compute the indicator at sub-national level.

#### Reliability

To be reliable, the indicator requires monthly prices series that are at least 4 years in length, so as to estimate with confidence certain subcomponents of the indicator (such as the reference weighted averages and standard deviations).

This indicator has been compared to other proposed measures of abnormal price growth and has shown to have a lower probability (or lower Type II error) of revealing abnormal price growth when the price movements are indeed normal.

#### Coverage

As mentioned above, the indicator can easily cover all international commodity markets for which there exist monthly price series. The World Bank database currently include 74 series, with monthly data from January 1960, while the IMF database lists 54 series with monthly prices from 1908, both including all major energy, metal, agricultural and food commodities.

#### Comparability across countries

The IPA allows comparisons across different markets, from local to international, due to the definition of the threshold to identify abnormal price growth in relative terms, and the fact that the methodology is independent of the country/market being applied to.

#### Sub-national estimates

To the extent that it is applied to local market price series, estimates can be produced at subnational level. For example, sub-national estimates are automatically generated for the countries included in the FAO FPMA price tool that have sub-national data available (i.e., multiple market coverage).

### 5. Can a meaningful numerical target for 2030 be set? Is there already a baseline value for 2015?

Baseline levels could be set as the number of observed price anomalies over the 48 months of 2010-2014 for each commodity price series for which data exist. Targets for 2030 could be framed in terms of the percentage reduction that could be expected in the *number* of observed price anomalies in the 2026-30 period, compared to the baseline.

## Goal 3 Ensure healthy lives and promote well-being for all at all ages

**Target 3.1 By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births.**

### Suggested Indicator 1: Maternal deaths per 100,000 live births

Abbreviated name	<b>Maternal mortality ratio</b>
Indicator name	Maternal mortality ratio (per 100 000 live births)
Domain	Health status
Subdomain	Reproductive, maternal, newborn, child and adolescent health
Associated terms	Mortality by cause
Definition	The annual number of female deaths from any cause related to or aggravated by pregnancy or its management (excluding accidental or incidental causes) during pregnancy and childbirth or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, expressed per 100 000 live births, for a specified time period.
Numerator	Number of maternal deaths.
Denominator	Number of live births.
Disaggregation/ additional dimension	Age, place of residence
Method of measurement	<p>The maternal mortality ratio can be calculated by dividing recorded (or estimated) maternal deaths by total recorded (or estimated) live births in the same period and multiplying by 100 000. Measurement requires information on pregnancy status, timing of death (during pregnancy, childbirth, or within 42 days of termination of pregnancy), and cause of death.</p> <p>The maternal mortality ratio can be calculated directly from data collected through vital registration systems, household surveys or other sources. There are often data quality problems, particularly related to the underreporting and misclassification of maternal deaths. Therefore, data are often adjusted in order to take these data quality issues into account.</p> <p>Because maternal mortality is a relatively rare event, large sample sizes are needed if household surveys are used to identify recent maternal deaths in the household (e.g. last year). This may still result in estimates with large confidence intervals, limiting the usefulness for cross-country or over-time comparisons.</p> <p>To reduce sample size requirements, the sisterhood method used in the DHS and multiple indicator surveys (MICS4) measures maternal mortality by asking respondents about the survival of sisters. It should be noted that the sisterhood method results in pregnancy-related mortality: regardless of the cause of death, all deaths occurring during pregnancy, birth or the six weeks following the termination of the pregnancy are included in the numerator of the maternal mortality ratio.</p> <p>Censuses have also included questions about maternal deaths with variable success.</p> <p>Reproductive Age Mortality Studies (RAMOS) is a special study that uses varied sources, depending on the context, to identify all deaths of women of reproductive age and ascertain which of these deaths are maternal or pregnancy-related.</p>
Method of estimation	<p>For facility data-based maternal mortality, the denominator is estimated using population projections.</p> <p>WHO, UNICEF, UNFPA, the United Nations Population Division and The World Bank have developed a method to adjust existing data in order to take into account these data quality issues and ensure the comparability of different data sources. This method involves assessment of data for completeness and, where necessary, adjustment for underreporting and misclassification of deaths as well as development of estimates through statistical modelling for countries with no reliable national level data.</p> <p>Data on maternal mortality and other relevant variables are obtained through databases maintained by WHO, the United Nations Population Division, UNICEF, and The World Bank. Data available from countries varies in terms of</p>

## Goal 3 Ensure healthy lives and promote well-being for all at all ages

	<p>source and methods. Given the variability of the sources of data, different methods are used for each data source in order to arrive at country estimates that are comparable and permit regional and global aggregation.</p> <p>Currently, only about one third of all countries/territories have reliable data available and do not need additional estimations. For about half of the countries included in the estimation process, country-reported estimates of maternal mortality are adjusted for the purposes of comparability of the methodologies. For the remainder of countries/territories – those with no appropriate maternal mortality data -- a statistical model is employed to predict maternal mortality levels. However, the calculated point estimates with this methodology might not represent the true levels of maternal mortality. It is advised to consider the estimates together with the reported uncertainty margins within which the true levels are known to lie.</p> <p>Predominant type of statistics: predicted.</p>
Measurement frequency	For civil registration: annual. For other sources: every 5 years or more
Monitoring and evaluation framework	Impact
Preferred data sources	Civil registration with high coverage and medical certification of cause of death and regular assessment of misreporting and underreporting
Other possible data sources	Household surveys, population census, sample or sentinel registration systems, special studies
Further information and related links	<p>Indicators for monitoring the Millennium Development Goals: definitions, rationale, concepts and sources. New York (NY): United Nations; 2012 (<a href="http://mdgs.un.org/unsd/mi/wiki/MainPage.ashx">http://mdgs.un.org/unsd/mi/wiki/MainPage.ashx</a>, accessed 29 March 2015).</p> <p>WHO, UNICEF, UNFPA, The World Bank, United Nations Population Division. Trends in maternal mortality: 1990 to 2013. Geneva: World Health Organization; 2014 (<a href="http://www.who.int/reproductivehealth/publications/monitoring/maternal-mortality-2013/en/">http://www.who.int/reproductivehealth/publications/monitoring/maternal-mortality-2013/en/</a>, accessed 29 March 2015).</p> <p>World population prospects. New York (NY): United Nations; 2012 (<a href="http://esa.un.org/wpp/">http://esa.un.org/wpp/</a>, accessed 29 March 2015).</p>

### Suggested Indicator 2: Proportion of births attended by skilled health personnel

#### From WHO:

Abbreviated name	<b>Births attended by skilled health personnel</b>
Indicator name	Births attended by skilled health personnel (%)
Domain	Service coverage
Subdomain	Reproductive, maternal, newborn, child and adolescent health
Associated terms	Reproductive, maternal, newborn, child and adolescent
Definition	Percentage of live births attended by skilled health personnel during a specified time period.
Numerator	Number of births attended by skilled health personnel (doctors, nurses or midwives) trained in providing life-saving obstetric care, including giving the necessary supervision, care and advice to women during pregnancy, childbirth and the postpartum period, to conduct deliveries on their own, and to care for newborns.
Denominator	The total number of live births in the same period.
Disaggregation/ additional dimension	Age, parity, place of residence, socioeconomic status, type of provider <i>Also: Institutional delivery coverage (women giving birth in a health institution) among all births in the population</i>
Method of measurement	<p>Definition of skilled birth attendant varies between countries. The percentage of births attended by skilled health personnel is calculated as the number of births attended by skilled health personnel (doctors, nurses or midwives) expressed as a percentage of the total number of births in the same period. Births attended by skilled health personnel = (number of births attended by skilled health personnel)/(total number of live births) x 100.</p> <p>In household surveys, such as DHS, MICS and RHS, the respondent is asked about each live birth and who helped during</p>



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	<p>delivery for a period up to five years before the interview.</p> <p>Service/facility records could be used where a high proportion of births occur in health facilities and are therefore recorded.</p>
Method of estimation	<p>Data for global monitoring are reported by UNICEF and WHO. These agencies obtain the data – both survey and registry data – from national sources. Before data can be included in the global databases, UNICEF and WHO undertake a process of data verification that includes correspondence with field offices to clarify any questions.</p> <p>In terms of survey data, some survey reports may present a total percentage of births attended by a type of provider that does not conform to the MDG definition (e.g. total includes providers who are not considered skilled, such as community health workers). In this case, the percentage delivered by a physician, nurse or midwife are totalled and entered into the global database as the MDG estimate.</p> <p>Predominant type of statistics: adjusted.</p>
Measurement frequency	Biennial
Monitoring and evaluation framework	Outcome
Preferred data sources	Household surveys
Other possible data sources	Routine facility information systems
Further information and related links	<p>Countdown to 2015 decade report (2000–2010): taking stock of maternal, newborn and child survival. Geneva and New York (NY): World Health Organization/United Nations Children’s Fund; 2010 (<a href="http://www.countdown2015mnch.org/reports-and-articles/previous-reports/2010-decade-report">http://www.countdown2015mnch.org/reports-and-articles/previous-reports/2010-decade-report</a>, accessed 29 March 2014).</p> <p>Countdown to 2015. Monitoring maternal, newborn and child health: understanding key progress indicators. Geneva: World Health Organization; 2011 (<a href="http://apps.who.int/iris/bitstream/10665/44770/1/9789241502818_eng.pdf">http://apps.who.int/iris/bitstream/10665/44770/1/9789241502818_eng.pdf</a>, accessed 29 March 2015).</p> <p>Every newborn: an action plan to end preventable deaths. Geneva: World Health Organization; 2014 (<a href="http://www.everynewborn.org/Documents/Full-action-plan-EN.pdf">http://www.everynewborn.org/Documents/Full-action-plan-EN.pdf</a>, accessed 29 March 2015).</p> <p>Framework of actions for the follow-up to the Programme of Action of the International Conference on Population and Development beyond 2014. Report of the Secretary-General. New York (NY): United Nations; 2014 (<a href="https://www.unfpa.org/webdav/site/global/shared/documents/ICPD/Framework%20of%20action%20for%20the%20follow-up%20to%20the%20PoA%20of%20the%20ICPD.pdf">https://www.unfpa.org/webdav/site/global/shared/documents/ICPD/Framework%20of%20action%20for%20the%20follow-up%20to%20the%20PoA%20of%20the%20ICPD.pdf</a>, accessed 19 August 2014).</p> <p>Indicators for monitoring the Millennium Development Goals: definitions, rationale, concepts and sources. New York (NY): United Nations; 2012 (<a href="http://mdgs.un.org/unsd/mi/wiki/MainPage.ashx">http://mdgs.un.org/unsd/mi/wiki/MainPage.ashx</a>, accessed 29 March 2015).</p> <p>Keeping promises, measuring results. Commission on information and accountability for Women’s and Children’s Health. Geneva: World Health Organization; 2011 (<a href="http://www.who.int/topics/millennium_development_goals/accountability_commission/Commission_Report_advance_copy.pdf">http://www.who.int/topics/millennium_development_goals/accountability_commission/Commission_Report_advance_copy.pdf</a>, accessed 29 March 2015).</p>

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**Target 3.2 By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births.**

### Suggested Indicator 1: Under-five mortality rate (deaths per 1,000 live births)

From UNICEF:

Abbreviated name	<b>Under-five mortality rate</b>
Indicator name	Under-five mortality rate (probability of dying before age 5 per 1000 live births)
Domain	Health status
Subdomain	Reproductive, maternal, newborn, child and adolescent health
Associated terms	Mortality by age and sex
Definition	The probability of a child born in a specific year or period dying before reaching the age of 5 years, if subject to age-specific mortality rates of that period, expressed per 1000 live births. The under-five mortality rate as defined here is, strictly speaking, not a rate (i.e. the number of deaths divided by the number of population at risk during a certain period of time) but a probability of death derived from a life table and expressed as a rate per 1000 live births.
Numerator	Number of deaths among children aged 0–4 years (0–59 months of age), broken down by age groups.
Denominator	Number of live births.
Disaggregation/ additional dimension	Place of residence, sex, socioeconomic status <i>Also: by cause, including pneumonia, diarrhoea, and malaria</i>
Method of measurement	The most frequently used methods using the above-mentioned data sources are as follows: <u>Civil registration</u> : Number of deaths at age 0-5 and population of the same age are used to calculate death rates which are then converted into age-specific probability of dying. <u>Census and surveys</u> : An indirect method is used based on questions to each woman of reproductive age as to how many children she has ever given birth to and how many are still alive. The Brass method and model life tables are then used to obtain an estimate of under-five and infant mortality rates. Census often includes questions on household deaths in the last 12 months, which can be used to calculate mortality estimates. <u>Surveys</u> : A direct method is used based on birth history – a series of detailed questions on each child a woman has given birth to during her lifetime. Neonatal, post-neonatal, infant, child and under-five mortality estimates can be derived from full birth history module.
Method of estimation	The United Nation Inter-agency Group for Child Mortality Estimation (UN-IGME) produces trends of under-five mortality with a standardized methodology depending on the type and quality of source of data available. The UN IGME applies the Bayesian B-splines bias-reduction model to empirical data to derive trend estimates of under-five mortality for all countries. See the UN IGME link for details. The UN GME estimates are not necessarily the same as the official national data.  Predominant type of statistics: adjusted and estimated.
Measurement frequency	Annual if based on registration system; otherwise, less frequent (3–5 years based on surveys). UN-IGME releases annual estimates for 195 countries.
Monitoring and evaluation framework	Impact; outcome
Preferred data sources	Civil registration with high coverage
Other possible data sources	Household surveys, population censuses, sample registration systems
Further information and	UN Inter-agency Group for Child Mortality Estimation. Levels & trends in child mortality. Report 2015. New York: UNICEF, 2015. (Available at:

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related links	<a href="http://www.childmortality.org/files_v20/download/IGME%20report%202015%20child%20mortality%20final.pdf">http://www.childmortality.org/files_v20/download/IGME%20report%202015%20child%20mortality%20final.pdf</a> , accessed 6 October 2015) <a href="http://www.data.unicef.org/child-mortality/under-five.html">http://www.data.unicef.org/child-mortality/under-five.html</a> <a href="http://www.childmortality.org/">http://www.childmortality.org/</a>
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### From WHO:

Abbreviated name	<b>Under-five mortality rate</b>
Indicator name	Under-five mortality rate (probability of dying by age 5 per 1000 live births)
Domain	Health status
Subdomain	Reproductive, maternal, newborn, child and adolescent health
Associated terms	Mortality by age and sex
Definition	<p>The probability of a child born in a specific year or period dying before reaching the age of 5 years, if subject to age-specific mortality rates of that period, expressed per 1000 live births.</p> <p>The under-five mortality rate as defined here is, strictly speaking, not a rate (i.e. the number of deaths divided by the number of population at risk during a certain period of time) but a probability of death derived from a life table and expressed as a rate per 1000 live births.</p>
Numerator	Number of deaths among children aged 0–4 years (0–59 months of age), broken down by age groups.
Denominator	Number of live births (person-years of exposure).
Disaggregation/ additional dimension	Place of residence, sex, socioeconomic status <i>Also: by cause, including pneumonia or diarrhoea</i>
Method of measurement	<p>The most frequently used methods using the above-mentioned data sources are as follows:</p> <p><b>Civil registration:</b> Number of deaths at age 0 and population of the same age are used to calculate death rates which are then converted into age-specific probability of dying.</p> <p><b>Census and surveys:</b> An indirect method is used based on questions to each woman of reproductive age as to how many children she has ever given birth to and how many are still alive. The Brass method and model life tables are then used to obtain an estimate of infant mortality.</p> <p><b>Surveys:</b> A direct method is used based on birth history – a series of detailed questions on each child a woman has given birth to during her lifetime. To reduce sampling errors, the estimates are often presented as period rates for five years preceding the survey. A synthetic cohort method developed by the Demographic and Health Surveys (DHS) is used to compute period rates.</p>
Method of estimation	<p>The UN-IGME produces trends of under-five mortality with a standardized methodology by group of countries depending on the type and quality of source of data available. For countries with adequate trend of data from civil registration, the calculations of under-five and infant mortality rates are derived from a standard period abridged life table. For countries with survey data, under-five mortality rates are estimated using the Bayesian B-splines bias-adjusted model. See the UN-IGME link for details. These under-five mortality rates have been estimated by applying methods to the available data from all Member States in order to ensure comparability across countries and time; hence they are not necessarily the same as the official national data.</p> <p>Predominant type of statistics: adjusted and predicted.</p>
Measurement frequency	Annual if based on registration system; otherwise, less frequent (3–5 years based on surveys)
Monitoring and evaluation framework	Impact
Preferred data sources	Civil registration with high coverage
Other possible data sources	Household surveys, population census
Further information and	Countdown to 2015. Monitoring maternal, newborn and child health: understanding key progress indicators.

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related links	<p>Geneva: World Health Organization; 2011 (<a href="http://apps.who.int/iris/bitstream/10665/44770/1/9789241502818_eng.pdf">http://apps.who.int/iris/bitstream/10665/44770/1/9789241502818_eng.pdf</a>, accessed 29 March 2015).</p> <p>Indicators for monitoring the Millennium Development Goals: definitions, rationale, concepts and sources. New York (NY): United Nations; 2012 (<a href="http://mdgs.un.org/unsd/mi/wiki/MainPage.ashx">http://mdgs.un.org/unsd/mi/wiki/MainPage.ashx</a>, accessed 29 March 2015).</p> <p>UN-IGME estimation method for child mortality. New York (NY): United Nations Inter-agency Group for Child Mortality Estimation; 2014 (<a href="http://www.who.int/entity/gho/child_health/mortality/ChildCME_method.pdf.pdf">http://www.who.int/entity/gho/child_health/mortality/ChildCME_method.pdf.pdf</a>, accessed 29 March 2015).</p> <p>World population prospects. New York (NY): United Nations; 2012 (<a href="http://esa.un.org/wpp/">http://esa.un.org/wpp/</a>, accessed 29 March 2015).</p>
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### Suggested Indicator 2: Neonatal mortality rate (deaths per 1,000 live births)

#### From UNICEF:

Abbreviated name	<b>Neonatal mortality rate</b>
Indicator name	Neonatal mortality rate (per 1000 live births)
Domain	Health status
Subdomain	Reproductive, maternal, newborn, child and adolescent health
Associated terms	Mortality by age and sex
Definition	<p>Probability that a child born in a specific year or period will die during the first 28 completed days of life if subject to age-specific mortality rates of that period, expressed per 1000 live births.</p> <p>Neonatal deaths (deaths among live births during the first 28 completed days of life) may be subdivided into early neonatal deaths, occurring during the first 7 days of life, and late neonatal deaths, occurring after the 7th day but before the 28th completed day of life.</p>
Numerator	Number of children who died during the first 28 days of life.
Denominator	Number of live births.
Disaggregation/ additional dimension	Age in days/weeks, birth weight, place of residence, sex, socioeconomic status
Method of measurement	<p><u>Data from civil registration</u>: The number of live births and the number of neonatal deaths are used to calculate age-specific rates. This system provides annual data.</p> <p><u>Data from household surveys</u>: Calculations are based on full birth history, whereby women are asked for the date of birth of each of their children, whether each child is still alive and if not the age at death.</p>
Method of estimation	<p>The United Nation Inter-agency Group for Child Mortality Estimation (UN-IGME) produces neonatal mortality rate estimates with a Bayesian spline regression model which models the ratio of neonatal mortality rate / (under-five mortality rate - neonatal mortality rate). Estimates of NMR are obtained by recombining the estimates of the ratio with UN IGME-estimated under-five mortality rate. See UN IGME for more details.</p> <p>Predominant type of statistics: adjusted and estimated.</p> <p>These neonatal mortality rates have been estimated by applying methods to the available data from all Member States in order to ensure comparability across countries and time; hence they are not necessarily the same as the official national data.</p>
Measurement frequency	Annual if based on registration system; otherwise, less frequent (3–5 years based on surveys). UN-IGME releases annual estimates for 195 countries.
Monitoring and evaluation framework	Impact; outcome
Preferred data sources	Civil registration with high coverage
Other possible data sources	Household surveys, sample registration systems
Further information and	UN Inter-agency Group for Child Mortality Estimation. Levels & trends in child mortality. Report 2015. New York:

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related links	<p>UNICEF, 2015. (Available at: <a href="http://www.childmortality.org/files_v20/download/IGME%20report%202015%20child%20mortality%20final.pdf">http://www.childmortality.org/files_v20/download/IGME%20report%202015%20child%20mortality%20final.pdf</a>, accessed 6 October 2015)</p> <p><a href="http://www.data.unicef.org/child-mortality/neonatal.html">http://www.data.unicef.org/child-mortality/neonatal.html</a></p> <p><a href="http://www.childmortality.org/">http://www.childmortality.org/</a></p>
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### From WHO:

Abbreviated name	<b>Neonatal mortality rate</b>
Indicator name	Neonatal mortality rate (per 1000 live births)
Domain	Health status
Subdomain	Reproductive, maternal, newborn, child and adolescent health
Associated terms	Mortality by age and sex
Definition	<p>Probability that a child born in a specific year or period will die during the first 28 completed days of life if subject to age-specific mortality rates of that period, expressed per 1000 live births.</p> <p>Neonatal deaths (deaths among live births during the first 28 completed days of life) may be subdivided into early neonatal deaths, occurring during the first 7 days of life, and late neonatal deaths, occurring after the 7th day but before the 28th completed day of life.</p>
Numerator	Number of children who died during the first 28 days of life.
Denominator	Number of live births (years of exposure).
Disaggregation/ additional dimension	Age in days/weeks, birth weight, place of residence, sex, socioeconomic status
Method of measurement	<p><u>Data from civil registration</u>: The number of live births and the number of neonatal deaths are used to calculate age-specific rates. This system provides annual data.</p> <p><u>Data from household surveys</u>: Calculations are based on full birth history, whereby women are asked for the date of birth of each of their children, whether each child is still alive and if not the age at death.</p>
Method of estimation	<p>To ensure consistency with mortality rates in children younger than 5 years (under-five mortality rate) produced by the UN-IGME and to account for variation in survey-to-survey measurement errors, country data points for the under-five and neonatal mortality rates were rescaled for all years to match the latest time series estimates of the under-five mortality rate produced by UN-IGME. This rescaling assumes that the proportionate measurement error in neonatal and under-five mortality rates is equal for each data point.</p> <p>The following multilevel statistical model was then applied to estimate neonatal mortality rates: <math>\log(\text{neonatal mortality rate}/1000) = \alpha_0 + \beta_1 * \log(\text{under-five mortality rate}/1000) + \beta_2 * ([\log(\text{under-five mortality rate}/1000)]^2)</math> with random effects parameters or both level and trend regression parameters, and random effects parameters influenced by the country itself.</p> <p>For countries with high-quality civil registration data for neonatal deaths – defined as (i) 100% complete for adults and only civil registration data is used for child mortality, (ii) population greater than 800 000, (iii) and with at least three civil registration data points for the periods 1990–1994, 1995–1999, 2000–2004 and 2005 onwards – we used the same basic equation, but with random effects parameters for both level and trend regression parameters, and random effects parameters influenced by the country itself.</p> <p>Predominant type of statistics: adjusted and predicted.</p> <p>These neonatal rates are estimates, derived from the estimated UN-IGME neonatal rate infant population for <i>World population prospects</i> to calculate the live births; hence they are not necessarily the same as the official national statistics.</p>
Measurement frequency	Annual if based on registration system; otherwise, less frequent (3–5 years based on surveys)
Monitoring and evaluation framework	Impact
Preferred data sources	Civil registration with high coverage
Other possible data sources	Household surveys, population census

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### Further information and related links

Every newborn: an action plan to end preventable deaths. Geneva: World Health Organization; 2014 (<http://www.everynewborn.org/Documents/Full-action-plan-EN.pdf>, accessed 29 March 2015).

Framework of actions for the follow-up to the Programme of Action of the International Conference on Population and Development beyond 2014. Report of the Secretary-General. New York (NY): United Nations; 2014 (<https://www.unfpa.org/webdav/site/global/shared/documents/ICPD/Framework%20of%20action%20for%20the%20follow-up%20to%20the%20PoA%20of%20the%20ICPD.pdf>, accessed 19 August 2014).

World population prospects. New York (NY): United Nations; 2012 (<http://esa.un.org/wpp/>, accessed 29 March 2015).

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### Target 3.3 By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases.

#### Suggested Indicator 1: Number of new HIV infections per 1,000 susceptible population (by age, sex, and key populations)

##### From WHO:

Abbreviated name	<b>HIV incidence rate</b>
Indicator name	HIV incidence (per 1000 population)
Domain	Health status
Subdomain	Infectious disease
Associated terms	Morbidity
Definition	Number of new HIV infections per 1000 person-years among the uninfected population. The incidence rate is the number of new cases per population at risk in a given time period.
Numerator	Number of people who are newly infected in a specific time period x 1000.
Denominator	Total uninfected person-years of exposure.
Disaggregation/ additional dimension	General population, Key populations (men who have sex with men, sex workers, people who inject drugs, transgender people, prisoners), Age groups (0–14, 15–24, 15–49, 50+ years), for key populations < 25, 25+ years), mode of transmission (including mother-to-child transmission), place of residence, sex
Method of measurement	Longitudinal data on individuals are the best source of data but are rarely available for large populations. Special diagnostic tests in surveys or from health facilities can be used to obtain data on HIV incidence.  HIV incidence can also be modelled using the Spectrum software.
Method of estimation	Modelling is currently used to estimate new infections and incidence. Prevalence data inform these models.
Measurement frequency	Survey schedule; Spectrum model estimates updated every year;
Monitoring and evaluation framework	Impact
Preferred data sources	Household or key population survey with HIV incidence-testing, Spectrum modelling
Other possible data sources	Regular surveillance system among key populations
Further information and related links	UNAIDS Global AIDS response progress reporting 2015: construction of core indicators for monitoring the 2011 United Nations political declaration on HIV/AIDS. Geneva: Joint United Nations Programme on HIV/AIDS; 2015 <a href="http://www.unaids.org/sites/default/files/media_asset/JC2702_GARPR2015guidelines_en.pdf">http://www.unaids.org/sites/default/files/media_asset/JC2702_GARPR2015guidelines_en.pdf</a> accessed 7 October 2015.  UNAIDS website for relevant data and national Spectrum files <a href="http://aidsinfo.unaids.org/">http://aidsinfo.unaids.org/</a>  Consolidated Strategic Information Guidelines for HIV in the Health Sector. Geneva: World Health Organization; 2015. <a href="http://www.who.int/hiv/pub/guidelines/strategic-information-guidelines/en/">http://www.who.int/hiv/pub/guidelines/strategic-information-guidelines/en/</a> accessed on 7 October 2015.  Next generation indicators reference guide: planning and reporting. Version 1.2. Washington (DC): The President's Emergency Plan for AIDS Relief; 2013 ( <a href="http://www.pepfar.gov/documents/organization/206097.pdf">http://www.pepfar.gov/documents/organization/206097.pdf</a> , accessed 29 March 2014).  Framework of actions for the follow-up to the Programme of Action of the International Conference on Population and Development beyond 2014. Report of the Secretary-General. New York (NY): United Nations; 2014 ( <a href="https://www.unfpa.org/webdav/site/global/shared/documents/ICPD/Framework%20of%20action%20for%20the%20follow-up%20to%20the%20PoA%20of%20the%20ICPD.pdf">https://www.unfpa.org/webdav/site/global/shared/documents/ICPD/Framework%20of%20action%20for%20the%20follow-up%20to%20the%20PoA%20of%20the%20ICPD.pdf</a> , accessed 19 August 2014).  Spectrum software. Glastonbury (CT): Avenir Health. ( <a href="http://www.avenirhealth.org/software-spectrum.php">http://www.avenirhealth.org/software-spectrum.php</a> , accessed 29 March 2015).

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### Suggested Indicator 2: TB incidence per 1,000 persons per year

#### From WHO:

Abbreviated name	<b>TB incidence rate</b>
Indicator name	Tuberculosis (TB) incidence (per 100 000 population)
Domain	Health status
Subdomain	Infectious disease
Associated terms	Morbidity
Definition	Estimated number of new and relapse TB cases (all forms of TB, including cases in people living with HIV) arising in a given year, expressed as a rate per 100 000 population.
Numerator	Number of new and relapse TB cases arising in a specified time period.
Denominator	Number of person-years of exposure.
Disaggregation/ additional dimension	Age, HIV status, sex
Method of measurement	Direct measurement requires high-quality surveillance systems in which underreporting is negligible, and strong health systems so that underdiagnosis is also negligible; otherwise indirect estimates based on notification data and estimates of levels of underreporting and under-diagnosis.
Method of estimation	<p>Estimates of TB incidence are produced through a consultative and analytical process led by WHO and are published annually. These estimates are based on annual case notifications, assessments of the quality and coverage of TB notification data, national surveys of the prevalence of TB disease and information from death (vital) registration systems.</p> <p>Estimates of incidence for each country are derived, using one or more of the following approaches depending on available data: (i) incidence = case notifications/estimated proportion of cases detected; (ii) incidence = prevalence/duration of condition; (iii) incidence = deaths/proportion of incident cases that die.</p> <p>Uncertainty bounds are provided in addition to best estimates.</p> <p>Details are available from <i>TB impact measurement: policy and recommendations for how to assess the epidemiological burden of TB and the impact of TB control</i> and from the online technical appendix to the <i>WHO global tuberculosis report 2014</i>.</p>
Measurement frequency	Annual
Monitoring and evaluation framework	Impact
Preferred data sources	High quality TB surveillance system (linked to routine facility information system)
Other possible data sources	Population-based health surveys with TB diagnostic testing
Further information and related links	<p>Definitions and reporting framework for tuberculosis – 2013 revision (WHO/HTM/TB/2013.2). Geneva: World Health Organization; 2013 (<a href="http://www.who.int/tb/publications/definitions/en/">http://www.who.int/tb/publications/definitions/en/</a>, accessed 29 March 2015).</p> <p>Global tuberculosis report 2014. Geneva: World Health Organization; 2014 (<a href="http://www.who.int/tb/publications/global_report/en/">http://www.who.int/tb/publications/global_report/en/</a>, accessed 29 March 2015).</p>



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Indicators for monitoring the Millennium Development Goals: definitions, rationale, concepts and sources. New York (NY): United Nations; 2012 (<http://mdgs.un.org/unsd/mi/wiki/MainPage.ashx>, accessed 29 March 2015).  
World Health Assembly governing body documentation: official records. Geneva: World Health Organization (<http://apps.who.int/gb/or/>, accessed 29 March 2015).

### Suggested Indicator 3: Malaria incidence per 1,000 persons per year

#### From WHO:

Abbreviated name	<b>Malaria incidence rate</b>
Indicator name	Malaria incidence rate (per 1000 population)
Domain	Health status
Subdomain	Infectious disease
Associated terms	Morbidity
Definition	Number of malaria cases per 1000 persons per year.
Numerator	Number of malaria cases.
Denominator	Population at risk (number of people living in areas where malaria transmission occurs).
Disaggregation/ additional dimension	Age, sex, place of residence, season (year and month)
Method of measurement	Complete data on malaria cases reported through surveillance systems are the best source of data but are rarely available for large populations. Reported data on malaria cases generally need to be corrected for extent of health service use, incompleteness of reporting and lack of case confirmation. In high transmission areas with limited health service data but with good data on parasite prevalence the number of cases can be estimated from parasite prevalence. The denominator is estimated, using risk mapping and population data.
Method of estimation	WHO compiles data on reported confirmed cases of malaria, submitted by national malaria control programmes and estimates the extent of underreporting. Where necessary the number of cases are inferred from parasite prevalence surveys.
Measurement frequency	Annual
Monitoring and evaluation framework	Impact
Preferred data sources	Surveillance systems
Other possible data sources	

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Further information and related links	<p>World Malaria Report 2014. Geneva: World Health Organization; 2014. <a href="http://www.who.int/malaria/publications/world_malaria_report_2014/en/">http://www.who.int/malaria/publications/world_malaria_report_2014/en/</a></p> <p>Disease surveillance for malaria control: an operations manual. Geneva: World Health Organization; 2012 (<a href="http://www.who.int/malaria/publications/atoz/9789241503341/en/">http://www.who.int/malaria/publications/atoz/9789241503341/en/</a>, accessed 29 March 2015).</p> <p>Household Survey Indicators for Malaria Control. Measure Evaluation/Measure DHS/President's Malaria Initiative/Roll Back Malaria Partnership/UNICEF/WHO. 2013 (<a href="http://www.malariasurveys.org/documents/Household%20Survey%20Indicators%20for%20Malaria%20Control.pdf">http://www.malariasurveys.org/documents/Household%20Survey%20Indicators%20for%20Malaria%20Control.pdf</a>, accessed 15 April 2015).</p> <p>World Health Assembly governing body documentation: official records. Geneva: World Health Organization (<a href="http://apps.who.int/gb/or/">http://apps.who.int/gb/or/</a>, accessed 29 March 2015).</p>
Method of estimation	WHO compiles data on reported confirmed cases of malaria, submitted by the national malaria control programmes. The denominator is estimated, using risk mapping and population data.
Measurement frequency	Annual
Monitoring and evaluation framework	Impact
Preferred data sources	Surveillance systems
Other possible data sources	
Further information and related links	<p>Household Survey Indicators for Malaria Control. Measure Evaluation/Measure DHS/President's Malaria Initiative/Roll Back Malaria Partnership/UNICEF/WHO. 2013 (<a href="http://www.malariasurveys.org/documents/Household%20Survey%20Indicators%20for%20Malaria%20Control.pdf">http://www.malariasurveys.org/documents/Household%20Survey%20Indicators%20for%20Malaria%20Control.pdf</a>, accessed 15 April 2015).</p> <p>Indicators for monitoring the Millennium Development Goals: definitions, rationale, concepts and sources. New York (NY): United Nations; 2012 (<a href="http://mdgs.un.org/unsd/mi/wiki/MainPage.ashx">http://mdgs.un.org/unsd/mi/wiki/MainPage.ashx</a>, accessed 29 March 2015).</p> <p>Roll Back Malaria Partnership/WHO. Disease surveillance for malaria control: an operations manual. Geneva: World Health Organization; 2012 (<a href="http://www.who.int/malaria/publications/atoz/9789241503341/en/">http://www.who.int/malaria/publications/atoz/9789241503341/en/</a>, accessed 29 March 2015).</p> <p>World Health Assembly governing body documentation: official records. Geneva: World Health Organization (<a href="http://apps.who.int/gb/or/">http://apps.who.int/gb/or/</a>, accessed 29 March 2015).</p> <p>World health statistics 2014. Geneva: World Health Organization; 2014 (<a href="http://apps.who.int/iris/bitstream/10665/112738/1/9789240692671_eng.pdf?ua=1">http://apps.who.int/iris/bitstream/10665/112738/1/9789240692671_eng.pdf?ua=1</a>, accessed 29 March 2015).</p>
Method of estimation	WHO compiles data on reported confirmed cases of malaria, submitted by the national malaria control programmes. The denominator is estimated, using risk mapping and population data.
Measurement frequency	Annual
Monitoring and evaluation framework	Impact
Preferred data sources	Surveillance systems
Other possible data sources	
Further information and related links	<p>Household Survey Indicators for Malaria Control. Measure Evaluation/Measure DHS/President's Malaria Initiative/Roll Back Malaria Partnership/UNICEF/WHO. 2013 (<a href="http://www.malariasurveys.org/documents/Household%20Survey%20Indicators%20for%20Malaria%20Control.pdf">http://www.malariasurveys.org/documents/Household%20Survey%20Indicators%20for%20Malaria%20Control.pdf</a>, accessed 15 April 2015).</p> <p>Indicators for monitoring the Millennium Development Goals: definitions, rationale, concepts and sources. New York (NY): United Nations; 2012 (<a href="http://mdgs.un.org/unsd/mi/wiki/MainPage.ashx">http://mdgs.un.org/unsd/mi/wiki/MainPage.ashx</a>, accessed 29 March 2015).</p>

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Roll Back Malaria Partnership/WHO. Disease surveillance for malaria control: an operations manual. Geneva: World Health Organization; 2012 (<http://www.who.int/malaria/publications/atoz/9789241503341/en/>, accessed 29 March 2015).

World Health Assembly governing body documentation: official records. Geneva: World Health Organization (<http://apps.who.int/gb/or/>, accessed 29 March 2015).

World health statistics 2014. Geneva: World Health Organization; 2014 ([http://apps.who.int/iris/bitstream/10665/112738/1/9789240692671\\_eng.pdf?ua=1](http://apps.who.int/iris/bitstream/10665/112738/1/9789240692671_eng.pdf?ua=1), accessed 29 March 2015).

### Suggested Indicator 4: Estimated number of new hepatitis B infections per 100,000 population in a given year

#### From WHO:

Abbreviated name	<b>Hepatitis B incidence</b>
Indicator name	<b>Estimated number of new hepatitis B infections per 100,000 population in a given year</b>
Domain	
Subdomain	
Associated terms	
Definition	The number of new hepatitis B infections per 100,000 population in a given year is estimated from the prevalence of total antibodies against hepatitis B core antigen (Total anti-HBc) and hepatitis B surface antigen (HBsAg) positive among children 5 years of age, adjusted for sampling design.
Numerator	Number of survey participants with Total anti-HBc and HBsAg positive test
Denominator	Number in survey with Total anti-Hc/HBsAg result
Disaggregation/ additional dimension	Dependent on sampling methodology. Place of residence, exposure to the birth dose hepatitis B vaccine (official records), exposure to three doses of hepatitis B vaccine
Method of measurement	<p>Total anti-HBc reflect cumulated incidence in the first five years of life while HBsAg reflect chronic infections that may evolve towards chronic liver diseases</p> <p>The sample of the serological survey must be drawn from the specific geographic region to be verified. For example if the purpose is to estimate national transmission of HBV (including mother-to-child transmission) then the sampling should be geographically representative of the population. Convenience sampling is not appropriate. The sample size should be adequate to show with 95% confidence HBsAg prevalence of less than 1% with a precision of <math>\pm 0.5\%</math>.</p> <p>The target age is 5-years-old. Sampling 4 – 6 year olds may be appropriate.</p> <p>The serosurvey is cross sectional and therefore a point estimate time. The shorter time periods of data collection are therefore preferred.</p> <p>Data on HBV birth dose exposure and B3 completion are drawn from official records. Where these are not available testing for HBsAb may be considered for the serosurvey. This is less preferable as it is more costly, but can also be done in addition.</p> <p>Specimen collection and transportation should be appropriate to minimize bias though specimen degradation in rural and remote areas.</p> <p>Where possible, it is advantageous to collect blood specimens for ELISA laboratory testing because the accuracy (sensitivity and specificity) is higher than for rapid tests. However in some locations only rapid tests will be available hence test selection is resource dependent. This should be considered in designing overall study methodology.</p> <p>When an appropriate sampling strategy and size are used and quality testing assays and laboratory procedures are employed, the HBsAg prevalence in the serosurvey should be representative of the incidence of childhood HBV transmission in the specific geographic region (or country) in this age group.</p>

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Method of estimation	
Measurement frequency	Intermittent, dependent on population seroprevalence of HBsAg before hepatitis B immunization and infant hepatitis B vaccination coverage.
Monitoring and evaluation framework	Outcome
Preferred data sources	Serosurvey
Other possible data sources	Routinely collected hepatitis B vaccine administrative coverage data including the proportion newborn infants given the first dose within 24 hours of birth (HepB0%) and the percentage of infants having received three doses of hepatitis B vaccine (HepB3 %)
Further information and related links	<p>Hepatitis B Control Through Immunization: a Reference Guide <a href="http://iris.wpro.who.int/bitstream/10665.1/10820/3/9789290616696_eng.pdf">http://iris.wpro.who.int/bitstream/10665.1/10820/3/9789290616696_eng.pdf</a></p> <p>Documenting the Impact of Hepatitis B Immunization: best practices for conducting a serosurvey <a href="http://whqlibdoc.who.int/hq/2011/WHO_IVB_11.08_eng.pdf">http://whqlibdoc.who.int/hq/2011/WHO_IVB_11.08_eng.pdf</a></p> <p>Sample design and procedures for Hepatitis B immunization surveys: A companion to the WHO cluster survey reference manual <a href="http://whqlibdoc.who.int/hq/2011/WHO_IVB_11.12_eng.pdf">http://whqlibdoc.who.int/hq/2011/WHO_IVB_11.12_eng.pdf</a></p>

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**Target 3.4 By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well being.**

**Suggested Indicator: Probability of dying of cardiovascular disease, cancer, diabetes, or chronic respiratory disease between ages 30 and 70**

**From WHO:**

Abbreviated name	<b>Mortality between 30 and 70 years of age from cardiovascular diseases, cancer, diabetes or chronic respiratory diseases</b>
Indicator name	Mortality between ages 30 and 70 years from cardiovascular diseases, cancer, diabetes or chronic respiratory diseases
Domain	Health status
Subdomain	NCDs
Associated terms	Mortality by cause
Definition	Unconditional probability of dying between the exact ages of 30 and 70 years from cardiovascular diseases, cancer, diabetes or chronic respiratory diseases.
Numerator	Number of deaths between ages 30 and 70 years due to the four causes.
Denominator	Number of years of exposure.
Disaggregation/ additional dimension	Place of residence, sex, socioeconomic status
Method of measurement	Deaths from these four causes will be based on the following ICD codes: 100–I99, COO–C97, E10–E14 and J30–J98.
Method of estimation	Modelling, using multiple inputs, is often used if no complete and accurate data are available. Age standardization is done for comparability over time and between populations.
Measurement frequency	Annual if civil registration data; otherwise every 3–5 years
Monitoring and evaluation framework	Impact
Preferred data sources	Civil registration and vital statistics systems
Other possible data sources	Population-based health surveys with verbal autopsy
Further information and related links	Draft comprehensive global monitoring framework and targets for the prevention and control of noncommunicable diseases, including a set of indicators. Agenda item A66/8, Sixty-sixth World Health Assembly, 20–28 May 2013. Geneva: World Health Organization; 2013 ( <a href="http://apps.who.int/gb/ebwha/pdf_files/WHA66/A66_8-en.pdf?ua=1">http://apps.who.int/gb/ebwha/pdf_files/WHA66/A66_8-en.pdf?ua=1</a> , accessed 29 March 2015).  Framework of actions for the follow-up to the Programme of Action of the International Conference on Population and Development beyond 2014. Report of the Secretary-General. New York (NY): United Nations; 2014 ( <a href="https://www.unfpa.org/webdav/site/global/shared/documents/ICPD/Framework%20of%20action%20for%20the%20follow-up%20to%20the%20PoA%20of%20the%20ICPD.pdf">https://www.unfpa.org/webdav/site/global/shared/documents/ICPD/Framework%20of%20action%20for%20the%20follow-up%20to%20the%20PoA%20of%20the%20ICPD.pdf</a> , accessed 19 August 2014).  World health statistics 2014. Geneva: World Health Organization; 2014

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([http://apps.who.int/iris/bitstream/10665/112738/1/9789240692671\\_eng.pdf?ua=1](http://apps.who.int/iris/bitstream/10665/112738/1/9789240692671_eng.pdf?ua=1), accessed 29 March 2015).

## Goal 3 Ensure healthy lives and promote well-being for all at all ages

### Target 3.5 Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol.

**Suggested Indicator: Coverage of treatment interventions (pharmacological, psychosocial and rehabilitation and aftercare services) for substance use disorders**

From UNODC:

#### **Definition and method of computation**

Number of people who have received different treatment interventions in the last year divided by the actual number of the target population (people with substance use disorders measured as the total number of problem drug users)

The target will be assessed through aggregating the information on the type of treatment interventions and extent of coverage of these for the population in need.

#### **Rationale and interpretations**

Strengthening the treatment services entails providing a comprehensive set of evidence based interventions (that have been laid down in the international standards and guidelines) that are available and accessible to all population groups in need of these interventions or services. The indicator will inform the extent to which a range of evidence based interventions for treatment of substance use disorder are available and are accessed by the population in need for these in a country, regional or globally. For instance currently UNODC estimates that globally one out of 6 people with drug use disorders have access to or provided drug treatment services (World Drug Report 2014).

#### **Sources and data collection**

The source of information will primarily be the Annual Reports Questionnaire that are submitted by the Member States to UNODC as an annual reporting cycle that can be supplemented with information collected by WHO such as the WHO ATLAS-SU: Resources for Treatment and Prevention of Substance Use Disorders and the Global Information System on Alcohol and Health (GISAH)

#### **Disaggregation**

The current reporting of ARQ allows for disaggregation by the settings, type of intervention and for the population groups. The indicators can be further modified to include disaggregation by gender and specific age groups.

#### **Comments and limitations**

The current response rate for returning the ARQ is around 60 per cent. However this is estimated to cover nearly 75 per cent of the global population. The extent of reporting also varies geographically where UNODC may have near complete responses from countries in Europe there are much less responses from Africa. The second limitation is that the indicators stresses on type, availability and coverage of services but does not necessarily provide information on the actual quality of the interventions/services provided. These could be contextualised through the data generated by the information from WHO reports.

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### Data for global and regional monitoring

The data is available on country basis which makes it easy to aggregate at sub regional, regional and global levels. The reporting cycle is annual and therefore most recent data is available each year that can allow for monitoring the changes and trends.

### **DEFINITION OF THE TERMS**

Treatment of substance use disorder as defined by the Political Declaration and Plan of Action on International Cooperation Towards an integrated and Balanced Strategy to Counter the World Drug Problem, High Level Segment, Commission on Narcotic Drugs, Vienna 11-12 March 2009

*Comprehensive treatment system offering a wide range of integrated pharmacological (such as detoxification and opioid agonist and antagonist maintenance) and psychosocial (such as counselling, cognitive behavioural therapy and social support) interventions based on scientific evidence and focused on the process of rehabilitation, recovery and social reintegration (Plan of Action, Para 4:h)*

*Services for the treatment of drug disorders” are part of clinical responses to substance-related disorders. Such services are aimed at stopping or reducing the effects of acute intoxication, managing withdrawal symptoms during detoxification, preventing relapse and dealing with long-term psychological and behavioural symptoms.. (E/NR/2014/2)<sup>6</sup>*

Substance use disorders, occur when the recurrent use of alcohol and/or drugs causes clinically and functionally significant impairment, such as health problems, disability, and failure to meet major responsibilities at work, school, or home. According to the DSM-5, a diagnosis of substance use disorder is based on evidence of impaired control, social impairment, risky use, and pharmacological criteria. (DSM V)

Pharmacological Interventions include cluster of interventions such as detoxification, , opioid antagonist therapy, and opioid maintenance therapy (E/NR/2014/2)

- Detoxification refers to a process carried out in a safe and effective manner aimed at eliminating or minimizing withdrawal symptoms that occur after drugs are no longer taken (WHO).
- Opioid maintenance therapy refers to the regular administration of a long-acting opioid agonist to stabilize the patient without applying tapering dosage schedules. (WHO, UNODC, UNAIDS Technical Guide for Countries to Set Targets for Universal Access to HIV Prevention, Treatment and Care for Injecting Drug Users (WHO, Geneva, 2009)
- Opioid antagonist maintenance treatment refers to the regular administration of a long-acting opioid antagonist to block opioid receptors and avoid any opioid effect (adapted from WHO, 2009).

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<sup>6</sup> All the subsequent definition of the terms included are from the Economic and Social Council (E/NR/2014/2) Commission on Narcotics Drugs, Annual Report Questionnaire; Part 2: COMPREHENSIVE APPROACH TO DRUG DEMAND AND SUPPLY REDUCTION



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Psychosocial cluster of interventions such as treatment planning, counselling, peer support groups, screening/brief intervention, contingency management, cognitive behavioural therapy, treatment of comorbidity, motivational interviewing.

- Treatment planning refers to the development of a written description of the treatment to be provided and its anticipated course. Such planning is done with the patient by establishing goals based on the patient's identified needs and setting interventions to meet those goals (UNODC, Principles of Drug Dependence Treatment: Discussion Paper, March 2008).
- Counselling refers to an intensive interpersonal process aimed at assisting individuals to achieve their goals or function more effectively (WHO).
- Peer support groups (self-help groups such as Narcotics Anonymous) refers to small groups of peers wishing to assist each other in their struggle with a particular problem (in the case of Narcotics Anonymous, with drug dependence) (WHO).
- Screening is aimed at detecting health problems or risk factors at an early stage before they have caused serious disease or other problems (WHO). A "brief intervention" is a structured therapy of short duration aimed at assisting an individual to cease or reduce the use of a psychoactive substance or to deal with other life issues (WHO).
- Contingency management" refers to psychosocial interventions that provide a system of incentives and disincentives designed to make drug use less attractive and abstinence more attractive (NIDA).
- Cognitive behavioural therapy refers to psychosocial interventions aimed at helping patients recognize, avoid and cope with the situations in which they are most likely to use drugs (adapted from NIDA).
- Motivational interviewing refers to a counselling and assessment technique that follows a non-confrontational approach to questioning people about difficult issues like alcohol and drug use, assisting them to make positive decisions aimed at reducing or stopping such use (ODCCP).

Social rehabilitation and aftercare include a cluster of interventions such as vocational training, social assistance, educational activities, rehabilitation and aftercare.

- Vocational training and income-generation support" refers to activities aimed at providing participants with the skills and opportunities to engage in meaningful employment and sustainably support themselves and their families.
- Social assistance refers to the many ways in which professionals and non-professionals can support the social and psychological well-being of drug users with a view to improving both the quality and duration of their lives (WHO, Guidelines for the Psychosocially Assisted Pharmacological Treatment of Opioid Dependence, 2009).
- Educational activities on the risks posed by drug use refer to sessions aimed at informing and counselling people about the consequences of drug use, in other words, the ways in which such use affects physical and mental health, behavioural control and interpersonal relationships. In particular, these educational sessions should focus on providing information about overdosing, contracting infectious diseases, developing cardiovascular, metabolic and psychiatric disorders etc. and the benefit of abstaining from drug use. Treatment methods and goals are also explained in detail.

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- Rehabilitation and aftercare refers to the process aimed at achieving an optimal state of health, psychological functioning and social well-being for individuals with a drug-related problem (WHO).

### Coverage

Coverage describes the extent to which an intervention is delivered to the target population, that is, **the proportion** of the target population in need of an intervention that actually gets it. Coverage has to be determined relative to the national estimates of people in need, e.g., people with substance use disorders, or people vulnerable to substance use.

(Economic and Social Council (E/NR/2014/2) Commission on Narcotics Drugs, Annual Report Questionnaire; Part 2: COMPREHENSIVE APPROACH TO DRUG DEMAND AND SUPPLY REDUCTION)

### References

UNODC, International Standards on Drug Use Prevention, 2013.

[http://www.unodc.org/documents/prevention/prevention\\_standards.pdf](http://www.unodc.org/documents/prevention/prevention_standards.pdf)

E/CN.7/2013/CRP.4 International Standards on Drug Use Prevention, Commission on Narcotic Drugs, Fifty-sixth session, Vienna, 11-15 March 2013

UNODC, TREATNET Quality Standards For Drug Dependence Treatment And Care Services 2012

[http://www.unodc.org/docs/treatment/treatnet\\_quality\\_standards.pdf](http://www.unodc.org/docs/treatment/treatnet_quality_standards.pdf)

E/CN.7/2015/3 World situation with regard to drug abuse: Report of the Secretariat, Commission on Narcotic Drugs, Fifty-eighth session Vienna, 9-17 March 2015

E/NR/2014/2 Commission on Narcotics Drugs, Annual Report Questionnaire; Part II : COMPREHENSIVE APPROACH TO DRUG DEMAND AND SUPPLY REDUCTION

E/NR/2014/3 Commission on Narcotics Drugs, Annual Report Questionnaire Part III: Extent and patterns of and trends in drug use

Political Declaration and Plan of Action on International Cooperation Towards an integrated and Balanced Strategy to Counter the World Drug Problem, High Level Segment, Commission on Narcotic Drugs, Vienna 11-12 March 2009

[http://www.unodc.org/documents/commissions/CND/CND\\_Sessions/CND\\_52/Political-Declaration2009\\_V0984963\\_E.pdf](http://www.unodc.org/documents/commissions/CND/CND_Sessions/CND_52/Political-Declaration2009_V0984963_E.pdf)

WHO, Global Information System on Alcohol and Health (GISAH)

<http://apps.who.int/gho/data/node.main.GISAH?lang=en>

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WHO, ATLAS-SU: Resources for Treatment and Prevention of Substance Use Disorders  
[http://www.who.int/substance\\_abuse/activities/atlas/en/](http://www.who.int/substance_abuse/activities/atlas/en/)

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### Target 3.6 By 2020, halve the number of global deaths and injuries from road traffic accidents.

**Suggested Indicator: Number of road traffic fatal injury deaths per 100 000 population (age-standardized)**

**From WHO:**

Abbreviated name	<b>Mortality rate from road traffic injuries</b>
Indicator name	Mortality rate from road traffic injuries (per 100 000 population)
Domain	Health status
Subdomain	Injury and violence
Associated terms	Mortality by cause
Definition	Number of road traffic fatal injury deaths per 100 000 population (age-standardized).
Numerator	Number of deaths due to road traffic crashes.
Denominator	Population.
Disaggregation/ additional dimension	Age, per motor vehicle (fatalities per 10 000 motor vehicles), sex, socioeconomic status
Method of measurement	Death registration data using ICD-10.
Method of estimation	Modelling, using multiple inputs, is often used if no complete and accurate data are available.
Measurement frequency	Annual if civil registration data are available, otherwise every five years
Monitoring and evaluation framework	Impact
Preferred data sources	Civil registration and vital statistics systems with full coverage
Other possible data sources	Population-based health surveys with verbal autopsy, administrative reporting systems (police reports)
Further information and related links	<p>ESCAP road safety goals, targets and indicators for the Decade of Action, 2011-2020. In: Road safety: note by the Secretariat. Bangkok: United Nations Economic and Social Commission for Asia and the Pacific; 2011: Annex 1 of Document E/ESCAP/MCT.2/8 of United Nations ESCAP Ministerial Conference on Transport, Bangkok, 12-16 March 2012 (<a href="http://www.unescap.org/ttdw/MCT2011/MCT/MCT2-8E.pdf">http://www.unescap.org/ttdw/MCT2011/MCT/MCT2-8E.pdf</a>, accessed 21 April 2015).</p> <p>Global status report on road safety: time for action. Geneva: World Health Organization; 2009 (<a href="http://www.who.int/violence_injury_prevention/road_safety_status/2009">www.who.int/violence_injury_prevention/road_safety_status/2009</a>, accessed 29 March 2015).</p> <p>Organisation for Economic Co-operation and Development. Health at a Glance 2013: OECD Indicators, Paris: OECD Publishing; 2013 (<a href="http://dx.doi.org/10.1787/health_glance-2013-en">http://dx.doi.org/10.1787/health_glance-2013-en</a>, accessed 29 March 2014).</p>

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**Target 3.7 By 2030, ensure universal access to sexual and reproductive health-care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programmes.**

**Suggested Indicator 1: Percentage of women of reproductive age (15-49 years) who have their need for family planning satisfied with modern methods.**

**From WHO:**

Abbreviated name	<b>Demand for family planning satisfied with modern methods</b>
Indicator name	Demand for family planning satisfied with modern methods
Domain	Service coverage
Subdomain	Reproductive, maternal, newborn, child and adolescent health
Associated terms	Reproductive, maternal, newborn, child and adolescent
Definition	Percentage of women of reproductive age (15–49 years) who are sexually active and who have their need for family planning satisfied with modern methods.
Numerator	Number of women with family planning demand who use modern methods
Denominator	Total number of women in need of family planning.
Disaggregation/ additional dimension	Age, marital status, place of residence, socioeconomic status
Method of measurement	Household surveys include a series of questions to measure modern contraceptive prevalence rate and demand for family planning.  Total demand for family planning is defined as the sum of the number of women of reproductive age (15–49 years) who are married or in a union and who are currently using, or whose sexual partner is currently using, at least one contraceptive method, and the unmet need for family planning. Unmet need for family planning is the proportion of women of reproductive age (15–49 years) either married or in a consensual union, who are fecund and sexually active but who are not using any method of contraception (modern or traditional), and report not wanting any more children or wanting to delay the birth of their next child for at least two years. Included are: (i) all pregnant women (married or in a consensual union) whose pregnancies were unwanted or mistimed at the time of conception; (ii) all postpartum amenorrhoeic women (married or in consensual union) who are not using family planning and whose last birth was unwanted or mistimed; (iii) all fecund women (married or in consensual union) who are neither pregnant nor postpartum amenorrhoeic, and who either do not want any more children (want to limit family size), or who wish to postpone the birth of a child for at least two years or do not know when or if they want another child (want to space births), but are not using any contraceptive method.
Method of estimation	
Measurement frequency	Every 3–5 years
Monitoring and evaluation framework	Outcome
Preferred data sources	Population-based health surveys
Other possible data sources	
Further information and related links	Countdown to 2015. Monitoring maternal, newborn and child health: understanding key progress indicators. Geneva: World Health Organization; 2011 ( <a href="http://apps.who.int/iris/bitstream/10665/44770/1/9789241502818_eng.pdf">http://apps.who.int/iris/bitstream/10665/44770/1/9789241502818_eng.pdf</a> , accessed 29 March 2015).  Framework of actions for the follow-up to the Programme of Action of the International Conference on Population and Development beyond 2014. Report of the Secretary-General. New York (NY): United Nations; 2014

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(<https://www.unfpa.org/webdav/site/global/shared/documents/ICPD/Framework%20of%20action%20for%20the%20follow-up%20to%20the%20PoA%20of%20the%20ICPD.pdf>, accessed 19 August 2014).

Keeping promises, measuring results. Commission on information and accountability for Women's and Children's Health. Geneva: World Health Organization; 2011 ([http://www.who.int/topics/millennium\\_development\\_goals/accountability\\_commission/Commission\\_Report\\_advantage\\_copy.pdf](http://www.who.int/topics/millennium_development_goals/accountability_commission/Commission_Report_advantage_copy.pdf), accessed 29 March 2015).

Monitoring progress in family planning. FP2020 core indicators. Glastonbury (CT): Track20 (<http://www.track20.org/pages/data/indicators>, 21 March 2014).

World Health Assembly governing body documentation: official records. Geneva: World Health Organization (<http://apps.who.int/gb/or/>, accessed 29 March 2015).

### **Disaggregation:**

Disaggregation by disability can be obtained by including the functioning questions included the World Health Survey (WHS; <http://www.who.int/healthinfo/survey/en/>), WHO Study on global AGEing and adult health (SAGE; <http://www.who.int/healthinfo/sage/en/>) or WHO Model Disability Survey (MDS; <http://www.who.int/disabilities/data/mds/en/>) in population-based health surveys.

### **From Population Division/DESA, United Nations:**

#### **Indicator: Percentage of women of reproductive age (15-49 years) who have their need for family planning satisfied with modern methods**

##### **Definition and method of computation**

Percentage of women of reproductive age (15-49 years) who have their need for family planning satisfied with modern methods.

The numerator is the percentage of women of reproductive age (15-49 years old) who are currently using, or whose sexual partner is currently using, at least one modern contraceptive method. The denominator is the total demand for family planning (the sum of contraceptive prevalence (any method) and the unmet need for family planning).

Metadata on the definition, method of computation and other information for each component—contraceptive prevalence and unmet need for family planning—are included in the MDG database as each was an indicator (5.3 and 5.6) used for global monitoring of MDG target 5.B. Achieve, by 2015, universal access to reproductive health. An important limitation, though, of the indicators used in MDG monitoring is that they were only with reference to women of reproductive age who are married or in a union. The indicators missed women who are not married but who are exposed to the risk of pregnancy.

See <http://unstats.un.org/unsd/mdg/Metadata.aspx>

The proposed indicator limits the numerator to women who are using a modern method of family planning. Women who are using a traditional method of contraception are not considered as having a met need for family planning.

In contrast, the indicator “Demand for family planning satisfied (met need for contraception)” (regardless if the method used is modern or traditional) is a key indicator under the Every Woman, Every Child initiative and is described in detail in the handbook “Monitoring maternal, newborn and child health: understanding key progress indicators” available here from WHO (2011):

[http://www.who.int/entity/healthmetrics/news/monitoring\\_maternal\\_newborn\\_child\\_health.pdf](http://www.who.int/entity/healthmetrics/news/monitoring_maternal_newborn_child_health.pdf)

##### **Rationale and interpretation**

While it is difficult to define an ideal level of contraceptive prevalence, since it is dependent, in part, on women's and men fertility preferences, the proportion of demand for family planning satisfied can

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be interpreted as the degree to which total demand for contraception has been met with an ideal (if improbable) target of 100 per cent demand met.

“The proportion of demand for family planning satisfied (met need for contraception) indicator enables assessment of family planning programmes and progress in providing contraceptive services to women who wish to avoid getting pregnant. Access to family planning provides women and their partners opportunities to make decisions about family size and timing of pregnancies. This contributes to maternal and child health by preventing unintended pregnancies and pregnancies that are too closely spaced, which are at higher risk for poor obstetrical outcomes. Unmet need for family planning shows the gap between women’s reproductive intentions and their access to or use of contraceptives. The CPR provides an estimate of contraceptive use in a population. Both the unmet need for family planning and CPR indicators are used for tracking progress towards the MDG 5 target 5B of achieving universal access to reproductive health.” (WHO, 2011)

### Sources and data collection

Data are from household surveys that are internationally-coordinated, such as the Demographic and Health Surveys (DHS), Multiple Indicator Cluster Surveys (MICS), Reproductive Health Surveys (RHS) and national surveys based on similar methodologies. These surveys tend to be undertaken every three to five years. Other survey programmes, like the Pan-Arab Project for Family Health (PAPFAM) and the European Fertility and Family Surveys (FFS) may be considered as well.

Data are available for 138 countries and territories for the period 1990-2014; 90 countries and territories have at least two available data points.

183 countries and territories have data on contraceptive prevalence (one component of this indicator); 156 countries and territories have at least two data points.

### Data for regional and global monitoring

Country-specific data from surveys are used for regional and global monitoring (as noted above).

In order to generate regional and global estimates for any given reference year, the Population Division/DESA uses a Bayesian hierarchical model. Country-level, model-based estimates are only used for computing the regional and global averages and are not used for global monitoring of trends at the country level. Country-specific estimates are generated by using the general relationship between contraceptive prevalence and unmet need, a quadratic function to summarize the “world pattern”, country-specific intercepts to capture the different levels within countries (estimated using a hierarchical model based on sub-regional information) and non-parametric changes over time to capture fluctuations around the expected trend. The fewer the number of observations for the country of interest, the more its estimates are driven by the experience of other countries, whereas for countries with many observations the results are determined to a greater extent by those observations.

Regional and global estimates are weighted averages of the model-based country estimates, using the number of married or in-union women aged 15-49 for the reference year in each country (for MDG monitoring purposes). Regional averages are provided only if data are available for at least 50 per cent of the women of reproductive age who are married or in union in the region.

### Supplementary information

#### References

Alkema, LA and others (2013). National, regional, and global rates and trends in contraceptive prevalence and unmet need for family planning between 1990 and 2015: A systematic and comprehensive analysis. *The Lancet*, Volume 381, Issue 9878, pp. 1642-1652.

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World Health Organization (2011). Monitoring maternal, newborn and child health: understanding key progress indicators. Geneva: WHO.

### From UNFPA:

We note that contraceptive prevalence rate (CPR) and the unmet need for contraception rate (UNR) are the building blocks of proportion of demand satisfied (PDS), namely as follows:

$$PDS = CPR / (CPR + UNR).$$

In this light, we enclose herewith the metadata prepared in the context of the MDG Goal 5, Target 5.B, for CPR and UNR.

### Contraceptive prevalence rate:

#### DEFINITION AND METHOD OF COMPUTATION

##### Definition

The contraceptive prevalence rate is the percentage of *women of reproductive age* who are currently using, or whose sexual partner is currently using, at least one *contraceptive method*, regardless of the method used.

##### Concepts

*Women of reproductive age* include all women of reproductive age (15-49) who are married or in consensual union.

*Contraceptive methods* include modern and traditional methods. Modern methods of contraception include female and male sterilization, oral hormonal pills, intra-uterine devices (IUD), male condoms, injectables, implants (including Norplant), vaginal barrier methods, female condoms, and emergency contraception. Traditional methods of contraception include the rhythm method (periodic abstinence), withdrawal, lactational amenorrhea method (LAM) and folk methods.

##### Method of computation

$$\text{Contraceptive prevalence rate} = \frac{\text{Women using a contraceptive method}}{\text{Women of reproductive age}} \times 100$$

#### RATIONALE AND INTERPRETATION

The contraceptive prevalence rate, which serves as a proxy measure of access to reproductive health services, is useful for tracking progress towards the target of achieving universal access to reproductive health, especially when the indicator is considered in conjunction with information about women's knowledge of family planning or accessibility, and the quality of family planning services. Information on contraceptive prevalence complements the indicator of unmet need for family



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planning. The sum of contraceptive prevalence and unmet need determines the total demand for contraception. Unlike the unmet need indicator, contraceptive prevalence does not take into account whether women or couples do or do not desire additional children. This makes the indicator more difficult to interpret than unmet need because contraceptive prevalence rates vary across societies with vastly different preferred family sizes. For the same reason, it is difficult to specify the desired target for contraceptive prevalence rates.

### SOURCES AND DATA COLLECTION

Contraceptive prevalence rates are calculated from nationally representative surveys with questions on current use of contraception. Surveys that commonly include this information are: Demographic and Health Surveys (DHS), Fertility and Family Surveys (FFS), Reproductive Health Surveys (RHS) conducted with assistance of the United States Centers for Disease Control and Prevention, Multiple Indicator Cluster Surveys (MICS) and other national surveys.

Surveys gather information on contraceptive prevalence through direct questions to women. These questions often include two parts: a general question asking women if they are currently using a method of contraception and a follow-up question regarding the type of contraceptive method currently used. In order to obtain an accurate measure of contraceptive prevalence, it is desirable for the survey interviewer to provide a description or a list of the specific methods of family planning. If this is not done, the level of contraceptive use may be significantly underreported, especially where the use of traditional methods such as withdrawal or calendar rhythm, or use of contraceptive sterilization, is common. In some surveys, such as the DHS, the methods are described in a series of “probe” questions about methods the respondent has heard about, before the respondent is asked about current use of contraception. In highly literate populations, the interviewer might provide the respondent with a printed list of the methods.

In recording data on the type of contraceptive method used, it is important to keep in mind that some respondents may use more than one method at a time. In such cases, a selection is either made a posteriori by the survey enumerator based on the effectiveness of the methods used or by respondents based on their own assessment of the method they used most frequently. Identifying only one method or combination of methods per respondent allows contraceptive prevalence to be computed as the sum of levels of use of each method. If more than one method or combination of methods is recorded per respondent and no selection criteria are employed, the sum of the various methods used may exceed the overall level of contraceptive prevalence.

It is also important to note that contraceptive prevalence is measured at the time of interview. There is, however, a lag, generally between one and two years, between the date of an interview and the diffusion of the survey report. On average, the surveys are undertaken every three to five years.

### DISAGGREGATION

Contraceptive use may vary significantly across socioeconomic groups and regional and geographical areas. For policy purposes, information on contraceptive prevalence should be disaggregated, at a minimum, by age and current marital status. This information is important because it allows monitoring of differences in access to contraceptive methods for more vulnerable groups such as adolescents and unmarried women.

Contraceptive use can be disaggregated by other social or economic characteristics, such as the woman’s level of educational attainment, urban or rural residence, and number of own children as relevant for the policy needs of each country or area.

### COMMENTS AND LIMITATIONS

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Differences in survey design and implementation, as well as differences in the way survey questionnaires are formulated and administered can affect the comparability of data over time, and between countries. Some of the most common differences are the range of contraceptive methods included in the surveys, and whether or not probe questions are included on the types of methods used. The lack of probe questions can result in an underestimation of contraceptive prevalence.

The characteristics (age, sex, marital or union status) of the persons for whom contraceptive prevalence is measured (base population) also affects the comparability of data on contraceptive prevalence. Although the standard definition of the contraceptive prevalence rate refers only to women who are married or in union, alternative base populations are sometimes presented including sexually active women (irrespective of marital status), ever-married women, or men and women who are married or in union.

The time frame used to assess contraceptive prevalence can also vary. Often it is left to the respondent to determine what is meant by “currently using” a method of contraception. Some surveys ask about use within the past month. Occasionally, when information on current use is not collected, data on use of contraceptive methods at last sexual intercourse or during the previous year has been utilized to estimate current contraceptive prevalence. Any differences between the data presented and the standard definition of contraceptive prevalence should be clearly indicated.

Sampling variability can also be an issue in data collection, especially when contraceptive prevalence is measured for a specific subgroup (according to method, age-group, level of educational attainment, place of residence, etc) or when analyzing trends over time.

### GENDER ISSUES

Statistics on contraception prevalence rates are based primarily on women. This is mostly for pragmatic reasons, because the majority of contraceptive methods are female-based. But it can also be argued that the degree to which women control their reproduction is an indicator of the degree to which they control their own lives in general, thereby converting the contraceptive prevalence rate into an indicator of women’s empowerment. Recent surveys have also interviewed samples of men about contraceptive use.

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WORLD HEALTH ORGANIZATION (2006). *Reproductive Health Indicators - Guidelines for their generation, interpretation and analysis for global monitoring, 2006*. Geneva. Available from [http://www.who.int/reproductive-health/publications/rh\\_indicators/index.html](http://www.who.int/reproductive-health/publications/rh_indicators/index.html)

### DATA FOR GLOBAL AND REGIONAL MONITORING

Data for this indicator are reported at the global level by the United Nations Population Division. Data are obtained from national repositories or from published survey reports. In exceptional cases, data are taken from other published analytic reports. If clarification is needed, contact is made with the survey sponsors or authoring organization, which may supply corrected or adjusted estimates in response.

Regional estimates are weighted averages of the country data, using the number of married or in-union women aged 15-49 for the reference year in each country as the weight. Global estimates are weighted averages of the regional estimates, using the number of married or in-union women aged 15-49 in each region as the weight. No figures are reported if less than 50 per cent of the married or in-union women in the region are covered.

### Unmet need for contraception rate:

#### DEFINITION AND METHOD OF COMPUTATION

##### Definition

This indicator is defined as the percentage of *women of reproductive age*, either married or in a consensual union, who have *an unmet need for family planning*.

Antenatal care coverage (at least four visits) is the percentage of women aged 15-49 with a *live birth* in a given time period that received *antenatal care* four or more times during their pregnancy.

##### Concepts

*Women of reproductive age* are women of age 15 to 49.

*Women with an unmet need for family planning* are women who are fecund and sexually active but are not using any method of contraception, and report not wanting any more children or wanting to delay the birth of their next child for at least two years. Included are:

- all pregnant women (married or in consensual union) whose pregnancies were unwanted or mistimed at the time of conception;
- all postpartum amenorrheic women (married or in consensual union) who are not using family planning and whose last birth was unwanted or mistimed;
- and all fecund women (married or in consensual union) who are neither pregnant nor postpartum amenorrheic, and who either do not want any more children (want to limit family size), or who wish to postpone the birth of a child for at least two years or do not know when or if they want another child (want to space births), but are not using any contraceptive method.

*Infecund women* as well as pregnant and postpartum amenorrheic women who became pregnant unintentionally due to contraceptive method failure are not included as *women with an unmet need for family planning*.

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*Infecund women* are women who have been married for five or more years, have not had a birth in the past five years, are not currently pregnant, and have not used contraception within the preceding five years (or, if the timing of the last contraceptive use is not known, if they have never used any kind of contraceptive method). Also included are women who self-report that they are infecund, menopausal or have had a hysterectomy, or (for women who are not pregnant or in postpartum amenorrhea) if the last menstrual period occurred more than six months prior to the survey.

The *methods of contraception* considered for the calculation of this indicator do not include traditional methods of contraception. Modern methods of contraception include female and male sterilization, oral hormonal pills, intra-uterine devices (IUD), male condoms, injectables, implants (including Norplant), vaginal barrier methods, female condoms, and emergency contraception. Traditional methods of contraception include the rhythm method (periodic abstinence), withdrawal, lactational amenorrhea method (LAM) and folk methods.

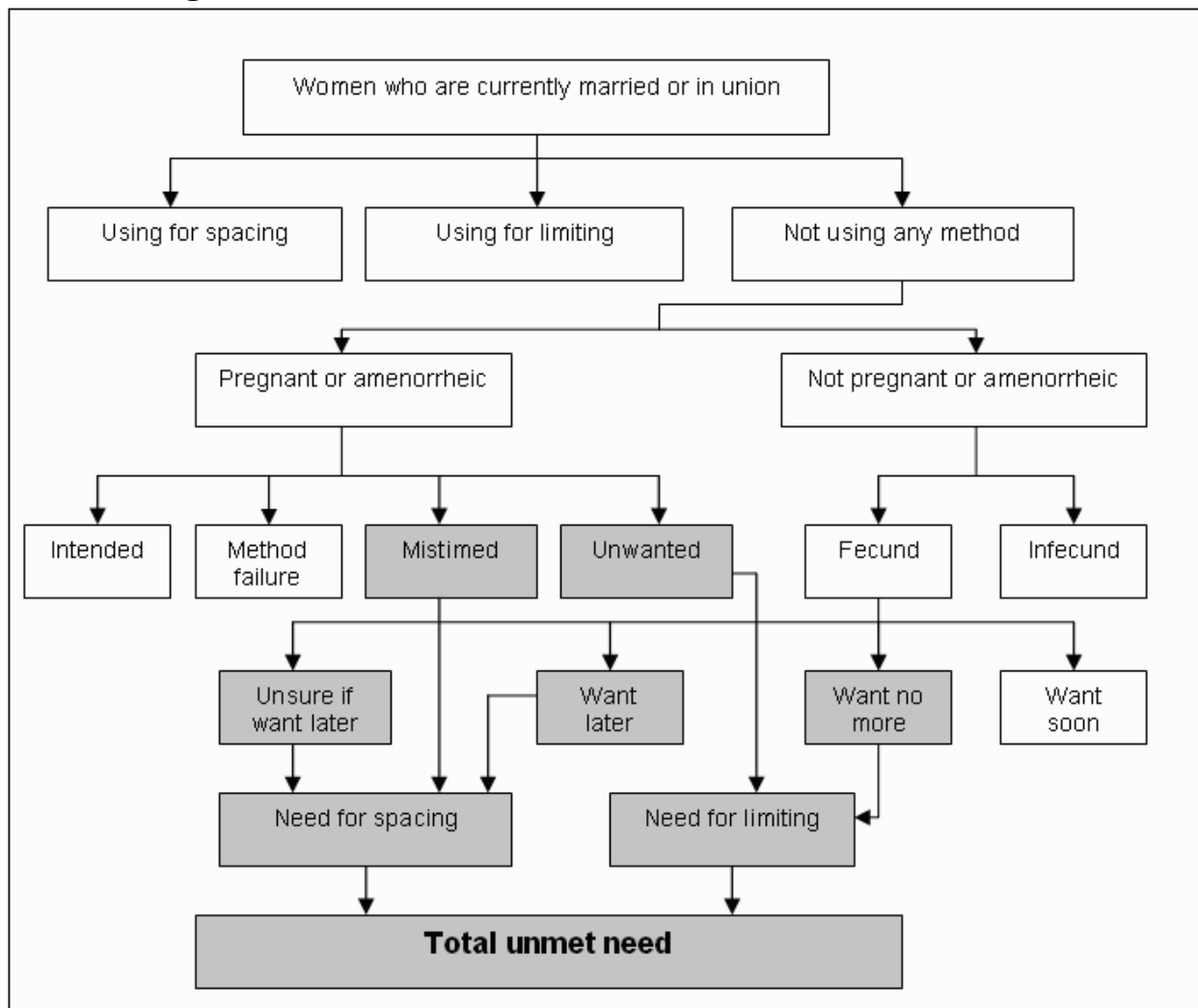
Method of computation

Unmet need for family planning is calculated using the following formula:

$$\frac{\text{Women of reproductive age either married or in a consensual union who have an unmet need for family planning}}{\text{Women of reproductive age who are married or in a consensual union}} \times 100$$

The diagram below indicates the procedure for the computation of the number of women of reproductive age, either married or in a consensual union, who have an unmet need for family planning.

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### RATIONALE AND INTERPRETATION

Unmet need for family planning shows the gap between women's reproductive intentions and their contraceptive behaviour. The indicator is useful for tracking progress towards the target of achieving universal access to reproductive health. Information on contraceptive prevalence complements the indicator of unmet need for family planning. The sum of contraceptive prevalence and unmet need identifies total demand for family planning.

In principle, this indicator may range from 0 (no unmet need) to 100 (no needs met). However, values approaching 100 per cent do not occur in the general population of women, since, at any one time, some women wish to become pregnant and others are not at risk of pregnancy. Unmet needs of 25 per cent or more are considered very high, and values of 5 per cent or less are regarded as very low.

When unmet need for family planning is measured in a comparable way at different dates, the trend indicates whether there has been progress towards meeting women's needs for family planning. It should be noted that, even when contraceptive prevalence is rising, unmet need for family planning may sometimes fail to decline, or may even increase. This can happen because in many populations the demand for family planning increases because of declines in the number of children desired. Changes in the desired spacing of births or changes in the percentage of women who are at risk of pregnancy can also influence the trend in demand for family planning, independently of trends in contraceptive prevalence.

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Note that there is not a direct relationship between the unmet need for family planning, desired family sizes, and the actual fertility level. For instance, it is possible for unmet need to be high even though the actual fertility level matches the desired family size. This can happen either because of individual variation in the population's desired family size, differences between the desired family size of men and women such that desired family size does not reflect the ideals of women, or because there are many mistimed births such that the number of births is desired, but the timing of births is not.

### SOURCES AND DATA COLLECTION

Information on unmet need for family planning is collected through household surveys such as the Demographic and Health Surveys (DHS), Reproductive Health Surveys (RHS) and national surveys based on similar methodologies. These surveys tend to be undertaken every three to five years. Other survey programmes, like the Multiple Indicator Cluster Surveys (MICS), the Pan-Arab Project for Family Health (PAPFAM), the European Fertility and Family Surveys can also be used.

Differences in the questions included in particular surveys may sometimes affect the estimates of unmet need for family planning. For example, some surveys do not gather all the information required to estimate infecundity. In such cases the information about women's fecundity may be based on women's own perception of their ability to get pregnant. Differences in questions about contraceptive use, fertility desires and assessment of postpartum amenorrhea may also indirectly affect the measured level of unmet need for family planning.

### DISAGGREGATION

This indicator may be disaggregated by geographical area, age, education, rural or urban residence, poverty status and other characteristics that are relevant in the national context. Such analysis can identify population sub-groups where levels of unmet need are highest to help guide programmes aimed at improving access to family planning and other reproductive health services.

The total level of unmet need for family planning can also be separated into two additive components: unmet need for family planning to limit family size and unmet need for purposes of birth spacing. The family planning and other reproductive health needs of women who want to limit births are likely to differ from the needs of women who want to space births to some extent. For instance, some family planning methods are more suitable for long-term than short-term use.

### COMMENTS AND LIMITATIONS

Only women who are married or in a consensual union are assumed to be sexually active for the calculation of this indicator. If unmarried women are to be included in the calculation, it is necessary to determine the timing of the most recent sexual activity. Unmarried women should only be included in the numerator if they have had intercourse in the month prior to the survey interview.

Although the majority of estimates of unmet need for family planning follow the standard method of calculation, there can be differences in the precise definition or method of calculation of this indicator. For instance, some surveys do not include pregnant women with a mistimed or unwanted pregnancy in the number of women with unmet need for family planning.

Trends in the unmet need for family planning in a particular population should be based on successive data points that were calculated in a closely comparable way. In designing and monitoring programmes aimed at reducing unmet need for family planning, this indicator should be interpreted in connection with other relevant national data, including qualitative and quantitative information regarding the reasons that women who are at risk of an undesired or mistimed pregnancy are not using

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family planning, and assessments of the availability and quality of family planning and other reproductive health services.

According to the standard definition of family planning, women who are using a traditional method of contraception are not considered to have an unmet need for family planning. Because traditional methods can be considerably less effective than modern methods, additional analyses may be conducted to distinguish between women relying on traditional and modern methods in order to determine the unmet need for *effective contraception*.

### GENDER ISSUES

This indicator highlights the degree of congruence between women's own stated preferences for number and timing of births and their family planning practice. Disaggregation of this indicator according to women's social and demographic characteristics can provide additional insight regarding the degree to which unmet need for family planning particularly affects vulnerable groups such as adolescents and poor women. In addition, the sample surveys that provide the information needed to assess unmet need usually provide additional information that is useful in understanding the reasons, including gender-based reasons, why women have an unmet need for family planning. For example, some women may not know about contraceptive methods, while others may be dissuaded from using a method because of opposition from their partner or others.

### REFERENCES

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### DATA FOR GLOBAL AND REGIONAL MONITORING

This indicator is produced at the global level by the United Nations Population Division (UNPD) in collaboration with the United Nations Population Fund (UNFPA).

The figures are generally obtained from national household surveys that are internationally coordinated—such as DHS, MICS and RHS. When DHS, MICS or RHS data are not available, data from national surveys that have incorporated the DHS methodology, but were conducted by national

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authorities without international technical assistance are used as inputs. Other national surveys conducted as part of the European Fertility and Family Surveys (FFS) or the Pan-Arab Project for Family Health (PAPFAM) may be considered as well.

The data are taken from published survey reports or, in exceptional cases, other published analytical reports. If clarification is needed, contact is made with the survey sponsors or authoring organization, which occasionally may supply corrected or adjusted estimates in response. The received data are not adjusted by the responsible international agencies, UNDP and UNFPA.

Regional and global estimates are calculated as weighted averages, with the weights being determined by the size, in each country, of the population of women of reproductive age who are married or in a consensual union.

### Suggested Indicator 2: Adolescent birth rate (10-14; 15-19) per 1,000 women in that age group

#### From WHO:

Abbreviated name	<b>Adolescent fertility rate</b>
Indicator name	Adolescent fertility rate (per 1000 girls aged 15–19 years)
Domain	Health status
Subdomain	Reproductive, maternal, newborn, child and adolescent health
Associated terms	Fertility
Definition	Annual number of births to women aged 15–19 years per 1000 women in that age group. It is also referred to as the age-specific fertility rate for women aged 15–19 years.
Numerator	Number of live births to women aged 15–19 years.
Denominator	Exposure to childbearing by women aged 15–19 years.
Disaggregation/ additional dimension	Marital status (when possible, also capture girls < 15 years), place of residence, socioeconomic status
Method of measurement	<p>The adolescent birth rate is generally computed as a ratio. The numerator is the number of live births to women aged 15–19 years, and the denominator is an estimate of exposure to childbearing by women aged 15–19 years. The numerator and the denominator are calculated differently for civil registration and survey and census data.</p> <p><b>Civil registration:</b> In the case of civil registration the numerator is the registered number of live births born to women aged 15–19 years during a given year, and the denominator is the estimated or enumerated population of women aged 15–19 years.</p> <p><b>Survey data:</b> In the case of survey data, the adolescent birth rate is generally computed on the basis of retrospective birth histories. The numerator refers to births to women who were 15–19 years of age at the time of the birth during a reference period before the interview, and the denominator to person-years lived between the ages of 15 and 19 years by the interviewed women during the same reference period. Whenever possible, the reference period corresponds to the five years preceding the survey. The reported observation year corresponds to the middle of the reference period. For some surveys, no retrospective birth histories are available and the estimate is based on the date of last birth or the number of births in the 12 months preceding the survey.</p> <p><b>Census data:</b> With census data, the adolescent birth rate is generally computed on the basis of the date of last birth or the number of births in the 12 months preceding the enumeration. The census provides both the numerator and the denominator for the rates. In some cases, the rates based on censuses are adjusted for under-registration based on indirect methods of estimation. For some countries with no other reliable data, the own-children method of indirect estimation provides estimates of the adolescent birth rate for a number of years before the census (See: <a href="http://mdgs.un.org/unsd/mdg/Metadata.aspx">http://mdgs.un.org/unsd/mdg/Metadata.aspx</a>, accessed 19 October 2009.)</p> <p>If numbers are available, adolescent fertility at ages under 15 years can also be computed.</p>
Method of estimation	The United Nations Population Division compiles and updates data on adolescent fertility rates for MDG monitoring. Estimates based on civil registration are provided when the country reports at least 90% coverage and there is reasonable agreement between civil registration estimates and survey estimates. Survey estimates are



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	provided only when there is no reliable civil registration. Given the restrictions of the United Nations MDG database, only one source is provided by year and country. In such cases precedence is given to the survey programme conducted most frequently at the country level, with other survey programmes using retrospective birth histories, census and other surveys in that order. (See: <a href="http://mdgs.un.org/unsd/mdg/Metadata.aspx">http://mdgs.un.org/unsd/mdg/Metadata.aspx</a> , accessed 19 October 2009.)
Measurement frequency	Annual
Monitoring and evaluation framework	Impact
Preferred data sources	Civil registration systems with full coverage
Other possible data sources	Population census, household surveys
Further information and related links	<p>Framework of actions for the follow-up to the Programme of Action of the International Conference on Population and Development beyond 2014. Report of the Secretary-General. New York (NY): United Nations; 2014 (<a href="https://www.unfpa.org/webdav/site/global/shared/documents/ICPD/Framework%20of%20action%20for%20the%20follow-up%20to%20the%20PoA%20of%20the%20ICPD.pdf">https://www.unfpa.org/webdav/site/global/shared/documents/ICPD/Framework%20of%20action%20for%20the%20follow-up%20to%20the%20PoA%20of%20the%20ICPD.pdf</a>, accessed 19 August 2014).</p> <p>Monitoring progress in family planning. FP2020 core indicators. Glastonbury (CT): Track20 (<a href="http://www.track20.org/pages/data/indicators">http://www.track20.org/pages/data/indicators</a>, 21 March 2014).</p> <p>The UNFPA Strategic Plan, 2014–2017. Report of the Executive Director. New York (NY): United Nations Population Fund; 2013.</p>

### From Population Division/DESA, United Nations:

#### Definition and method of computation

Metadata on the definition, method of computation and other information for the adolescent birth (15-19) are included in the MDG database as this was an indicator (5.4) used for global monitoring of MDG target 5.B. Achieve, by 2015, universal access to reproductive health.

Please see <http://unstats.un.org/unsd/mdg/Metadata.aspx>

The definition and method of computation for the birth rate among 10-14 year olds are similar to that for the birth rate among 15-19 year olds.

#### Rationale and interpretation

The birth rate among adolescents younger than age 15 is more meaningfully measured for ages 12-14 as births among 10-11 year olds are rare and a rate with respect to the 10-14 year old population would not correctly reflect the increased risk of early childbearing by age.

#### Sources and data collection

In all developed countries and in several developing countries, data on births by age of mother are obtained from civil registration systems covering 90 per cent or more of all live births, supplemented eventually by census or survey estimates for periods when registration data are not available. In developing countries lacking a civil registration system or where the coverage of that system is lower than 90 per cent of all live births, the adolescent birth rate is obtained from household survey data and census data. Registration data regarded as less than 90 per cent complete are exceptionally used for countries where the alternative sources present problems of compatibility and registration data can provide an assessment of trends. In countries with multiple survey programmes, large sample surveys conducted on an annual or biennial basis are given precedence when they exist.

Data for the adolescent birth rate (15-19) are available for 225 countries and areas, and for 2,837 data points for the 1990-2014 period. For 223 countries and areas, there are at least two available data points. For the 2015 round of MDG reporting, data on adolescent birth rate have been updated for 119 countries. The corresponding years for the updated adolescent birth rate data range from 2008 to 2014, with 2012 as the median year.

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Data on births to mothers under the age of 15 are available for at least 140 countries and areas for the period 2000-2014 from vital registration data or birth history data from household surveys. The data are not uniformly standardized in terms of age groups and the majority of countries with data available are those where births to mothers under the age of 15 are uncommon.

### Disaggregation

#### Comments and limitations

Discrepancies between the sources of data at the country level are common and the level of the adolescent birth rate depends in part on the source of the data selected since country estimates are used instead of model-based estimates. For instance, in India for the year 2004, ABR (15-19) was 52 births per 1,000 women aged 15-19 from the sample registration system compared to 90 births per 1,000 women aged 15-19 from the survey (NFHS 2005-2006).

### Gender equality issues

#### Data for regional and global monitoring

There is frequent confusion among users of data on ABR (even including United Nations entities and other international organizations) about where they should get the estimates when data were available from the MDG database and from *World Population Prospects*.

The Population Division publishes estimates and projections of age-specific fertility rates in the *World Population Prospects* (WPP). WPP considers potentially as many types and sources of empirical estimates as possible (including retrospective birth histories, direct and indirect fertility estimates), and the final estimates are derived to ensure as much internal consistency as possible with all other demographic components and intercensal cohorts enumerated in successive censuses. The advantages are that the estimates are internally consistent within a country and with respect to other related demographic information, you have better comparability over time within a country and can compare across countries at one time period. The disadvantage is that the estimates can depart from what a country considers its official estimates of adolescent fertility. Furthermore the estimates are available only in five-year periods. Several agencies use the WPP series in their publications and on-line databases. For instance, the World Bank database uses this series for internal consistency purposes (they draw on other population measures from WPP).

#### Supplementary information

Results from a comparative study of very young childbearing using birth history data from 42 large, nationally representative household surveys in low resource countries showed that very small proportions of births to mothers under age 16 occurred below age 12 (less than 1 per cent in most countries) (see Neal et al. 2012. "Childbearing in adolescents aged 12–15 years in low resource countries: a neglected issue. New estimates from demographic and household surveys in 42 countries." *Acta Obstet Gynecol Scand* 2012;91:1114–1118).

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**Target 3.8 Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all.**

**Suggested Indicator 1: Coverage of tracer interventions (e.g. child full immunization, ARV therapy, TB treatment, hypertension treatment, skilled attendant at birth, etc.)**

**From WHO:**

Abbreviated name	<b>Coverage of tracer interventions</b>
Indicator name	Coverage of tracer interventions for prevention and treatment services
Domain	Health systems
Subdomain	HSS
Associated terms	Coverage
Definition	<p><u>Tracer interventions for promotion and prevention services include:</u> family planning coverage (need satisfied), antenatal care (at least four visits), vaccination, non-use of tobacco, improved water source, adequate sanitation and other locally relevant coverage indicators</p> <p><u>Tracer interventions for treatment services include:</u> skilled birth attendance, antiretroviral therapy, tuberculosis treatment (case detection and treatment success), hypertension treatment, diabetes treatment, pneumonia treatment in children and other locally relevant indicators</p>
Numerator	Number of people receiving the intervention
Denominator	Number of people who need the intervention
Disaggregation/ additional dimension	By equity stratifier: sex, age, socioeconomic position, geographic; by type of indicator (child full immunization, ARV therapy, TB treatment, hypertension treatment, skilled birth attendance, etc);
Method of measurement	<p>Universal health coverage means that people receive the services they need, without incurring financial hardship. Countries progressively realize UHC according to their level of development, epidemiological situation, health system and people's expectations. The indicators ideally cover promotion, prevention, treatment, rehabilitation and palliation. There are a number of indicators that all countries implement such as immunization coverage or skilled attendance at birth that can be used for a summary measure of progress that can be used at global and regional and country levels. Countries however will also create their own set of indicators to track progress towards UHC.</p> <p>The selection of indicators is based on the initial framework, and was applied in the global report published in 2015 by WHO and the World Bank. This provides a basis for further improvements working alongside countries.</p>
Method of estimation	The indicators can be expressed as a summary measure. These can be weighted according to indicator, or intervention area. Work on incorporating an equity component in the summary measure is ongoing but is possible in a relatively simple manner.
Measurement frequency	Annual or bi-annual; some indicators may have annual data, others less frequent
Monitoring and evaluation framework	The WHO-World bank framework for monitoring progress towards UHC focuses on coverage and financial protection which must both be monitored at the same time to ensure that both the non-use of services and the use of services with financial protection are monitored.
Preferred data sources	household surveys and facility data
Other possible data sources	
Further information and	Monitoring Progress towards Universal Health Coverage at Country and Global Levels: Framework, Measures and

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related links	<p>Targets. Geneva: World Health Organization and International Bank for Reconstruction and Development/The World Bank; 2014 ( <a href="http://apps.who.int/iris/bitstream/10665/112824/1/WHO_HIS_HIA_14.1_eng.pdf?ua=1">http://apps.who.int/iris/bitstream/10665/112824/1/WHO_HIS_HIA_14.1_eng.pdf?ua=1</a>, accessed 14 May 2015).</p> <p>Tracking universal health coverage: first global monitoring report. Geneva: World Health Organization and International Bank for Reconstruction and Development/The World Bank; 2015 (<a href="http://www.who.int/healthinfo/universal_health_coverage/report/2015/en/">http://www.who.int/healthinfo/universal_health_coverage/report/2015/en/</a>, accessed 17 September 2015).</p>
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### Disaggregation:

Disaggregation by disability can be obtained by including the functioning questions included the World Health Survey (<http://www.who.int/healthinfo/survey/en/>), WHO Study on global AGEing and adult health (<http://www.who.int/healthinfo/sage/en/>) or WHO Model Disability Survey (<http://www.who.int/disabilities/data/mds/en/>) in population-based health surveys.. Data on the percentage of persons with disabilities receiving needed health services was collected in World Health Surveys (2003-4); and it is currently being collected and will continue to be collected through the WHO Model Disability Survey (MDS) and the Study on Ageing and Adult Health (SAGE). The MDS and SAGE, as the World Health Survey, are both sample surveys with nationally representative populations.

### Suggested Indicator 2: Fraction of the population protected against catastrophic/impoverishing out-of-pocket health expenditure

#### From WHO:

Abbreviated name	<b>Catastrophic/impoverishing health expenditures</b>
Indicator name	Fraction of the population experiencing catastrophic/impoverishing health expenditures
Domain	Health systems
Subdomain	Health Systems and Strengthening
Associated terms	Health financing
Definition	<p><u>Catastrophic health expenditures</u> refer to out-of-pocket payments (OOP) for health services that are equal to or exceed a given fraction of total household available resources. For global monitoring, the core definition is OOP equal to or exceeding 25% of total consumption. A supplemental definition is of OOP equal to or exceeding 40% of non-food consumption because the non-food threshold takes into account that poorer households have relatively less to spend on non-discretionary items.</p> <p><u>Impoverishing health expenditures</u> refers to out-of-pocket payments that pushes a household below a poverty line. For global monitoring, the core definition would use the international poverty line of \$1.25 per capita, and a supplemental definition could use the international \$2.00-a-day</p>
Numerator	Number of people experiencing catastrophic health expenditures; total number of people experiencing impoverishing health expenditures.
Denominator	Total population.
Disaggregation/ additional dimension	Subnational variables available in survey data. Recommended stratifiers for disaggregation are: Socio-economic quintiles Urban/rural area of residence Sex of household head Others as available (e.g. disability)
Rationale and interpretation	Target 3.8 relates to the multidimensional concept of universal health coverage (UHC) and distinct indicators are required to effectively monitor its two dimensions of service coverage and financial protection. The proposed indicator 3.8.2 concerns the financial protection dimension. The selection of indicators is based on the initial framework, and was applied in a global report published in 2015 by WHO and the World Bank.
Method of measurement	Financial protection indicators are based on information collected from nationally representative household expenditure surveys implemented by or in close collaboration with national statistical bureaus. Datasets from these

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	<p>surveys are typically obtained through technical contacts in-country but may also be available publicly or for direct purchase. The two most common surveys are Household Budget Surveys and Living Standards Measurement Surveys.</p> <p>Such surveys include questions that elicit information on a household's total consumption expenditure (i.e. monetary and in-kind payments on all goods and services, plus the monetary value of the consumption of home-made products). The main components of the consumption aggregate typically follow the UN Classification of Individual Consumption According to Purpose (COICOP) categories and include expenses on food, non-food (e.g. clothing, household articles etc.), utilities (gas, telephone, electricity, etc.), education, health, housing, etc.. Survey data allows for construction of the three key variables (i.e. total expenditure, food expenditure and out-of-pocket health expenditure) which can be standardised across surveys and which are needed for the calculation of the fraction of the population experiencing catastrophic/impoverishing health expenditure.</p>
Method of estimation	<p>A household can be identified as facing catastrophic health expenditures when its out-of-pocket health expenditures are equal to or exceed a 25% of total consumption, and a supplemental definition could estimate this as 40% of non-food consumption. .</p> <p>A household is identified as facing impoverishing health expenditures when its out-of-pocket health expenditures push it below a poverty line (i.e. a household is above the poverty line when taking its total expenditure gross of out-of-pocket payments but below the poverty line when taking total expenditure net of out-of-pocket payments). The poverty line can be defined using the international poverty line of \$1.25 per capita, and a supplemental definition could use the international \$2.00-a-day.</p>
Measurement frequency	<p>Annual or bi-annual. It is feasible to monitor financial protection on a regular basis using data from household expenditure and multipurpose surveys; these are undertaken in regular intervals in most countries.</p>
Monitoring and evaluation framework	<p>The WHO-World Bank Group framework for monitoring progress towards UHC focuses on coverage and financial protection which must both be monitored at the same time to ensure that both the non-use of services and the use of services with financial protection are monitored.</p>
Preferred data sources	<p>Nationally represented household consumption expenditure surveys (or household multipurpose surveys) Such surveys are regularly conducted for the purposes of monitoring poverty or for calculating weights for the Consumer Price Index. Therefore, monitoring financial protection does not add any additional data collection burden, insofar as the health expenditure component of the household non-food consumption data can be disaggregated.</p>
Other possible data sources	<p>Health surveys with a module collecting expenditure data</p>

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**Target 3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.**

**Suggested Indicator 1: Population in urban areas exposed to outdoor air pollution levels above WHO guideline values**

**From WHO:**

Abbreviated name	<b>Air pollution levels</b>
Name	Mean annual levels of air pollution level (fine particulate matter [PM <sub>2.5</sub> ])
Domain	Risk factors
Subdomain	Environment
Associated terms	Environmental risk factors
Definition	Annual mean levels of exposure to fine particulate matter of less than 2.5 microns of diameter (PM <sub>2.5</sub> ) [µg/m <sup>3</sup> ] at national level
Numerator	
Denominator	
Disaggregation/ additional dimension	
Method of measurement	The mean annual concentration of suspended particles of less than 10 or 2.5 microns in diameters is a common measure of air pollution. The mean levels of exposure to fine particulate matter of less than 2.5 microns can be estimated globally (both urban and rural areas) using a fusion model with inputs from remote-sensing (satellite), chemical transport models and calibrated using ground-level measurements. Data can be aggregated into annual means.
Method of estimation	<p>Using information on air pollution concentrations from satellite monitoring, chemical transport models, ground-level measurements, emission inventories of pollution from key sources in addition to drawing on air pollution of ambient air pollution exposure in both rural and urban areas can be obtained using a fusion model. These advances in air quality monitoring permits estimates of air pollution exposures even in areas where there are no ground level monitoring stations, like in many rural and smaller urban areas of the world. Annual means represent an average of the cities' monitoring stations. The average can be population-weighted by geographic location and population (e.g. percent urban population in a country). In order to present air quality that is largely representative for human exposure, the ground-level monitoring stations used should be collected in background, residential areas, commercial and mixed areas. Stations characterized as particular "hot spots" or exclusively industrial areas are generally not included, unless their levels are representative for people's exposures. This selection should be in line with the aim of capturing representative values for human exposure. The location of hot spots, often measured for the purpose of capturing the cities' maximum values and industrial areas, are often deemed less likely to be representative for the mean exposure of a significant part of a city's population. "Hot spots" are either designated as such by the original reports, or are qualified as such due to their exceptional nature (e.g. exceptionally busy roads etc.). Omitting them may also lead to an underestimation of the mean air pollution levels of a city.</p> <p>Annual mean PM<sub>2.5</sub> data be estimated, when not available, on the basis of PM<sub>10</sub>. Conversion factors PM<sub>2.5</sub>/PM<sub>10</sub> may vary according to location, and should, if possible, be taken from other stations which measure both PM<sub>2.5</sub> and PM<sub>10</sub> in the country, or by default from the region. They should be considered as approximate only. The converted value for individual cities may deviate from the actual value (generally between 0.3 and 0.8).</p>

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Measurement frequency	Annual
Monitoring and evaluation framework	Outcome
Preferred data sources	National/subnational/monitoring reports and web sites containing measurements of PM10 or PM2.5 and relevant national agencies
Other possible data sources	Data from research projects/articles from peer reviewed journals, Development agencies, UN Agencies
Further information and related links	WHO Air quality guidelines for particulate matter, ozone, nitrogen dioxide and sulfur dioxide: Global update 2005. Geneva: World Health Organization; 2014 ( <a href="http://www.who.int/phe/health_topics/outdoorair/outdoorair_aqg/en/">http://www.who.int/phe/health_topics/outdoorair/outdoorair_aqg/en/</a> , accessed 06 May 2015).

### From WHO:

#### Rationale

**Exposure to ambient air pollution, (urban + rural) areas:** Ambient air pollution is a problem for both urban and rural areas. Limiting the indicator to just urban areas overlooks a substantial population suffering from the impacts from air pollution exposure. In many rural areas, brick kilns, household fuel combustion, crop burning and other forms of inefficient energy combustion create substantial levels of health-damaging air pollution in rural areas. Although, ambient air pollution monitoring has traditionally been limited to urban areas in high-income countries, recently more and more cities in low- and middle-income countries and in some cases rural areas, are beginning to routinely monitor and report on the ambient air quality. In addition, scientists have been developing methods to combine information from satellites, air pollution chemical transport models, and emissions inventories validated by ground-level monitoring to estimate ambient air pollution levels globally—urban and rural areas (see description of Global Platform on Air Quality and Health below). Using an indicator for both urban and rural areas ensures that all humans and environmental impacts from target 3.9 are better accounted for.

**Mean levels:** Levels of air pollution can vary from day to day, in some cases drastically, due to changes in local weather conditions, geography, economic output (e.g. industry) etc. In addition, the most significant health impacts are due to chronic exposure to air pollution. Articulating the indicator as annual average or mean is a more specific and measurable indicator for monitoring the health and environmental impacts of sustainable growth and development which is not unduly influenced by fluctuations or peaks in air pollution levels.

Furthermore, in a large majority of countries, air quality levels are many times greater than WHO Air quality guideline levels, making the achievement of this target if connected to WHO guidelines almost if not impossible. Decoupling this indicator from the WHO guideline levels and articulating it as monitoring means levels of air pollution only, will allow countries and the global community to monitor progress or improvements in air quality and health from sustainable development policies in a more meaningful and useful way. With these suggested changes, WHO is still able to report on the relevant health impacts from noted reductions in mean levels of fine particulate matter, even after decoupling from the WHO Guidelines.

**Population-weighted:** The size or population of urban and rural areas along with their respective air pollution levels vary significantly within a country. Weighting annual levels of

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fine PM by the size of the population in urban and rural area increases the specificity of this indicator.

### Data Sources

#### ***Global Platform on Air Quality and Health:***

Traditionally, ambient air pollution monitoring was generally limited to urban areas, mostly in high-income countries where ground level monitoring is more routinely conducted. In 2013, WHO began collaborating with major institutions and agencies worldwide in the development of a global air pollution monitoring platform---the Global Platform on Air Quality and Health. This Platform uses information on air pollution concentrations from satellite monitoring, chemical transport models, ground-level measurements, emission inventories of pollution from key sources in addition to drawing on WHO's other air pollution databases (i.e. WHO Global household energy database, WHO Ambient air pollution database) to estimate ambient air pollution exposure in both rural *and* urban areas. An advantage of this new monitoring system is that it permits estimates of air pollution exposures even in areas where there are no ground level monitoring stations, like in many rural areas of the world. A draft meeting report from the WHO Global Platform on Air Quality and Health which outlines the objectives, data sources and outputs for the platform and provides the relative contributions of Platform partners including other UN agencies, and research institutes involved in this global cooperation. (see [http://www.who.int/phe/health\\_topics/outdoorair/en/](http://www.who.int/phe/health_topics/outdoorair/en/))

#### ***WHO Guidelines for Air Quality***<sup>7</sup>:

WHO Air quality guidelines synthesize the evidence on the health impacts of air pollution, indoors and outdoors, to derive recommendations on what exposure levels of air pollutants can be considered safe for health. The guideline levels or interim targets levels provided in these Guidelines can help countries define their own safe levels of exposure and can be used in combination with epidemiological data to track and monitor the avoided air pollution exposure and related health benefits from sustainable development. These guidelines are routinely updated and used by countries and/or municipalities to establish local or national air quality standards. These guidelines draw on global research evidence, including from toxicological, epidemiological and intervention studies about human exposure and the health impacts of air pollution. In developing these recommendations, WHO applies extreme scrutiny to all the scientific evidence used and ensures there are no conflict of interest from contributing scientists, to guarantee the scientific quality and independence of its guidelines and related recommendations..

#### ***WHO's Global Health Observatory***<sup>8</sup>:

The WHO Global Health Observatory is a key information source for tracking the health impacts of air pollution. Estimates of the underlying mortality rates, averages ambient air pollution exposure in countries and/or cities and the ambient air pollution attributable mortality to different diseases are routinely updated and reported within the Observatory. All information in the Observatory is free and publicly available online. The Observatory also

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<sup>7</sup> WHO Air quality guidelines: global update 2005; 2006; ([http://www.who.int/phe/health\\_topics/outdoorair/outdoorair\\_aqg/en/](http://www.who.int/phe/health_topics/outdoorair/outdoorair_aqg/en/)).

WHO indoor air quality guidelines: household fuel combustion; 2014; (<http://www.who.int/indoorair/guidelines/hhfc/en/>).

<sup>8</sup> WHO Global health observatory (<http://apps.who.int/gho/data/node.main.151?lang=en>)



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provides functionalities for better visualization of information (e.g. maps, graphs) that could be valuable for countries to monitor and report on target 3.9 amongst others.

***WHO Ambient Air Pollution Database in cities<sup>9</sup>***: As part of its core functions, WHO monitors and assess trends to major health risks including ambient air pollution. The *WHO's Ambient air pollution database* provides annual mean concentrations of particulate matter based on daily air measurements of particulate matter (PM<sub>10</sub> or PM<sub>2.5</sub>) or data which could be aggregated into annual means. In a few exceptional cases, where annual means could not be calculated, measurements covering a more limited part of the year were used.

The Primary source of data in this database are official national/subnational reports, national/ subnational web sites containing measurements of PM<sub>10</sub> or PM<sub>2.5</sub> and the relevant national agencies. In addition, measurements reported by the following regional networks are used: the Asian Clean Air Initiative (1) for Asia, and Airbase (2) for Europe. In the absence of data from the previous sources, data from (a) UN Agencies, (b) Development agencies and (c) articles from peer reviewed journals are used. In order to present air quality that is largely representative for human exposure, only measurements characterized as urban background, residential areas, commercial and mixed areas are used. Stations characterized as particular "hot spots" or exclusively industrial areas were excluded, unless they were contained in reported city means and could not be dissociated.

Currently the WHO database houses data from 1,628 cities, from 91 countries for the years between 2008 and 2013. This database is updated on a regular basis can be released annually to support monitoring of this SDG target.

### **Data gaps & opportunities to address such gaps**

#### ***Geographic coverage:***

Air quality ground-level monitoring is not universal. There are some parts of the world where little if any ground-level monitoring of air quality has been put into place. This is particularly the case for some developing countries and/or rural areas. Drawing on data from various information resources (e.g. satellite remote-sensing, chemical transport models, emission inventories), in combination with the WHO air quality guidelines and underlying disease burden estimates, the Global Platform for Air Quality for Health can provide routinely updated ambient air pollution exposure and attributable disease burden estimates at the global, national and local level (e.g. in urban, rural areas).

#### ***Air Pollution Sources:***

Understanding the sources of air pollution is critical for decision-makers to design and implement effective policies to tackle air pollution. Currently there are a number of emissions inventories which use statistical modelling and other tools to identify the sources of air pollutants and their respective contributions to the overall air pollution mixture in different regions, countries and/or cities. WHO is collaborating with different agencies (e.g. Joint Research Centre, IIASA) within the context of the Global Platform for Air Quality and Health to better identify the major sources of health-damaging air pollutants to support the development and implementation of policies and actions to control air pollution in different economic sectors.

#### **From OECD:**

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<sup>9</sup> WHO Ambient air pollution database in cities  
([http://www.who.int/phe/health\\_topics/outdoorair/databases/cities/en/](http://www.who.int/phe/health_topics/outdoorair/databases/cities/en/))

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### *Definition and method of computation*

The indicator measures “yearly average exposure to PM<sub>2.5</sub>”. The computation is based on a GIS- methodology at city, regional or national levels using satellite-based observations of PM<sub>2.5</sub> concentration to overcome the lack of direct observations from ground-based stations. The satellite-based estimates of air pollution are computed at 1km<sup>2</sup> resolution and then multiplied by the population living in that area. The exposure to air pollution in a country (region or city) is given by the sum of the population weighted values of PM<sub>2.5</sub> in the 1km<sup>2</sup> grid cells falling within the boundaries of the country (region or city). Finally, the “average exposure to PM<sub>2.5</sub>” is the population-weighted country level exposure.

### *Rationale and interpretation*

The impact of outdoor air pollution on people’s health is sizeable. Fine particulate matter (or PM<sub>2.5</sub>, 2.5 microns and smaller) can cause respiration and cardiovascular morbidity or mortality from lung cancer, cardiovascular and respiratory diseases (World Health Organisation- WHO, 2013; European Environmental Agency, 2012). Recent estimates put the global toll of deaths from outdoor air pollution to over 3 million in 2012; almost 90% of these deaths occurred in low and middle income countries (WHO, 2014).

Fine particulate matters are emitted from the combustion of liquid and solid fuels for industrial and housing energy production, vehicles and biomass burning in agriculture. Air pollution is greatly associated with urbanisation, industry and transport. In 2011 only one-third of the urban population in OECD countries lived in cities with PM<sub>2.5</sub> levels below the WHO’s recommended level of 10 µg/m<sup>3</sup> (Brezzi and Sanchez-Serra, 2014). Thus in OECD countries and fast urbanising countries, exposure to air pollution is mainly an urban issue that requires measures and policies targeted to these areas. At the same time, evidence shows that in developing countries the contribution of biomass burning from agriculture and from household cooking to local and regional air pollution is sizeable (Environmental Performance Index, 2014), requiring the monitoring of air pollution, and its causes, also in rural areas.

Notwithstanding the importance of location to assess environmental outcomes, internationally comparable measures of air pollution across and within countries are rather limited. The major shortcoming derives from the heterogeneous coverage of ground-based air pollution monitoring stations – source of the most accurate measure of local fine particulate matters - within OECD countries and their lack in many developing countries.<sup>10</sup>

As an alternative source, this indicator is derived from global satellite observations of PM concentration. It has the advantage of being computable globally without requiring country capacity investments in data collection. It is currently provided for OECD countries, some emerging economies and for sub-national regions and cities in OECD countries via the OECD Stat Portal.

The unit of measurement for PM<sub>2.5</sub> is given by micrograms per cubic meter (µg/m<sup>3</sup>). According to the WHO "Air Quality Guidelines" issued in 2005, the recommended standard for PM<sub>2.5</sub> is no greater than 10 micrograms per cubic meter within the annual period of time. The US Environmental Protection Agency (EPA) issued PM<sub>2.5</sub> concentration standard in 2006, with the restriction is no

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<sup>10</sup> The most comprehensive dataset based on monitoring stations is the WHO Environment and Health Information System (ENHIS) that gathers population-weighted country-level exposure to PM and PM<sub>2.5</sub> submitted by European countries to the European Environment Agency. The country levels are derived by data from urban or suburban monitoring stations for which these measurements are available for at least 75% of days in the year. However, according to the ENHIS, the assessment for several countries is based on data from one or few cities only, and in five countries the coverage of the urban population was 20% or less in 2011 (WHO-ENHIS, n.d.).

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greater than 15 micrograms per cubic meter yearly. Similarly, the EU has established an exposure concentration obligation for European countries which has been set at a maximum of 20  $mg/m^3$  to be met by 2015.

In the period 2002-2011 the average exposure to PM<sub>2.5</sub> has decreased by 17 percentage points (to 12.4  $mg/m^3$  in 2011) in OECD countries. However, twenty-one OECD countries were still above the WHO recommended concentration level of 10  $mg/m^3$  and Korea and Israel above 20  $mg/m^3$ . In the same period, the average concentration levels of air pollution in non OECD countries increased from 29  $mg/m^3$  in 2002 to 34.2  $mg/m^3$  in 2011, strongly influenced by the high exposure levels observed in India and China which have exposure to pollution four times higher than OECD levels.

### *Sources and data collection*

The source for the satellite-based data of global exposure to PM<sub>2.5</sub> are provided by van Donkelaar et al. (2015) modelling data from multiple satellites at 10km x 10 km resolution. Annual time series are provided for the period 1998-2012. The values of PM<sub>2.5</sub> are weighted by using a global population grid (LandScan<sup>11</sup>). Both satellite observations of PM<sub>2.5</sub> concentration and global population layout have improved dramatically in the most recent years and have become steady products for future updates.

The computation of the distribution of people in sub-national regions is done through the OECD Regional Classification and could be easily extended to the first tier of administrative regions in non OECD countries.

The estimates of average exposure to PM<sub>2.5</sub> in cities are computed via the OECD/EU definition of functional urban areas that identifies consistently cities and their surrounding commuting areas in 30 OECD countries (OECD, 2012). Current efforts from the World Bank to extend OECD/EU definition of urban areas to non OECD countries are underway.

### *Disaggregation*

The indicator (numerator part) can be disaggregated by broad sector of researcher affiliation (business, higher education, government and private non-profit) as well as by gender, qualification (ISCED categories) and field of science.

### *Comments and limitations*

The main limitations are the following:

- The indicator is an estimate of exposure to air pollution (modelled data) and not a direct observation, with loss of precision for bright surfaces (snow or desert).
- To increase the accuracy of the estimates, the indicator is provided on a 3-year average, thus reducing the possibility to evaluate short-term events and increasing the time-delay of updated estimates (last available year is currently 2012).
- The indicator covers only PM<sub>2.5</sub> and no other pollutants (NO<sub>2</sub> or SO<sub>2</sub> for example).

### *Gender equality issues*

The indicator cannot be disaggregated by gender or by other characteristics of the population (for example income).

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<sup>11</sup> LandScan is the finest resolution global population distribution data (1 km<sup>2</sup>) available and represents an ambient population (average over 24 hours).

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### *Data for global and regional monitoring*

The indicator is currently available for all OECD countries, sub-national regions and cities, for the points 2001-03, 2004-06, 2007-09, and 2010-12. It can be easily extended to non OECD countries on the same time span.

Satellite observations of PM<sub>2.5</sub> concentration have a global coverage. They provide consistent values using the same method and technology for different territories and points in time (spanning from 2002 to 2011).

The indicator can be provided for all countries. Moreover, it can be disaggregated at different geographical scales within countries (consistent with the aggregated national value). Making use of harmonised definitions, the indicator is provided for sub-national regions and cities (with population larger than 50 000 people) in the OECD countries (Brezzi and Sanchez-Serra, 2014). Similarly, the indicator could be computed also at sub-national level (for example according to administrative regions) or by rural/urban population in the non-OECD countries.

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### Target 3.a Strengthen the implementation of the World Health Organization Framework Convention on Tobacco Control in all countries, as appropriate.

**Suggested Indicator: Tobacco use among persons 18 years and older - Age-standardized prevalence of current tobacco use among persons aged 18 years and older**

#### From WHO:

Abbreviated name	<b>Tobacco use among persons aged 18+ years</b>
Indicator name	Age-standardized prevalence of current tobacco use among persons aged 18+ years
Domain	Risk factors
Subdomain	NCDs and nutrition
Associated terms	Noncommunicable diseases
Definition	<p>Age-standardized prevalence of current tobacco use among persons aged 18+ years. "Smoked tobacco products" include the consumption of cigarettes, bidis, cigars, cheroots, pipes, shisha (water pipes), fine-cut smoking articles (roll-your-own), krekets, and any other form of smoked tobacco.</p> <p>"Smokeless tobacco" includes moist snuff, plug, creamy snuff, dissolvables, dry snuff, gul, loose leaf, red tooth powder, snus, chimo, gutkha, khaini, gudakhu, zarda, quiwam, dohra, tuibur, nasway, naas/naswar, shammah, betel quid, toombak, pan (betel quid), iq'mik, mishri, tapkeer, tombol and any other tobacco product that is sniffed, held in the mouth, or chewed.</p>
Numerator	Number of current tobacco users aged 18+ years. "Current users" include both daily and non-daily users of smoked or smokeless tobacco.
Denominator	All respondents of the survey aged 18+ years.
Disaggregation/ additional dimension	Age, sex, other relevant sociodemographic stratifiers where available
Method of measurement	
Method of estimation	Number of respondents aged 18+ years currently using any tobacco product (smoked or smokeless)/(number of survey respondents aged 18+ years) x 100.
Measurement frequency	At least every 5 years
Monitoring and evaluation framework	Outcome
Preferred data sources	Population-based (preferably nationally representative) survey
Other possible data sources	
Further information and related links	Draft comprehensive global monitoring framework and targets for the prevention and control of noncommunicable diseases, including a set of indicators. Agenda item A66/8, Sixty-sixth World Health Assembly, 20–28 May 2013. Geneva: World Health Organization; 2013 ( <a href="http://apps.who.int/gb/ebwha/pdf_files/WHA66/A66_8-en.pdf?ua=1">http://apps.who.int/gb/ebwha/pdf_files/WHA66/A66_8-en.pdf?ua=1</a> , accessed 29 March 2015).

## Goal 3 Ensure healthy lives and promote well-being for all at all ages

Global estimate of the burden of disease from second-hand smoke. Geneva: World Health Organization; 2010.

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**Target 3.b Support the research and development of vaccines and medicines for the communicable and non-communicable diseases that primarily affect developing countries, provide access to affordable essential medicines and vaccines, in accordance with the Doha Declaration on the TRIPS Agreement and Public Health, which affirms the right of developing countries to use to the full the provisions in the Agreement on Trade-Related Aspects of Intellectual Property Rights regarding flexibilities to protect public health, and, in particular, provide access to medicines for all.**

**Suggested Indicator: Proportion of population with access to affordable essential medicines on a sustainable basis**

**From WHO:**

Abbreviated name	<b>Availability of essential medicines and commodities</b>
Indicator name	Availability of essential medicines and commodities
Domain	Health systems
Subdomain	HSS
Associated terms	Access
Definition	Percentage of health facilities with essential medicines and life-saving commodities
Numerator	Number of facilities with essential medicines in stock.
Denominator	Total number of health facilities.
Disaggregation/ additional dimension	<p>Facility type, facility managing authority (public/private), specific type of medicine/commodity (e.g. priority medicines for women and children, vaccines, ART, family planning, essential NCD medicines)</p> <p><u>WHO-recommended essential core list of medicines:</u> bronchodilator inhaler, steroid inhaler, glibenclamide, metformin, insulin, angiotensin-converting-enzyme (ACE) inhibitor, calcium channel blocker, statin, aspirin, thiazide diuretic, beta-blocker, omeprazole tablet, diazepam injection, fluoxetine tablet, haloperidol tablet, carbamazepine tablet, amoxicillin tablet/capsule, amoxicillin suspension, ampicillin injection, ceftriaxone injection, gentamicin injection, oral rehydration salts, zinc sulfate.</p> <p><u>Essential NCD medicines:</u> at least aspirin, a statin, an ACE inhibitor, thiazide diuretic, a long-acting calcium channel blocker, metformin, insulin, a bronchodilator and a steroid inhalant.</p> <p><u>Priority medicines for women and children:</u> amoxicillin tablet/capsule, amoxicillin suspension, ampicillin injection, ceftriaxone injection, gentamicin injection, oral rehydration salts, zinc sulphate, oxytocin injection, magnesium sulphate injection.</p> <p><u>Suggested core list of medicines for pricing/affordability surveys:</u> Salbutamol inhaler 100 mcg per dose (200 doses); beclometasone inhaler 100 mcg/dose (200 doses); glibenclamide 5 mg tablet; metformin 500 mg tablet; insulin regular 100 IU/ml, 10 ml vial; enalapril 5 mg tablet; amlodipine 5 mg tablet; simvastatin 20 mg tablet; aspirin 100 mg tablet; hydrochlorothiazide 25 mg tablet; carvedilol 12.5 mg tablet; omeprazole 20 mg tablet; diazepam 10 mg/2 ml injection; fluoxetine 20 mg tablet; haloperidol 5 mg tablet; carbamazepine 200 mg tablet; amoxicillin 500 mg capsule/tablet; amoxicillin 250 mg/5 ml suspension; ampicillin 500 mg injection; ceftriaxone 1 G vial; gentamicin 80 mg/2 ml injection; oral rehydration salts (sachet for 1 litre); zinc sulfate 2 0mg tablet; oxytocin injection (5 or 10 iu); magnesium sulfate 50% injection 10 ml vial.</p>
Method of measurement	<p>Stock out data may also refer to specific time period (1 month, 3 months).</p> <p>Data on the availability of a specific list of medicines are collected from a survey of a sample of facilities. Availability is reported as the percentage of medicine outlets where a particular medicine was found on the day of the survey. Health facility reports may also include stockouts indicators but require regular independent verification.</p>
Method of estimation	
Measurement frequency	Annual or biannual
Monitoring and evaluation framework	Output
Preferred data sources	Special facility surveys

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Other possible data sources	Routine facility information systems
Further information and related links	<p>Draft comprehensive global monitoring framework and targets for the prevention and control of noncommunicable diseases, including a set of indicators. Agenda item A66/8, Sixty-sixth World Health Assembly, 20–28 May 2013. Geneva: World Health Organization; 2013 (<a href="http://apps.who.int/gb/ebwha/pdf_files/WHA66/A66_8-en.pdf?ua=1">http://apps.who.int/gb/ebwha/pdf_files/WHA66/A66_8-en.pdf?ua=1</a>, accessed 29 March 2015).</p> <p>Indicators for monitoring the Millennium Development Goals: definitions, rationale, concepts and sources. New York (NY): United Nations; 2012 (<a href="http://mdgs.un.org/unsd/mi/wiki/MainPage.ashx">http://mdgs.un.org/unsd/mi/wiki/MainPage.ashx</a>, accessed 29 March 2015).</p> <p>Monitoring the building blocks of health systems: a handbook of indicators and their measurement strategies. Geneva: World Health Organization; 2010 (<a href="http://www.who.int/healthinfo/systems/WHO_MBHSS_2010_full_web.pdf?ua=1">http://www.who.int/healthinfo/systems/WHO_MBHSS_2010_full_web.pdf?ua=1</a>, accessed 29 March 2015). Framework of actions for the follow-up to the Programme of Action of the International Conference on Population and Development beyond 2014. Report of the Secretary-General. New York (NY): United Nations; 2014 (<a href="https://www.unfpa.org/webdav/site/global/shared/documents/ICPD/Framework%20of%20action%20for%20the%20follow-up%20to%20the%20PoA%20of%20the%20ICPD.pdf">https://www.unfpa.org/webdav/site/global/shared/documents/ICPD/Framework%20of%20action%20for%20the%20follow-up%20to%20the%20PoA%20of%20the%20ICPD.pdf</a>, accessed 19 August 2014).</p>



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### Target 3.c Substantially increase health financing and the recruitment, development, training and retention of the health workforce in developing countries, especially in least developed countries and small island developing States.

#### Suggested Indicator: Health worker density and distribution

#### From WHO:

Abbreviated name	<b>Health worker density and distribution</b>
Indicator name	Health worker density and distribution (per 1000 population)
Domain	Health systems
Subdomain	HSS
Associated terms	Health workforce
Definition	Number of health workers per 1000 population.
Numerator	Number of health workers by cadre.
Denominator	Total population.
Disaggregation/ additional dimension	By cadre, including generalist medical practitioners, specialist medical practitioners (surgeons, anaesthetists, obstetricians, emergency medicine specialists, cardiologists, paediatricians, psychiatrists, ophthalmologists, gynaecologists, etc.), nursing and midwifery professionals, traditional and complementary medicine professionals, among others.  Distribution: place of employment (urban/rural), subnational (district)
Method of measurement	National database or registry of health workers, preferably at individual level.
Method of estimation	If there is a national database or registry, there should be regular assessment of completeness using census data, professional association registers, facility censuses, etc.  Health worker concentration: percentage of all health workers working in urban areas divided by percentage of total population in urban areas.
Measurement frequency	Annual
Monitoring and evaluation framework	Input
Preferred data sources	Health worker registry
Other possible data sources	National health workforce database (aggregate)
Further information and related links	Framework of actions for the follow-up to the Programme of Action of the International Conference on Population and Development beyond 2014. Report of the Secretary-General. New York (NY): United Nations; 2014 ( <a href="https://www.unfpa.org/webdav/site/global/shared/documents/ICPD/Framework%20of%20action%20for%20the%20follow-up%20to%20the%20PoA%20of%20the%20ICPD.pdf">https://www.unfpa.org/webdav/site/global/shared/documents/ICPD/Framework%20of%20action%20for%20the%20follow-up%20to%20the%20PoA%20of%20the%20ICPD.pdf</a> , accessed 19 August 2014).  Handbook on monitoring and evaluation of human resources for health with special focus on low- and middle-income countries. Geneva: World Health Organization; 2009.  Monitoring the building blocks of health systems: a handbook of indicators and their measurement strategies.

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Geneva: World Health Organization; 2010

([http://www.who.int/healthinfo/systems/WHO\\_MBHSS\\_2010\\_full\\_web.pdf?ua=1](http://www.who.int/healthinfo/systems/WHO_MBHSS_2010_full_web.pdf?ua=1), accessed 29 March 2015).

World health statistics 2014. Geneva: World Health Organization; 2014

([http://apps.who.int/iris/bitstream/10665/112738/1/9789240692671\\_eng.pdf?ua=1](http://apps.who.int/iris/bitstream/10665/112738/1/9789240692671_eng.pdf?ua=1), accessed 29 March 2015).

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### Target 3.d Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks.

**Suggested Indicator: Percentage of attributes of 13 core capacities that have been attained at a specific point in time.**

#### From WHO:

Abbreviated name	<b>International Health Regulations (IHR) core capacity index</b>
Indicator name	International Health Regulations (IHR) core capacity index
Domain	Health systems
Subdomain	HSS
Associated terms	Health security
Definition	Percentage of attributes of 13 core capacities that have been attained at a specific point in time. The 13 core capacities are: (1) National legislation, policy and financing; (2) Coordination and National Focal Point communications; (3) Surveillance; (4) Response; (5) Preparedness; (6) Risk communication; (7) Human resources; (8) Laboratory; (9) Points of entry; (10) Zoonotic events; (11) Food safety; (12) Chemical events; (13) Radionuclear emergencies.
Numerator	Number of attributes attained.
Denominator	Total number of attributes.
Disaggregation/ additional dimension	
Method of measurement	Based on a set of attributes of 13 core capacities from a standard WHO instrument.
Method of estimation	
Measurement frequency	Biannual
Monitoring and evaluation framework	Output
Preferred data sources	Key informant survey
Other possible data sources	
Further information and related links	IHR core capacity monitoring framework: checklist and indicators for monitoring progress in the development of IHR core capacities in States Parties. Geneva: World Health Organization; 2013 ( <a href="http://apps.who.int/iris/bitstream/10665/84933/1/WHO_HSE_GCR_2013.2_eng.pdf">http://apps.who.int/iris/bitstream/10665/84933/1/WHO_HSE_GCR_2013.2_eng.pdf</a> , accessed 29 March 2015). World Health Assembly governing body documentation: official records. Geneva: World Health Organization ( <a href="http://apps.who.int/gb/or/">http://apps.who.int/gb/or/</a> , accessed 29 March 2015).

## Goal 4 Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

**Target 4.1** By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes.

**Suggested Indicator: Percentage of children/young people at the end of each level of education achieving at least a minimum proficiency level in (a) reading and (b) mathematics. Disaggregations: sex, location, wealth (and others where data are available)**

### From UNESCO:

**Definition and method of computation:** Percentage of children and young people at the end of primary and lower secondary levels of education achieving at least a minimum proficiency level in (a) reading and (b) mathematics. The minimum proficiency level will be measured relative to new common reading and numeracy scales currently in development. The indicator is calculated as the number of children and young people at the end of primary or lower secondary education achieving or exceeding the minimum proficiency level in the given subject, expressed as a percentage of all children and young people at the end of primary or lower secondary education.

**Rationale and interpretation:** The indicator is a direct measure of the learning outcomes achieved in the two subject areas at the end of the relevant levels of education.

**Sources and data collection:** Various international assessments (e.g., PIRLS, PISA, TIMSS), regional learning assessments (e.g., LLECE, SACMEQ, PASEC), national and citizen-led learning assessments. While common scales are being developed, monitoring based on the results of individual studies will be necessary.

**Comments and limitations:** While data from many national assessments are available now, the proposed methodology represents a substantial step forward by using existing data to create global estimates. Since assessments are typically administered within school systems, the available indicators cover only those in school. Extending the assessment of competencies to children and young people who are out of school would require household-based types of surveys. Adding individual assessment of learning to such surveys is under consideration but may be very costly and difficult to administer, and unlikely to be available on the scale needed within the next 3-5 years. The calculation of this indicator requires specific information on the ages of children participating in assessments to create globally comparable data. This makes the calculation of the indicator even more challenging.

**Gender equality issues:** The indicator will be disaggregated by sex and other relevant characteristics enabling a more thorough analysis of the disparities in learning outcomes between the sexes.

**Data for regional and global monitoring:** Cross-nationally comparable data are currently available within international and regional learning assessments, which provide the basis for global comparison. However, until the common learning scales are established, the results could not be considered comparable across different assessments. The development of the common learning scales which allows these linkages is underway and are expected to be available within 3-5 years (i.e., by 2020).

**Supplementary information:** None

**References:** None

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### **From OECD:**

#### ***Definition and method of computation***

PISA is a triennial assessment of knowledge and skills of 15-year-old students at the end of compulsory education in three key areas: reading, mathematics and science. Two hour cognitive test, 30 minutes context questionnaire for the student and the school.

#### ***Rationale and interpretation***

Countries want to understand what students know and can do, based on what they have learnt at school and elsewhere.

#### ***Sources and data collection***

Students, school administrators, parents, educational leaders in countries. At least 5000 students per country.

#### ***Disaggregation***

Disaggregated analysis available by performance, socio-economic status, gender, school location, country of origin, language spoken at home, etc.

#### ***Comments and limitations***

Participating countries and economies are mostly high and medium income countries. In many lower income countries many students perform very poorly. Some context questions are more applicable to some countries than others. By age 15 some students have left the school system. (see ‘supplementary information’ for the recent initiative to make PISA relevant to a wider range of countries)

#### ***Gender equality issues***

All measures can be disaggregated across gender, differences can be analysed and studied in detail.

#### ***Data for global and regional monitoring***

More than 70 countries and economies have participated since the first cycle of PISA in 2000 – 44 of these are middle income countries; 27 of which are ODA recipients.

#### ***Supplementary information***

OECD and several of its partners have recently launched an initiative to make PISA more relevant to a wider range of countries and to address the limitations identified above. The results of the initiative, PISA for Development, should be available at the end of 2018 and will be used to enhance future cycles of the assessment, starting from 2021. See PISA technical and policy publications: <http://www.oecd.org/pisa/aboutpisa/pisaforddevelopment.htm>

#### ***References***

PISA products website: <http://www.oecd.org/pisa/pisaproducts/>

## Goal 4 Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

**Target 4.2 By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education.**

**Suggested Indicator: Percentage of children under 5 years of age who are developmentally on track in health, learning and psychosocial well-being**  
**Disaggregations: sex, location, wealth (and others where data are available)**

### **From UNESCO:**

**Definition and method of computation:** The percentage of children at the start of primary school, typically age 6 years in many countries, who demonstrate age-appropriate health, learning and psychosocial well-being and possess the necessary competencies and knowledge required for learning in the early primary grades. The age at which children start primary school varies across countries. This means that the indicator may broadly reflect children's development between about five and seven years of age.

**Rationale and interpretation:** The indicator is a broad measure of children's development and their preparedness to begin school. Available data for global tracking is presently collected from individual-level data reported by care-givers or teachers, which is then used to calculate an indicator that represents a composite measure across a range of agreed characteristics in the areas of health, learning and psychosocial well-being.

**Sources and data collection:** One possible source is the Early Childhood Development Index from UNICEF's Multiple Indicator Cluster Surveys (MICS). In addition, there are several regional- and national-level assessments that are also being explored.

**Comments and limitations:** Further developmental work will be needed to ensure that the proposed measures are relevant to children in all parts of the world, and measure the skills and competencies that are most important for early school participation and learning. This is expected to take 1-3 years to achieve (i.e., by 2018).

**Gender equality issues:** The indicator will be disaggregated by sex and other relevant characteristics enabling a more thorough analysis of the disparities between the sexes.

**Data for regional and global monitoring:** Cross-nationally comparable data are currently available for c30 developing countries. Further work is required to agree on levels of achievement in each developmental area, to standardise the method of calculation and extend coverage to more countries. This is expected to take 3-5 years to achieve (i.e., by 2020).

**Supplementary information:** None

**References:** None

### **From UNICEF:**

#### **Definition and method of computation**

This indicator provides the proportion of children under the age of five who are developmentally on track in health, learning and psychosocial well-being. It is calculated by dividing the number of

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children under the age of five who are developmentally on track in health, learning and psychosocial well-being by the total number of children under the age of five in the population.

### Rationale and interpretation

Early childhood development sets the stage for life-long thriving. Investing in ECD is one of the most critical and cost-effective ways to improve adult health, education and productivity. ECD is equity from the start and provides a good indication of national development and efforts to improve ECD can bring about human, social and economic improvements for both individuals and societies.

### Sources and data collection

Household surveys such as UNICEF-supported MICS have been collecting data on this indicator (through the Early Childhood Development Index or ECDI) in low- and middle-income countries since around 2010. Many of the individual items included in the ECDI are collected through other mechanisms in high-income (OECD) countries as well.

### Disaggregation

Data are available by age, sex, place of residence, wealth quintiles and other background characteristics. When used in conjunction with a module on child disability, data can also be disaggregated by disability status.

### Comments and limitations

Existing data collection mechanisms are already in place for many countries to monitor this indicator although the ECDI in itself is a fairly new measure of child development.

### Gender equality issues

As this indicator is disaggregated by sex, it is well-suited for analysis of gender equality issues.

### Data for global and regional monitoring

UNICEF has estimates for the percentage children under the age of five who are developmentally on track in health, learning and psychosocial well-being by country and for some (flexible) regional groupings with sufficient population coverage. Comparable data are currently available for approximately 60 countries.

### Supplementary information and references

*UNICEF website on child developmental status data:*

<http://data.unicef.org/ecd/development-status.html>

*UNICEF 2014 brochure – Early Childhood Development: A Statistical Snapshot - Building Better Brains and Sustainable Outcomes for Children:*

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[http://data.unicef.org/corecode/uploads/document6/uploaded\\_pdfs/corecode/ECD\\_Brochure\\_2014\\_197.pdf](http://data.unicef.org/corecode/uploads/document6/uploaded_pdfs/corecode/ECD_Brochure_2014_197.pdf)

### Responsible entities

UNICEF



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**Target 4.3** By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university.

**Suggested Indicator: Participation rate of adults in formal and non-formal education and training in the last 12 months**

**From UNESCO:**

**Definition and method of computation:** The percentage of youth and adults in a given age range (e.g. 15-24 years, 25-64 years etc.) participating in formal or non-formal education or training in a given time period (e.g. last 12 months). Ideally, the indicator should be disaggregated by types of programme such as TVET, tertiary education, adult education and other relevant types and cover both formal and non-formal programmes.

**Rationale and interpretation:** The indicator measures youth and adults' access to education and training for a recent time period.

**Sources and data collection:** Household surveys which collect retrospective data on the participation of young people and adults in education or training programmes in a specified period in the recent past (usually the last 12 months).

**Comments and limitations:** The indicator measures the percentage of youth and adults who had access to education and training but not the amount of training received. More work is needed to ensure consistent definitions of adult education across surveys, and to clarify the comparability of different forms of adult education. Capturing the diversity of adult education and training, both formal and non-formal, represents a challenge in ensuring the comparability of this indicator across countries.

**Gender equality issues:** The indicator will be disaggregated by sex, age group, type of programme and other relevant characteristics enabling a more thorough analysis of the disparities between the sexes.

**Data for regional and global monitoring:** Cross-nationally comparable data are currently available from the European Union's Adult Education Survey (AES) for c30 countries in Europe. Further work is required to develop a set of questions to be applied in labour force or other surveys globally, as well as to harmonise the questions already existing in several national household surveys on adult education attendance. This is expected to take 1-3 years to achieve.

**Supplementary information:** None

**References:** None

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**Target 4.4 By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship.**

**Suggested Indicator: Percentage of youth/adults with ICT skills by type of skill**

**From UNESCO:**

[Adapted from ITU's metadata submission regarding this indicator which was also proposed for measuring Target 5.b.]

**Definition and method of computation:** The percentage of youth (aged 15-24 years) and adults (aged 15 years and above) that have undertaken certain computer-related activities in a given time period (e.g. last three months). Computer-related activities to measure ICT skills are as follows:

- Copying or moving a file or folder
- Using copy and paste tools to duplicate or move information within a document
- Sending e-mails with attached files (e.g. document, picture, video)
- Using basic arithmetic formulae in a spreadsheet
- Connecting and installing new devices (e.g. a modem, camera, printer)
- Finding, downloading, installing and configuring software
- Creating electronic presentations with presentation software (including text, images, sound, video or charts)
- Transferring files between a computer and other devices
- Writing a computer program using a specialized programming language

A *computer* refers to a desktop computer, a laptop (portable) computer or a tablet (or similar handheld computer). It does not include equipment with some embedded computing abilities, such as smart TV sets, and devices with telephony as their primary function, such as smartphones.

Most individuals will have carried out more than one activity and therefore multiple responses are expected. The tasks are broadly ordered from less to more complex.

**Rationale and interpretation:** ICT skills determine the effective use that is made of ICTs. The lack of such skills continues to be one of the key barriers keeping people, and in particular women, from fully benefitting from the potential of information and communication technologies. This indicator will help make the link between ICT usage and impact and help measure and track the level of proficiency of ICT users.

**Sources and data collection:** Household surveys which collect data on the use of selected ICT skills.

**Comments and limitations:** This indicator is relatively new but based on an internationally agreed definition and methodology, which have been developed under the coordination of International Telecommunications Union (ITU), through its Expert Groups and following an extensive consultation process with countries. It is also one of the Partnership on Measuring ICT for Development's Core List of Indicators, which was endorsed by the UN Statistical Commission in 2014.

The indicator is based on the responses provided by interviewees regarding certain computer-related activities that they have carried out in a reference period of time. However, it is not a direct assessment of skills nor how or if those activities were undertaken effectively.

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**Gender equality issues:** The indicator will be disaggregated by sex and other relevant characteristics enabling a more thorough analysis of the disparities between the sexes.

**Data for regional and global monitoring:** By 2015, data for this indicator were available for only 3 developing countries although OECD countries have been collecting data for this indicator for a number of years. Since this indicator was only added to the Partnership's Core List of Indicators in 2014, more countries are expected to collect data in the near future.

**Supplementary information:** None

**References:** [ITU Manual for Measuring ICT Access and Use by Households and Individuals 2014](#)

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**Target 4.5** By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations.

**Suggested Indicator: Parity indices (female/male, urban/rural, bottom/top wealth quintile) for all indicators on this list that can be disaggregated**

### **From UNESCO:**

**Definition and method of computation:** Parity indices require no additional data than the specific disaggregations of interest. They are simply the ratio of the indicator value for one group to that of the other. Typically, the likely more disadvantaged group is the numerator. A value of exactly 1 indicates parity between the two groups.

**Rationale and interpretation:** The further from 1 the parity index lies, the greater the disparity between the two groups of interest (but see the **comments and limitations** section for further information).

**Sources and data collection:** The sources are the same as for the underlying indicators for this goal.

**Comments and limitations:** The indicator is not symmetrical about 1 but a simple transformation can make it so (by inverting ratios that exceed 1 and subtracting them from 2). This will make interpretation easier.

**Gender equality issues:** Gender parity indices are one type of parity index which will be calculated. It is also possible to calculate a sex-based parity index for other disaggregations by dividing the female value of the disaggregation of interest (e.g., rural females) by the male value (e.g. urban males) to better analyse multiple disparities.

**Data for regional and global monitoring:** The availability of parity indices for regional and global monitoring is the same as for the underlying indicators for this goal.

**Supplementary information:** None

**References:** None

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**Target 4.6** By 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy.

**Suggested Indicator:** Percentage of the population in a given age group achieving at least a fixed level of proficiency in functional (a) literacy and (b) numeracy skills.

**Disaggregations:** sex, location, wealth (and others where data are available)

### From UNESCO:

**Definition and method of computation:** The percentage of youth (aged 15-24 years) and of adults (aged 15 years and above) who achieve or exceed a given level of proficiency in (a) literacy and (b) numeracy.

**Rationale and interpretation:** The indicator is a direct measure of the skill levels of youth and adults in the two areas.

**Sources and data collection:** This indicator is collected via skills' assessment surveys of the adult population.

**Comments and limitations:** The measurement of youth and adult skills requires some form of direct assessment. Using household surveys to measure learning can be costly and difficult to administer, and may underestimate learning in areas that are critical to daily life but are harder to assess in standardised approaches. The result may be inaccurate representations of what youth and adults know and can do, especially in relation to applying skills that may vary across contexts.

**Gender equality issues:** The indicator will be disaggregated by sex and other relevant characteristics enabling a more thorough analysis of the disparities between the sexes.

**Data for regional and global monitoring:** Currently data are available for 33 mostly high-income countries from OECD's Programme for the International Assessment of Adult Competencies (PIAAC). Similar information is available for (urban areas of) 13 low- and middle-income countries from the World Bank's STEP Skills Measurement Program. These data sources are not directly comparable, but can be used to generate nationally- and regionally-specific estimates of the degree to which adults possess basic skills.

Considerable work is required to develop a cost-effective module that can be integrated into national and international surveys. This is expected to take 3-5 years to achieve (i.e., by 2020).

**Supplementary information:** None

**References:** None

### From OECD:

#### *Definition and method of computation*

Assessment of the proficiency of adults (16-65 year olds) in the domains of literacy, numeracy and problem solving in technology-rich environments. One hour cognitive assessment plus a background questionnaire of around 30-45 minutes.

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### *Rationale and interpretation*

Provide estimates of the level and distribution of key information processing skills among the adult population and better understand the links between these skills and their antecedents and outcomes.

### *Sources and data collection*

Non-institutionalised adults (aged 16-65 years) resident in the country. Minimum sample size = 5,000.

### *Disaggregation*

Disaggregated analysis available by performance, age group, socio-economic status, gender, employment status, occupation, country of origin, language spoken at home, etc.

### *Comments and limitations*

Participating countries and economies are mostly high income countries.

### *Gender equality issues*

All measures can be disaggregated across gender, differences can be analysed and studied in detail.

### *Data for global and regional monitoring*

33 countries have implemented PIAAC.

### *Supplementary information*

See PIAAC technical report and policy publications

### *References*

PIAAC website: <http://www.oecd.org/site/piaac/>

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**Target 4.7** By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development.

**Suggested Indicator:** Percentage of 15-year old students enrolled in secondary school demonstrating at least a fixed level of knowledge across a selection of topics in environmental science and geoscience. The exact choice/range of topics will depend on the survey or assessment in which the indicator is collected.

**Disaggregations:** sex and location (and others where data are available)

### From UNESCO:

**Definition and method of computation:** Percentage of 15-year old students achieving at least a minimum proficiency level in environmental science and geoscience. The indicator is calculated as the number of 15-year old students achieving or exceeding the minimum proficiency level in environmental science and geoscience expressed as a percentage of all 15-year old students.

**Rationale and interpretation:** The indicator is a direct measure of the learning outcomes achieved in two key subjects relevant for the promotion of sustainable development.

**Sources and data collection:** This indicator is collected via skills' assessment surveys. One possible source is OECD's Programme for International Student Assessment (PISA) but other sources should be explored, with the long-term goal of collecting comparable information about students' knowledge in multiple assessment formats, which would then promote global monitoring.

**Comments and limitations:** The subjects assessed are considered key for the promotion of sustainable development. However there are several other subjects covered by the target that are not being addressed by the indicator. Further developmental work will also be needed to ensure that the knowledge being assessed and the proficiency levels are relevant in all parts of the world.

Currently the indicator is only calculated for those in school. Extending the assessment of competencies to children and young people who are out of school would require new types of surveys which could be very costly and difficult to administer. This is unlikely to be feasible in the next 3-5 years (i.e. not until after 2020).

**Gender equality issues:** The indicator will be disaggregated by sex and other relevant characteristics enabling a more thorough analysis of the disparities between the sexes.

**Data for regional and global monitoring:** Cross-nationally comparable data are currently available for c55 countries. Further work is required to agree on the type of knowledge to be assessed, to standardise the method of calculation and extend coverage to more countries. This is expected to take 3-5 years to achieve (i.e. by 2020).

**Supplementary information:** None

**References:** None

## Goal 4 Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

**Target 4.a Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all.**

**Suggested Indicator: Percentage of schools with access to (i) electricity; (ii) Internet for pedagogical purposes (iii) basic drinking water and (iv) basic sanitation facilities; and (v) basic handwashing facilities (as per the WASH indicator definitions)**

### **From UNESCO:**

**Definition and method of computation:** The percentage of schools by level of education (primary, lower secondary and upper secondary) with access to the given facility or service.

Internet for pedagogical purposes is defined as Internet that is available for enhancing teaching and learning and is accessible by pupils.

Internet for pedagogical purposes is defined as a worldwide interconnected computer network, which provides pupils access to a number of communication services including the World Wide Web and carries e-mail, news, entertainment and data files, irrespective of the device used (i.e. not assumed to be only via a computer) and thus can also be accessed by mobile telephone, tablet, PDA, games machine, digital TV etc.). Access can be via a fixed narrowband, fixed broadband, or via mobile network.

Basic drinking water is defined as a functional drinking water source (MDG 'improved' categories) on or near the premises and water points accessible to all users during school hours. Basic sanitation facilities are defined as functional sanitation facilities (MDG 'improved' categories) separated for males and females on or near the premises. Basic handwashing facilities are defined as functional handwashing facilities, soap (or ash) and water available to all girls and boys. The component on adapted infrastructure and materials is yet to be developed.

**Rationale and interpretation:** The indicator measures access in schools to key basic services necessary to ensure a safe and effective learning environment for all students.

**Sources and data collection:** Administrative data from schools and other providers of education or training.

**Comments and limitations:** The indicator measures the existence in schools of the given service but not its quality or operational state.

**Gender equality issues:** Adequate access to single-sex toilets and hand-washing facilities is vital for ensuring a safe environment especially for girls in school.

**Data for regional and global monitoring:** Cross-nationally comparable data on electricity are available for c95 countries, for Internet access for c70 countries and for water and sanitation for c100 countries. Further efforts will be required to apply the WASH definitions fully and extend coverage to more countries. This is expected to take 1-3 years (i.e. by 2018). Major preparatory work will be required to develop an approach on the assessment of school conditions for people with disabilities. This is expected to take 3-5 years (i.e. by 2020).

**Supplementary information:** None



## Goal 4 Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

**References:** WASH targets and indicators post-2015: recommendations from international consultations. Geneva: Water Supply and Sanitation Collaborative Council (2014).

[http://www.wssinfo.org/fileadmin/user\\_upload/resources/post-2015-WASH-targets-factsheet-12pp.pdf](http://www.wssinfo.org/fileadmin/user_upload/resources/post-2015-WASH-targets-factsheet-12pp.pdf)

For Computers and Internet for pedagogical purposes, see [\*Guide to Measuring Information and Communication Technologies \(ICT\) in Education, UIS Technical Paper No. 2.\*](#)

## Goal 4 Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

**Target 4.b** By 2020, substantially expand globally the number of scholarships available to developing countries, in particular least developed countries, small island developing States and African countries, for enrolment in higher education, including vocational training and information and communications technology, technical, engineering and scientific programmes, in developed countries and other developing countries.

**Suggested Indicator:** Volume of ODA flows for scholarships by sector and type of study; Total net official development assistance (ODA) for scholarships and student costs in donor countries (types of aid E01 and E02). Data expressed in US dollars at the average annual exchange rate.

**From OECD:**

### *Definition and method of computation*

Total net [official development assistance](#) (ODA) for scholarships and student costs in donor countries ([types of aid](#) E01 and E02). Data expressed in US dollars at the average annual exchange rate.

### *Rationale and interpretation*

ODA is the accepted measure of international development co-operation. The data thus cover official international assistance to provide education places for developing country nationals in donor country educational institutions.

### *Sources and data collection*

Data are compiled by the Development Assistance Committee (DAC) of the Organisation for Economic Co-operation and Development from returns submitted by its member countries and other aid providers. Data can be accessed [here](#).

### *Disaggregation*

The data can be disaggregated by provider and recipient country, and essentially concern grants.

### *Comments and limitations*

The data only address international concessional flows provided by governments. Detailed, internationally comparable data on scholarships for developing country nationals provided by universities, colleges, foundations, NGOs and other sources is generally lacking.

### *Gender equality issues*

Most scholarship programmes take account of gender issues in selecting students, but generalised data on the breakdown by sex of beneficiaries is not available.

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### *Data for global and regional monitoring*

Data are available for essentially all high-income countries, and for an increasing number of middle-income aid providers.

### *Supplementary information*

See [Aid to education](#) data.

### *References*

OECD, 2015 [Aid to Education](#)

## Goal 4 Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

**Target 4.c** By 2030, substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially least developed countries and small island developing States.

**Suggested Indicator: Percentage of teachers in (i) pre-primary (ii) primary, (iii) lower secondary and (iv) upper secondary education who have received at least the minimum organized teacher (i.e. pedagogical training) pre-service or in-service required for teaching at the relevant level in a given country. Disaggregations: sex (and others where data are available)**

### **From UNESCO:**

**Definition and method of computation:** The percentage of teachers by level of education taught (pre-primary, primary, lower secondary and upper secondary) who have received at least the minimum organized pedagogical teacher training pre-service and in-service required for teaching at the relevant level in a given country. The indicator should be calculated separately for public and private institutions.

**Rationale and interpretation:** Teachers play a key role in ensuring the quality of education provided. Ideally all teachers should receive adequate, appropriate and relevant pedagogical training to teach at the chosen level of education and be academically well-qualified in the subject(s) they are expected to teach. This indicator measures the share of the teaching work force which is pedagogically well-trained.

**Sources and data collection:** Administrative data from schools and other organized learning centres.

**Comments and limitations:** It is important to note that national minimum training requirements can vary widely from one country to the next. This variability between countries lessens the usefulness of global tracking because the indicator would only show the percent reaching national standards, not whether teachers in different countries have similar levels of training. Further work would be required if a common standard for teacher training is to be applied across countries.

**Gender equality issues:** The indicator will be disaggregated by sex enabling a more thorough analysis of the disparities between the sexes.

**Data for regional and global monitoring:** Data have been collected for a number of years and are currently available for about 100 countries.

**Supplementary information:** None

**References:** None

### **From OECD:**

#### ***Definition and method of computation***

Teachers (ISCED 2 level) were asked to indicate whether they had participated in any of the following activities 12 months prior to the survey:

- Courses/workshops (on subject matter or methods and/or other education-related topics).

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- Education conferences or seminars (where teachers and/or researchers present their research results and discuss education problems).
- Observation visits to other schools.
- Observation visits to business premises, public organisations, or non-governmental organisations.
- In-service training courses in business premises, public organisations or non-governmental organisations.
- Qualification programmes (e.g. a degree programme).
- Participation in a network of teachers formed specifically for the professional development of teachers.
- Individual or collaborative research on a topic of professional interest.
- Mentoring and/or peer observation and coaching as part of a formal school arrangement

### ***Rationale and interpretation***

To provide policy-relevant analysis on teachers' participation in professional development activities through a robust indicator.

To support the relevance and quality of career-long opportunities for professional development because of its impact on teachers' skills and students' achievement gains.

### ***Sources and data collection***

International target population: Lower secondary education teachers and leaders of mainstream schools.

Target sample size: 200 schools per country; 20 teachers and 1 school leader in each school. School samples: Representative samples of schools and teachers within schools.

Target response rates: 75% of the sampled schools, together with a 75% response rate from all sampled teachers in the country. A school is considered to have responded if 50% of sampled teachers respond.

Separate questionnaires for teachers and school leaders, each requiring between 45 and 60 minutes to complete.

### ***Disaggregation***

- By type and intensity
- By teacher and school characteristics
- By reported financial cost

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- By lack of support
- By other types of barriers

### *Comments and limitations*

A difference should be made between access to professional development activities and the participation rate in professional development activities

### *Gender equality issues*

Data are disaggregated by gender. Overall slightly greater participation for women (largest difference in favour of female teachers in Italy and Slovak Republic); in favour of male teachers the highest rate Abu Dhabi (UAE); in some countries equal participation.

### *Data for global and regional monitoring*

34 countries participate in TALIS 2013:

- • 24 OECD countries: Alberta (Canada), Australia, Chile, Czech Republic, Denmark, England (United Kingdom), Estonia, Finland, Flanders (Belgium), France, Iceland, Israel, Italy, Japan, Korea, Mexico, Netherlands, Norway, Poland, Portugal, Slovak Republic, Spain, Sweden, United States.
- • 10 Partner Economies: Abu Dhabi (United Arab Emirates), Brazil, Bulgaria, Croatia, Cyprus, Latvia, Malaysia, Romania, Serbia, Singapore.
- For TALIS 2018, the country coverage is expected to be wider than 2013

### *Supplementary information*

OECD (2014), TALIS 2013 Technical Report, TALIS, OECD Publishing, Paris.

OECD (2009), Creating Effective Teaching and Learning Environments: First Results from TALIS, TALIS, OECD Publishing, Paris.

DOI: <http://dx.doi.org/10.1787/9789264068780-en>

### *References*

OECD (2014), TALIS 2013 Results: An International Perspective on Teaching and Learning, TALIS, OECD Publishing, Paris.

DOI: <http://dx.doi.org/10.1787/9789264196261-en>

## Goal 5 Achieve gender equality and empower all women and girls

**Target 5.1 End all forms of discrimination against all women and girls everywhere.**

**Suggested Indicator: Whether or not legal frameworks are in place to promote equality and non-discrimination on the basis of sex**

**From UN-WOMEN:**

<p><b>Definition and method of computation</b></p>	<p>The indicator measures whether national laws exist to promote gender equality and non-discrimination against women and girls. Areas of law to be monitored as part of this indicator are tentative but could include: whether equal pay for work of equal value is guaranteed in law; whether national legislation is in line with International Labour Organization (ILO) Convention 183 on maternity protection; whether national law prohibits discrimination based on a definition of discrimination against women in accordance with article 1 of the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW); whether the national law provides equal rights for women and men with respect to inheritance and property; and the existence of laws (including criminal) against sexual assault.</p> <p>For each area of law under consideration, the indicator is the number of countries with specific legislation to promote gender equality and non-discrimination (i.e. countries with “yes”) as a percentage of all countries with available data. A simple aggregation method (e.g. arithmetic or geometric mean) will then be used to calculate global and/or regional averages (taking into account all of the different areas of laws).</p>
<p><b>Rationale and interpretation</b></p>	<p>Laws and justice systems shape society by ensuring accountability, stopping the abuse of power and creating norms about what is acceptable. Removing discriminatory laws and putting in place laws and policies that promote gender equality is a prerequisite to ending discrimination against women and girls.</p> <p>Because this indicator monitors laws, it focuses on de-jure equality between women and men and girls and boys and instances where legal frameworks promote gender equality and women’s empowerment. This is not to say that de-facto inequality should not be prioritized. In fact, even where discrimination is explicitly prohibited by law, unequal outcomes between women and men and boys and girls can be the result of discriminatory practices that prevent women and girls from enjoying their human rights.</p> <p>Most of the indicators proposed to monitor the targets in SDG5 and the gender-related indicators to monitor the targets in the other goals focus on outcomes. By focusing on laws, it is possible to juxtapose the different areas of law that are measured under 5.1 (e.g. laws to prevent sexual assault) to the actual ‘results’ (rates of sexual violence against women and girls as measured in target 5.2). Therefore, the proposed focus on laws and policies is meant to complement the outcome indicators proposed under the other targets in Goal 5 and the gender-related targets in other goals.</p>
<p><b>Sources and</b></p>	<p>The CEDAW Committee, UN Women and the Office for the High Commissioner for</p>

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<b>data collection</b>	Human Rights (OHCHR) have formed a working group to develop a methodology for collecting and monitoring this indicator. It is envisaged that the CEDAW Committee will monitor the indicator in a systematic and comparable manner as part of its country reporting and review process. The data source would be country reporting and review process under CEDAW.
<b>Disaggregation</b>	N/A
<b>Comments and limitations</b>	The indicator measures means, not outcomes. However, the overarching and all-encompassing nature of the target makes it difficult to measure using a single indicator. Therefore the indicator is a proxy measure and only addresses part of the target. The proposed focus on laws and policies can however be useful to complement the outcome indicators proposed under the other targets in Goal 5 and the gender-related targets in other goals.
<b>Gender equality issues</b>	Discrimination against women and girls takes many different forms. It can be found in law or in practice; both forms impede the realization of gender equality and women's empowerment.
<b>Data for global and regional monitoring</b>	The indicator is currently classified as Tier III.
<b>Supplementary information</b>	189 States are party to the 1979 Convention on the Elimination of All Forms of Discrimination against Women. A country becomes a State party by ratifying or acceding to the Convention and thereby accepting a legal obligation to counteract discrimination against women. The Committee monitors the implementation of national measures to fulfill this obligation.
<b>References</b>	<a href="http://www.un.org/womenwatch/daw/cedaw/text/econvention.htm">http://www.un.org/womenwatch/daw/cedaw/text/econvention.htm</a> ; <a href="http://www.un.org/womenwatch/daw/cedaw/committee.htm">http://www.un.org/womenwatch/daw/cedaw/committee.htm</a>



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**Target 5.2 Eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking and sexual and other types of exploitation.**

**Suggested Indicator 1: Proportion of ever-partnered women and girls (aged 15-49) subjected to physical and/or sexual violence by a current or former intimate partner, in the last 12 months**

**NO METADATA RECEIVED**

**Suggested Indicator 2: Proportion of women and girls (aged 15-49) subjected to sexual violence by persons other than an intimate partner, since age 15**

**From UN-WOMEN:**

<p><b>Definition and method of computation</b></p>	<p>Number of girls and women aged 15+ who were subjected to sexual violence by persons other than an intimate partner, as percentage of all girls and women aged 15+, disaggregated by age and place of occurrence.</p> <p>Sexual violence as defined in para 60 of the UN Guidelines for Producing Statistics on Violence against Women: Statistical Surveys [1]:</p> <p>“... is any sort of harmful or unwanted sexual behavior that is imposed on someone. It includes act of abusive sexual contact, forced engagement in sexual acts, attempted or completed sexual acts with a woman without her consent, sexual harassment, verbal abuse, threats, exposure, unwanted touching, incest, etc. A minimum list of acts of sexual violence, which should be expanded depending on the specific country context, consists of the following:</p> <p>(a) <i>Rape</i>: Refers to engaging in the non-consensual vaginal, anal, or oral penetration of a sexual nature of the body of another person with any bodily part or object, including through the use of physical violence and by putting the victim in a situation where she cannot say no or complies because of fear;</p> <p>(b) <i>Attempted rape</i>: Refers to attempting to have non-consensual sexual intercourse through the use of force or threats;</p> <p>(c) <i>Other sexual acts</i>: Refers to:</p> <ul style="list-style-type: none"> <li>• Intimate touching without consent</li> <li>• Sexual acts other than intercourse forced by money</li> <li>• Sexual acts other than intercourse obtained through threats of physical violence</li> <li>• Sexual acts other than intercourse obtained through threats to the well-being of family members</li> <li>• Use of force or coercion to obtain unwanted sexual acts or any sexual activity that the female partner finds degrading or humiliating</li> <li>• Other acts of sexual violence.</li> </ul> <p>The indicator specifically considers the following: 1) sexual violence (separately from physical violence); 2) women and girls aged 15+ who were subjected to sexual</p>
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	violence; and 3) by perpetrators who are persons other than an intimate partner.
<b>Rationale and interpretation</b>	<p>Violence against women and girls is one of the most pervasive human rights abuses in the world today and takes place in all countries. In order to eradicate violence against women and girls, it is necessary to measure its prevalence in all its forms.</p> <p>By measuring the prevalence of sexual violence by persons other than an intimate partner, this indicator complements the other priority indicator in 5.2 (i.e. the proportion of ever-partnered women and girls aged 15+ subjected to physical, sexual and psychological violence by a current or former intimate partner, in the last 12 months, by form of violence and age).</p> <p>Furthermore, by disaggregating this indicator by place of occurrence and perpetrator, this indicator would measure sexual violence in the workplace and in public spaces.</p>
<b>Sources and data collection</b>	Data for this indicator are derived from violence against women modules in Demographic and Health Surveys or in other specialized surveys on violence against women. The European Union (EU) Agency for Fundamental Rights conducted an EU-wide survey on the extent, nature, and consequences of violence against women in all 28 Member States of the EU [3].
<b>Disaggregation</b>	<p>Recommended disaggregation for this indicator are [2]:</p> <ul style="list-style-type: none"> <li>• Age</li> <li>• Place of occurrence <ul style="list-style-type: none"> <li>- Public space (including streets, parks etc.), employment etc.</li> </ul> </li> <li>• Income</li> <li>• Other characteristics such as disability, race, caste, ethnicity etc. as relevant</li> </ul>
<b>Comments and limitations</b>	The availability of comparable data remains a challenge in this area as many data collection efforts have relied on different study methodologies. Diverse age groups are often utilized and in many high-income countries, data on intimate partner violence have largely been collected from the adult population (i.e., women and men over the age of 18). This said, existing data collection mechanisms are already in place for many countries to monitor this indicator. In addition, most developing countries only collect data through a module in the DHS and therefore limit the age range to girls and women aged 15 to 49 [4]. However, many countries are also collecting data for women without specifying an upper age limit.
<b>Gender equality issues</b>	
<b>Data for global and regional monitoring</b>	This indicator is currently classified as Tier II. UN Women and UNICEF would monitor this target
<b>Supplementary information</b>	The UN Guidelines for Producing Statistics on Violence against Women: Statistics Surveys have been prepared to assist countries in assessing the scope, prevalence, and incidence of violence against women. These Guidelines, in compliance with the UNGA resolution 61/143 and per request by the UN Statistical Commission at its 40 <sup>th</sup> session in 2009, respond to the need to provide methodological advice regarding selection of topics, sources of data, relevant statistical classifications, outputs,

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	wording of questions and all other issues relevant for national statistical offices to conduct statistical surveys on violence against women. [1]
<b>References</b>	<p>[1] United Nations Department of Economic and Social Affairs, <i>Guidelines for Producing Statistics on Violence against Women: Statistical Surveys</i>, UN, New York, 2014.</p> <p>[2] UN Women, <i>Monitoring Gender Equality and the Empowerment of Women and Girls in the 2030 Agenda for Sustainable Development: Opportunities and Challenges</i>, UN Women, New York, 2015.</p> <p>[3] European Union Agency for Fundamental Rights, <i>Violence against Women: An EU-wide Survey</i>, European Union, Austria, 2014.</p> <p>[4] Kishor, Sunita, <i>Domestic Violence Measurement in the Demographic and Health Surveys: The History and the Challenges</i>, Measure DHS, ORC Macro, Switzerland, 2005.</p>

### From UNFPA, UNICEF and UN-WOMEN:

#### Definition and method of computation

This indicator provides the proportion of ever-partnered girls and women aged 15+ subjected to physical, sexual or psychological violence in the last 12 months by a current or former intimate partner. It is calculated by dividing the number of ever-partnered girls and women aged 15+ subjected to physical, sexual or psychological in the last 12 months by a current or former intimate partner by the total number of ever-partnered girls and women aged 15+ in the population.

#### Rationale and interpretation

Intimate partner violence includes abuse perpetrated by a current or former partner within the context of marriage, cohabitation or any other formal or informal union. Violence directed at girls and women is the most common form of gender-based violence.<sup>12</sup>

#### Sources and data collection

Household surveys such as DHS and other national violence against women surveys.

#### Disaggregation

Data are available by age, place of residence and wealth quintiles.

#### Comments and limitations

The availability of comparable data remains a challenge in this area as many data collection efforts have relied on different study methodologies and used different definitions of partner or

<sup>12</sup> Kishor, S., and K. Johnson, Profiling Domestic Violence: A multi-country study, ORC Macro, Calverton, 2004.

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spousal violence. Diverse age groups are often utilized and in many high-income countries, data on intimate partner violence have largely been collected from the adult population (i.e., women and men over the age of 18). This is mostly due to the fact that relatively few adolescents in such countries can be found in marriages or other formal unions before the age of 18. This said, existing data collection mechanisms are already in place for many countries to monitor this indicator. Through standalone surveys, many countries are also collecting data for girls and women without specifying an upper age limit. There is an existing, standardized and validated measurement tool (the CTS) that is widely accepted and has been implemented in a large number of countries to measure Intimate Partner Violence.

### Gender equality issues

In societies that sanction male dominance over women, violence between intimate partners may be perceived as an ordinary component of interpersonal dynamics between the sexes, particularly in the context of marriage or other formal unions. Therefore, it represents one manifestation of gender inequality.

### Data for global and regional monitoring

UNICEF maintains a global database with estimates for the percentage of ever-partnered women and girls (aged 15-49) subjected to physical and/or sexual violence in the last 12 months by a current or former intimate partner, disaggregated by age, place of residence and wealth quintile by country and for some (flexible) regional groupings with sufficient population coverage. Fully comparable data are currently available for approximately 56 low- and middle-income countries. The FRA study on Violence against Women: An EU-wide Survey (2014) also provide recent estimates for all EU countries for girls and women aged 18-74.

### Supplementary information and references

UNICEF website on violent union data:

<http://data.unicef.org/child-protection/violent-unions.html>

UNICEF 2014 report – Hidden in Plain Sight: A statistical analysis of violence against children:

[http://data.unicef.org/corecode/uploads/document6/uploaded\\_pdfs/corecode/VR-full-report\\_Final-LR-3\\_2\\_15\\_189.pdf](http://data.unicef.org/corecode/uploads/document6/uploaded_pdfs/corecode/VR-full-report_Final-LR-3_2_15_189.pdf)

[http://fra.europa.eu/sites/default/files/fra-2014-vaw-survey-main-results-apr14\\_en.pdf](http://fra.europa.eu/sites/default/files/fra-2014-vaw-survey-main-results-apr14_en.pdf)

## **Goal 5 Achieve gender equality and empower all women and girls**

### **Target 5.3 Eliminate all harmful practices, such as child, early and forced marriage and female genital mutilation.**

#### **Suggested Indicator 1: Percentage of women aged 20-24 who were married or in a union before age 18 (i.e. child marriage)**

##### **From UNICEF:**

##### **Definition and method of computation**

This indicator provides the proportion of women aged 20 to 24 years who were first married or in union by age 18. It is calculated by dividing the number of women aged 20-24 who were first married or in union by age 18 by the total number of women aged 20-24 in the population.

##### **Rationale and interpretation**

Marriage before the age of 18 is a fundamental violation of human rights. Child marriage often compromises a girl's development by resulting in early pregnancy and social isolation, interrupting her schooling, limiting her opportunities for career and vocational advancement and placing her at increased risk of intimate partner violence. In many cultures, girls reaching puberty are expected to assume gender roles associated with womanhood. These include entering a union and becoming a mother.

The issue of child marriage is addressed in a number of international conventions and agreements: The Convention on the Elimination of All Forms of Discrimination against Women (Article 16); Universal Declaration of Human Rights; Convention on Consent to Marriage, Minimum Age for Marriage and Registration of Marriages; African Charter on the Rights and Welfare of the Child; and the Protocol to the African Charter on Human and People's Rights on the Rights of Women in Africa. Although marriage is not mentioned directly in the Convention on the Rights of the Child, child marriage is linked to other rights – such as the right to freedom of expression, the right to protection from all forms of abuse, and the right to be protected from harmful traditional practices.

##### **Sources and data collection**

Household surveys such as UNICEF-supported MICS and DHS have been collecting data on this indicator in low- and middle-income countries since around the late 1980s. In some countries, such data are also collected through national censuses or other national household surveys.

##### **Disaggregation**

Data are available by place of residence, wealth quintiles, education and other background characteristics.

##### **Comments and limitations**

There are existing tools and mechanisms for data collection that countries have implemented to monitor the situation with regards to this indicator. The modules used to collect information on

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marital status among women and men of reproductive age (15-49 years) in the DHS and MICS have been fully harmonized.

### Gender equality issues

The practice of early/child marriage is a direct manifestation of gender inequality.

### Data for global and regional monitoring

UNICEF has estimates for the percentage of women aged 20-24 who were first married or in union before age 18, disaggregated by place of residence and wealth quintile for the world as a whole and by (flexible) regional groupings. The global and regional estimates are based on available data from 113 countries.

### Supplementary information and references

*UNICEF website on child marriage data:*

<http://data.unicef.org/child-protection/child-marriage.html>

*UNICEF 2014 brochure – Ending Child Marriage: Progress and prospects*

[http://data.unicef.org/corecode/uploads/document6/uploaded\\_pdfs/corecode/Child-Marriage-Brochure-HR\\_164.pdf](http://data.unicef.org/corecode/uploads/document6/uploaded_pdfs/corecode/Child-Marriage-Brochure-HR_164.pdf)

### Responsible entities

UNICEF

UNICEF is the agency that currently has the mandate for global monitoring on child marriage indicators within the UN system, as confirmed most recently by the Statistical Commission in 2014 (cf. E/CN.3/2014/18).

### **Suggested Indicator 2: Percentage of girls and women aged 15-49 years who have undergone FGM/C, by age group (for relevant countries only)**

#### **From UNICEF:**

#### **Definition and method of computation**

This indicator provides the proportion of girls and women aged 15 to 49 years who have undergone female genital mutilation/cutting (FGM/C). It is calculated by dividing the number of girls and women aged 15-49 who have undergone FGM/C by the total number of girls and women aged 15-49 in the population.

#### **Rationale and interpretation**

FGM/C is a violation of girls' and women's human rights. There is also a large body of literature documenting the adverse health consequences of FGM/C over both the short and long term.

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FGM/C is condemned by a number of international treaties and conventions including the Universal Declaration of Human Right (Article 25). FGM/C can also be considered as a form of violence against women, and therefore the UN Convention on the Elimination of All Forms of Discrimination against Women can be invoked. Similarly, defining it as a form of torture brings it under the rubric of the Convention against Torture and Other Cruel, Inhuman, or Degrading Treatment or Punishment. Moreover, since FGM/C is regarded as a traditional practice prejudicial to the health of children and is, in most cases, performed on minors, it violates the Convention on the Rights of the Child. Existing national legislation in many countries also include explicit bans against FGM/C.

### Sources and data collection

Household surveys such as UNICEF-supported MICS and DHS have been collecting data on this indicator in low- and middle-income countries since the late 1980s. In some countries, such data are also collected through other national household surveys.

### Disaggregation

Data are available by many stratifies including age, region, ethnicity, religion, education, place of residence and wealth quintiles.

### Comments and limitations

There are existing tools and mechanisms for data collection that countries have implemented to monitor the situation with regards to this indicator. The modules used to collect information on the circumcision status of girls aged 0-14 and women aged 15-49 in the DHS and MICS have been fully harmonized.

### Gender equality issues

This issue specifically affects girls and women and is one direct manifestation of gender inequality.

### Data for global and regional monitoring

UNICEF has estimates of the percentage of girls and women aged 15 to 49 years who have undergone FGM/C in the 29 countries in which the practice is concentrated in Africa and the Middle Est. Additional data points are expected to be made available in the next few weeks.

### Supplementary information and references

*UNICEF website on FGM/C data:*

<http://data.unicef.org/child-protection/fgmc.html>

*UNICEF 2013 report - Female Genital Mutilation/Cutting: A statistical overview and exploration of the dynamics of change:*

[http://data.unicef.org/corecode/uploads/document6/uploaded\\_pdfs/corecode/FGMC\\_Lo\\_res\\_Final\\_26.pdf](http://data.unicef.org/corecode/uploads/document6/uploaded_pdfs/corecode/FGMC_Lo_res_Final_26.pdf)

### Responsible entities

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UNICEF.

UNICEF is the agency that currently has the mandate for global monitoring on FGM/C indicators within the UN system, as confirmed most recently by the Statistical Commission in 2014 (cf. E/CN.3/2014/18).

### From WHO:

#### Definition and method of computation

The numerator is the number of women and girls who have undergone a FGM procedure (Type 1 to IV).

The denominator is the number of women and girls in the same population

#### Rationale and interpretation

Female genital mutilation (FGM) comprises all procedures that involve the partial or total removal of external genitalia or other injury to the female genital organs for non-medical reasons [1]. Although it is internationally recognized as a violation of human rights (including: the right to non-discrimination on the grounds of sex; the right to life; the right to the highest attainable standard of health; the right to freedom from torture or cruel, inhuman or degrading treatment; and the rights of the child), and legislation to prohibit the procedure has been put in place in many countries, the practice has still been documented.

WHO classifies FGM into four types: [1]

**Type I:** Partial or total removal of the clitoris and/or the prepuce (clitoridectomy).

**Type II:** Partial or total removal of the clitoris and the labia minora, with or without excision of the labia majora (excision).

**Type III:** Narrowing of the vaginal orifice with the creation of a covering seal by cutting and appositioning the labia minora and/or the labia majora, with or without excision of the clitoris (**infibulation**).

**Type IV:** All other harmful procedures to the female genitalia for non-medical purposes, for example: pricking, pulling, piercing, incising, scraping and cauterization.

The removal of or damage to healthy, normal genital tissue interferes with the natural functioning of the body and causes several immediate and long-term health consequences.

#### Sources and data collection

Household surveys

#### Disaggregation

By type of FGM

#### Comments and limitations

The indicator will be collected by self-report; thus the identification of type FGM can be difficult; and due to varying social norms, factual disclosure of whether or not the individual has undergone FGM can be difficult to ascertain (eg, depending on the context, a woman/girl may be more or less willing to state that she has undergone the procedure).



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### **Gender equality issues**

The broader scope of gender inequality is believed to perpetuate FGM, and violation of human rights by FGM represent the need to monitor the persistence of this harmful practice.

### **Data for regional and global monitoring**

#### **Supplementary information**

Women and girls living in diaspora with history of undergoing FGM should be considered in monitoring and evaluation frameworks.

### **References**

1. Eliminating female genital mutilation: an interagency statement UNAIDS, UNDP, UNECA, UNESCO, UNFPA, UNHCHR, UNHCR, UNICEF, UNIFEM, WHO. Geneva, 2008.

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**Target 5.4 Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate.**

**Suggested Indicator: Average daily (24 hours) spent on unpaid domestic and care work, by sex, age and location (for individuals five years and above)**

**From UN-WOMEN:**

<p><b>Definition and method of computation</b></p>	<p>Average number of hours spent in a week on unpaid domestic and care work, by sex, age and location (for individuals 5 years and above)</p> <p>Unpaid domestic and care work activities include the unpaid production of goods for own final consumption (e.g., collecting water or firewood) and the unpaid provision of services (e.g., cooking or cleaning as well as person-to-person care) for own final use.</p>
<p><b>Rationale and interpretation</b></p>	<p>The provision of unpaid care and domestic work has a profound implication on our understanding of poverty and well-being. As a result of their socially ascribed roles, women and girls do the bulk of unpaid care and domestic work, which includes household maintenance activities such as cooking and cleaning as well as person-to-person care activities such as child and elder care. [2]</p> <p>Producing time use statistics thus contributes to increasing the visibility of women's work through better statistics on their contribution to the economy – with particular emphasis on the value of goods and services they produce. [1]</p>
<p><b>Sources and data collection</b></p>	<p>This indicator is generally derived through time use surveys or time use modules in general purpose or labour force surveys.</p> <p>A stand-alone time use survey is a household survey concerned with the single subject of time use. An independent survey is often a good solution for a subject as complex as time use. However, multi-purpose household surveys can also be used to produce time use statistics, for example through a modular approach [1].</p> <p>Based on data compiled by UN Women in 2015, 75 countries currently have data related to this indicator. [2]</p>
<p><b>Disaggregation</b></p>	<p>Recommended areas of disaggregation for this indicator are:</p> <ul style="list-style-type: none"> <li>• Sex</li> <li>• Age</li> <li>• Location</li> <li>• Marital status <ul style="list-style-type: none"> <li>- <i>Urban-rural location.</i></li> </ul> </li> <li>• Income <ul style="list-style-type: none"> <li>- <i>Income group deemed relevant in the country context.</i></li> </ul> </li> </ul>

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	<ul style="list-style-type: none"> <li>• Other characteristics such as disability, race, caste, ethnicity etc. as relevant</li> </ul> <p>Note: As recommended by the Inter-Agency and Expert Group on Gender Statistics, this indicator should be disaggregated by tasks and distinguish between person to person care and other household management-related tasks. [3]</p>
<p><b>Comments and limitations</b></p>	<p>A slight revision of the indicator has been proposed, that is, from</p> <p><i>Average <u>daily (24 hours)</u> spent on unpaid domestic and care work, by sex, age and location (for individuals 5 years and above)</i></p> <p>to</p> <p><i>Average <u>number of hours spent in a week</u> on unpaid domestic and care work, by sex, age and location (for individuals 5 years and above)</i></p> <p>This recommendation is in recognition of the fact that time-use data need to be comprehensive not only in relation to covering the whole range of possible activities but also in relation to accounting for differences between weekends and weekdays as well as effects of special holidays, and variations in activities across seasons in a year and across areas or regions in a country. Hence, arriving at an average for a representative week, instead of day, is deemed more appropriate. [1]</p> <p>This indicator is part of the minimum set of gender indicators agreed by the UN Statistical Commission in 2013 [3].</p>
<p><b>Gender equality issues</b></p>	<p>With the availability of time use statistics on hours spent on paid and unpaid work, the extent of the gender gaps in division of unpaid work can be examined.</p> <p>Based on available data, women devote on average 2.5 more time on unpaid care and domestic work than men: when both paid and unpaid total workloads are combined, women work more than men, resulting in more time poverty for them [4]. On the intergenerational transmission of gender roles, according to ILO (2009) 10 percent of girls aged 5 to 14 perform household chores for 28 hours a week or more, representing approximately twice the hours spent by boys, resulting in lower school attendance. [5]</p>
<p><b>Data for global and regional monitoring</b></p>	<p>At the international level, UN Women and UNSD have compiled statistics from national and international surveys on time use.</p>
<p><b>Supplementary information</b></p>	<p>The UN Guide to Producing Statistics on Time Use: Measuring Paid and Unpaid Work aims to serve as a reference tool for countries interested in conducting time-use surveys. It is also aimed at facilitating the harmonization of methods and practices in collecting, processing and disseminating time use statistics. [1]</p> <p>The United Nations Economic Commission for Europe has also prepared the Guidelines for Harmonising Time Use Surveys to respond to the need for the exchange of good practice and for coordination in defining the concepts,</p>

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	<p>methodology and way of aggregation of results. The preparation of the said Guidelines aims to contribute towards the production of reliable time use statistics that can answer policy relevant questions and comparable across countries. [6]</p>
<p><b>References</b></p>	<p>[1] United Nations Department of Economic and Social Affairs, <i>UN Guide to Producing Statistics on Time Use: Measuring Paid and Unpaid Work</i>, UN, New York, 2005.</p> <p>[2] UN Women, <i>Monitoring Gender Equality and the Empowerment of Women and Girls in the 2030 Agenda for Sustainable Development: Opportunities and Challenges</i>, UN Women, New York, 2015.</p> <p>[3] United Nations Statistics Division, <i>Minimum Set of Gender Indicators</i>. 2015.</p> <p>[4] UN Women. <i>Progress of the World's Women: Transforming Economies, Realizing Rights</i>. 2015</p> <p>[5] ILO. <i>Give girls a chance. Tackling child labour, a key to the future</i>.</p> <p>[6] United Nations Economic Commission for Europe, <i>Guidelines for Harmonising Time Use Survey</i>, UNECE, Switzerland, 2013.</p>

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**Target 5.5 Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life.**

### **Suggested Indicator 1: Proportion of seats held by women in national parliaments**

#### **From UN-WOMEN:**

The indicator would measure the proportion of seats held by women across local government, compared with men holding those seats, in each reporting country.

#### **Justification**

Women participate in politics and decision-making at all levels, in different functions and across all spheres of government. They may participate as voters, candidates for local, regional and national elections, members of parliament or local council, heads of state and government, ministers, members of political parties, trade unions or business associations, or as electoral administrators.

Capturing an accurate assessment of women's representation across these different forms of political participation has been difficult, however. The standard measure of women's political participation and involvement in decision-making, used to track progress for the Millennium Development Goals, was the proportion of seats held by women in national parliaments. In many respects, the existence and quality of this data has meant that other areas of political participation have not been paid sufficient attention.

Measuring women's participation in local government is an additional, but equally important measure of women's political participation and decision-making, because of the responsibilities of local governments and the significantly higher number of opportunities (that is seats) available to women candidates at this level. Women's entry into local politics has the potential to influence a wide range of policy decisions and local community programmes.

However, the available data is limited; it is neither comprehensive across all countries, nor regularly updated. Data from the United Nations Statistical Division's 2010 edition of *The World's Women*, for example, show selected regional averages, with a low of 8 percent in Northern Africa to a high of 30 percent in sub-Saharan Africa. Averages across Latin America and Europe ranged from 24 to 29 percent and Asia reported averages below 20 percent. Drawing meaningful conclusions from this data is therefore difficult.

In 1995, the Beijing Platform for Action called on governments to accept a wider understanding of women's participation in decision-making that went beyond women in national politics. The 20-year review of the Platform, however, found that:

a significant challenge for effectively monitoring progress towards gender equality is the lack of high quality and comparable data, collected over time. Many areas of statistics that are of critical importance such as ... women's participation in decision-making at all levels, including local government ... are still not produced regularly by countries. Data and statistical requirements for the post-2015 development agenda will be substantial,

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particularly for monitoring gender equality, women's empowerment and the human rights of women and girls in the new framework.<sup>13</sup>

**A dedicated indicator on women's political participation would provide the necessary 'data mandate' to ensure this data set is more systematically collected across all countries and regularly monitored over time, allowing for both international and longitudinal comparisons.**

This indicator is also relevant for two other proposed Sustainable Development Goals (SDG) and related targets:

- Goal 11: Make **cities** and human settlements inclusive, safe and sustainable.
  - 11.5. By 2030, ensure **universal access** to safe, **inclusive** and accessible public spaces, particularly for women and children and people with disabilities.
- Goal 16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.
  - 16.7. Ensure responsive, inclusive, participatory and representative decision-making **at all levels**.

**These targets can only be monitored at the local level if a dedicated indicator on women's political participation in local government is included in the post-2015 development agenda.**

### Data sources

To date, the main global and regional sources of data on women's political participation at the local level have included: the UN Statistics Division's report, *The World's Women*; United Cities and Local Government (UCLG) country profiles; Member States' inputs to the SG Report on the implementation of General Assembly Resolution 66/130 on women and political participation; CEDAW country reports (a total of 122 countries have reported some information on women's representation at local level); and national government sources including Permanent Missions to the United Nations.

The United Nations Regional Commissions have also played an important role collecting data on women's political participation at the local level. There are consistent data on women's participation in local government published on the websites of two Regional Commissions: the United Nations Economic Commission for Europe (UNECE) and the United Nations Economic Commission for Latin America (UN-ECLAC). (See Annex 1 for more information.)

As the data is not comparable across countries and regions, a standardised data collection methodology – including guidelines – needs to be developed.

### Countries where data is available

Local governments exist in every country, and in theory, data could be collected from each one. Available data on women's participation in local government, however, has suffered from the following limitations:

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<sup>13</sup> Economic and Social Council, 2014, *Review and appraisal of the implementation of the Beijing Declaration and Platform for Action and the outcomes of the twenty-third special session of the General Assembly Report of the Secretary-General*, Paragraph 388, page 104.

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- inconsistent data coverage over time (some countries report regularly while others report less frequently, if at all) which results in an absence of trend data to show progress and setbacks;
- an absence of common baseline data, or a global repository of data;
- a lack of clear definitions of local government structures to be measured resulting in variation in the names and functions of the local government structures measured;
- conflation of data on councillors with data on mayor positions;
- a lack of clear methodological guidelines for data collection processes.

In attempting to address some of the challenges with existing data, UN Women has begun work on a new typology that reflects the diverse range of local government systems, to allow for international comparison. Research was commissioned on the sub-national administrative structures in 193 UN Member States. Data on each country's governance structure was collected from a combination of national government websites and secondary sources. This research distinguished the following "tiers" of local government:

- A first tier of local government could be identified as "the district" or "the department" and would include municipal corporations, administrative divisions and self-governing territories (estimated to apply to 92 countries).
- A second tier of local government could be identified as "the municipality" and would comprise cities, towns and other small urban agglomerations, usually headed by a mayor (estimated to apply to 178 countries).
- A third tier of local government might be identified as "the rural village", more prevalent in large countries with highly populated regional centres (estimated to apply to 48 countries).
- Additional tiers, where required, could be identified as "small villages" and "neighbourhoods", responsible for arbitrating local disputes and liaising between formal and informal authorities, but with little financial authority (estimated to apply to 5 countries).

### Entity for global monitoring

No organisation has to date developed a global repository of data on women's political participation at the local level. This, however, would be essential for any future global indicator. The most likely candidate is **United Cities and Local Governments (UCLG)**, a global organization representing local governments, although it is expected that guidance and capacity building would be required.

Data could also be collected on a regional basis, in which case, the role of the United Nations Regional Commissions could be strengthened, led by United Nations Economic Commission for Latin America and the Caribbean (UN-ECLAC) and the United Nations Economic Commission for Europe (UNECE), which are already collecting data on women's representation in local governments in their respective regions.

### Monitoring process

On the basis of an agreed tier structure, data would be collected using a pre-prepared template for each country, with the identified tiers of government. The typology would be shared with national statistics offices in original language, to be populated with relevant data. The data itself would

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typically be an 'administrative record'. This process is similar to that used by the Inter-Parliamentary Union in collecting data on women's participation in national parliaments.

Data would be collected for each country at the same point in time (e.g. 1 January of each year), to capture "current" the number of women in local government at that time. This allows for time comparability.

Data would need to be entered into a global repository (database), held by the entity for global monitoring, but made publicly available for potential review.

### **From IPU:**

The IPU suggests to develop an aggregate indicator which would cover women in ministerial positions, parliament and local government. This would provide for a comprehensive picture of women's participation in political decision-making structures.

The IPU collects data on women in national parliaments; it also collects data on women in ministerial positions (for the past 10 years now). The proposal would allow to build on already existing data and methodologies, and make use of available capacities. It would also enable to include new data, collected by the UN, on local government. It would furthermore enable a continuity with the indicator used for MDG3 (women in parliament).

### **Suggested Indicator 2: Proportion of seats held by women in local governments**

**NO METADATA RECEIVED**



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**Target 5.6 Ensure universal access to sexual and reproductive health and reproductive rights as agreed in accordance with the Programme of Action of the International Conference on Population and Development and the Beijing Platform for Action and the outcome documents of their review conferences.**

**Suggested Indicator 1: Proportion of women (aged 15-49) who make their own sexual and reproductive decisions.**

**From UN-WOMEN:**

### Rationale:

This is an indicator measuring specific decisions by women (aged 15-49) on their own sexuality and reproduction. Interviewees will have to provide a “yes” answer to all three questions in order to count as a woman who makes her own sexual and reproductive decisions. The first question looks at the ability to say no to sexual intercourse as a critical condition of sexual autonomy. The second question measures the woman’s decision concerning using or not using contraception. The third question measures the woman’s decision about reaching sexual and reproductive healthcare for her.

The three questions are as follows:

1. *Whether a woman can say no to her husband/partner if she does not want to have sexual intercourse (DHS q. 1054)*
2. *Whether using contraception or not using contraception has been mainly the woman’s decision (DHS phase 7 q. 819 and 820)*
3. *Whether a woman can make a decision about sexual and reproductive healthcare for herself (DHS q.922 with added language)*

### Denominator:

Women of reproductive age 15-49

### Disaggregation:

By age, location, economic quintile, education, marital status (married, in union, unmarried), and disability.

### Measurement:

Indicator will be measured through DHS and MICS covering most of low and middle income countries. In developed countries the indicator will be measured through national household surveys

**From UNFPA:**

The indicator is based on three central elements measuring the empowerment of women (married, in union and ever sexually active women) aged 15-49 to make the following decisions, : (a) whether they are able to reject unwanted sexual relations; (b) using or not using contraception; and (c) whether they can access sexual and reproductive health care for herself.

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### **Methodology**

- The methodology for this indicator has been developed by UNFPA in close collaboration with UN Women by building on available information from DHS surveys. These three questions are already included in the DHS: (a) DHS q. 1054; (b) DHS Phase 7, q. 819 & 820; (c) DHS q. 922). In all cases these questions are currently asked to women married or in union. Therefore the denominator will need to be expanded to include ever sexually active women. In the case of the last question, the current DHS question just refers to 'healthcare for herself', not specifically SRH care, which will need to be added.
- UNFPA is also compiling and analyzing data from available countries across different regions to understand better how the indicator behaves and whether some additional tweaking will be needed in the formulation of the indicator and its specific components.
- In DHS, the indicator is already disaggregated by location, economic quintile, and education. For the component related to contraceptive use the indicator is also disaggregated by method of contraception. The proposal is to add age, marital status (married, in union, unmarried) and disability.

### **Country coverage**

- For the time being, this indicator is available in approximately 70 countries covered by DHS. Meanwhile, UNFPA is holding conversations with MICS and other organizations to incorporate these questions in other surveys with a view to covering all countries on a global scale. While a combination of DHS and MICS would cover most low and middle-income countries, the possibility to integrate these questions in the *gender and generations survey* run by UNECE in several European countries and World values survey would ensure near universal coverage. A few high middle income countries such as Brazil and Mexico run their own national surveys, which tend to be similar in content to DHS.

### **Alignment between proposed sub-questions and the concept embodied in this indicator.**

- Indicator 5.6.2 measures the level of empowerment of women (aged 15-49 to make sexual and reproductive decisions. UNFPA has held a number of expert consultations on the proposed indicators in which there was a general agreement that the first question of the indicator (whether a woman can say no to a husband/partner if she does not want to have sex) is well aligned with the concept of women's empowerment.
- With regard to the second question (decision concerning using or not using contraception) the expert views as well as the initial data charts being developed for a number of countries indicate that a more clear understanding of women empowerment is obtained by looking at the indicator from the perspective of decisions being made "mainly by the partner", as opposed to decision being made "by the woman alone" or "by the

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woman jointly with the partner". Depending in the type of contraceptive method being used, a decision by the woman "alone" or "jointly with the partner" does not always entail that the woman is more empowered or has bargaining skills. Conversely, it is safe to assume that a woman that does not participate in making contraceptive choices is disempowered as far as sexual and reproductive decisions are concerned. A disaggregation by type of contraceptive method will provide a more clear understanding of the level of women's empowerment, in particular in cases such as condom use or withdrawal for which a woman's empowerment relies on her bargaining skills.

- With regard to the third question, there is a clear view that a woman's decision about seeking sexual and reproductive health care is directly related to the concept of empowerment.

### *Considerations regarding the age range of the indicator*

- UNFPA advocates for the expansion of the age range of several indicators in the SDG framework that currently rely on DHS and MICS as primary sources of information. This is critical in order to better assess the health, education and general wellbeing of very young adolescents, particularly adolescent girls aged 10-14, at a critical point in their lives in which they transition from childhood to adulthood and are exposed to specific vulnerabilities that can hamper their physical and emotional integrity and their actual development as empowered rights-holders. While this is a central concern for UNFPA, expanding the age range for indicator 5.6.1 poses particular challenges. On the one hand, household surveys would not be the most appropriate tools to capture this information given the way these surveys are designed and rolled-out. On the other hand, the ability for a very young girl to make sexual and reproductive decisions has to be seen in light of legal considerations such as the "minimum age of consent to sexual relations" and the "evolving capacity of the child". For instance a very young girl who declares that she can say "yes" to sexual intercourse may not have the level of maturity or the minimum age of consent to make a valid autonomous decision in that regard. Beyond normative and ethical considerations, these legal variables differ a lot from country to country, thus making it difficult to ensure comparability of data. It will be less problematic to capture information on the situation of very young adolescent girls through other indicators such as those related to sexual and gender-based violence (5.2) and child marriage (5.3).

### **Suggested Indicator 2: [Proportion (%) of countries with laws and regulations that guarantee all women and adolescents access to sexual and reproductive health services, information and education (official records)]**

#### **From UN-WOMEN:**

Legal/regulatory frameworks covered by this indicator include laws and regulations that explicitly guarantee:

1. Access to SRH services without third party authorization (from the spouse, guardian, parents or others);
2. Access to SRH services without restrictions in terms of age and marital status;

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### 3. Access by adolescents to SRH information and education.

Note: the indicator also measures the absence of laws that prohibit or restrict access to SRH services

Denominator: All Member States, for federal states this will be reflected in central governments' self-reporting

Sources of information and methodology:

The suggested methodology consists of initial *self-reporting by governments* through a detailed survey to be developed based on the indicators below with detailed questions that safeguard the replicability and reliability of state responses. This procedure was applied for the ICPD+20 review survey with support to governments from UNFPA's country offices where needed.

The self-reported data will undergo *validation and qualitative assessment by responsible UN agencies* assigned to the task. At this stage other stakeholders and data sources could be consulted, e.g. National Human Rights Institutions, human rights treaty bodies or other international, regional or national monitoring bodies.

Status of indicator:

Some baselines available. This indicator is universally applicable and should therefore be considered as a global indicator.

Proposed research questions:<sup>14</sup>

1. Access to SRH services without third party authorization (from the spouse, guardian, parents or others)
  - a: Are there national laws, regulations or policies that recognize a person's right to freely decide whether or not to accept health services?
  - b: Are there national laws, regulations or policies requiring someone other than the patient to provide authorization to seek and receive health services? If yes, in what circumstances? Whose authorization is required? What procedures are followed?
  - c: Do national laws, regulations or policies reflect the general principle that once a child has acquired "sufficient maturity and/or understanding" in relation to a particular decision on an important matter, he or she is entitled to make the decision independently?

\*: Provide a summary of legal/policy provisions relating to informed consent and relating to respecting the best interests, evolving capacities and views of the child.
2. Access to SRH services without restrictions on the basis of age and marital status
  - d: Are there national laws, regulations or policies that explicitly restrict access to SRH services on the basis of minimum age and marital status?

\*: Provide a summary of legal/policy provisions relating to access to SRH services for adolescents and unmarried women and girls
3. Access by adolescents to SRH information and education
  - e. Are there national laws, regulations or policies ensuring that all individuals have access to health information, including sexual and reproductive health information?

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<sup>14</sup> Based on WHO: "Reproductive, maternal, newborn and child health and human rights: A toolbox for examining laws, regulations and policies" and the ICPD+20 review survey

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f: Are there national laws, regulations or policies that regulate the provision of sexuality education in primary, secondary and higher education institutions, and for adolescents not enrolled in school?

\*: Provide a summary of legal/policy provisions relating to universal access to information and comprehensive sexuality education.

### From UNFPA:

This indicator measures the proportion of countries with laws and regulations that guarantee women and adolescents access to sexual and reproductive health services, information and education irrespective of age, marital status and without third party authorization.

### **Methodology and feasibility of data collection**

- The indicator will measure the number of countries with legal and regulatory frameworks guaranteeing access to sexual and reproductive services, education and information without any of the above restrictions. Therefore, to count as a “yes” all the four requirements included in this indicator will need to be met: (i) access without third party authorization; (ii) access without age restrictions; (iii) access irrespective of marital status; and (iv) access to education and information at all levels. For countries counting as “no”, nevertheless, data will be disaggregated in accordance to each of those requirements to be able to measure progress on each particular front.

### **Sources of information and methodology:**

- The suggested methodology consists of initial **self-reporting by governments** through a detailed survey to be developed based on the indicators below with detailed questions that safeguard the replicability and reliability of state responses. This procedure was successfully applied for the ICPD+20 review survey with support to governments from UNFPA’s country offices where needed.
- Information provided by States can be complemented with information from UN treaty monitoring bodies, including the Committee on Elimination of All Forms of Discrimination Against Women, the Committee on the Rights of the Child and the Committee on Economic, Social and Cultural Rights. These three committees are systematically collecting information and issuing recommendations to State parties on all the issues covered by this indicator. A combined use of these three committees as sources of information will ensure near universal coverage of States and will also increase the periodicity of information.
- Moreover, other actors with a monitoring role such as regional human rights mechanisms, national human rights institutions and civil society organizations often provide information on the components covered by this indicator. UN agencies such as WHO, UNFPA and UN Women also compile country specific information on legal and regulatory developments on issues pertaining to their respective mandates.

### **Status of indicator:**

- Baseline information is already available from WHO on laws and regulations and third party authorization. UNFPA will be gathering additional information on all the other requirements by drawing on the concluding observations issued by the UN treaty monitoring bodies listed above.

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### Proposed research questions for future surveys with member States:<sup>15</sup>

#### **1. Access to SRH services without third party authorization (from the spouse, guardian, parents or others)**

a: Are there national laws and regulations that recognize a person's right to freely decide whether or not to accept health services?

b: Are there national laws and regulations requiring someone other than the patient/client to provide authorization to seek and receive health services? If yes, in what circumstances? Whose authorization is required? What procedures are followed?

c: Do national laws and regulations reflect the general principle that once a child has acquired "sufficient maturity and/or understanding" in relation to a particular decision on an important matter, he or she is entitled to make the decision independently?

\*: Provide a summary of legal provisions relating to informed consent and relating to respecting the best interests, evolving capacities and views of the child.

#### **2. Access to SRH services without restrictions on the basis of age and marital status**

d: Are there national laws and regulations that explicitly restrict access to SRH services on the basis of minimum age and marital status?

\*: Provide a summary of legal/policy provisions relating to access to SRH services for adolescents and unmarried women and girls

e: Are there national laws and regulations that explicitly ensure access to SRH services without restrictions of age and marital status?

#### **3. Access by adolescents to SRH information and education**

f: Are there national laws and regulations ensuring that all individuals have access to health information, including sexual and reproductive health information?

g: Are there national laws and regulations that regulate the provision of sexuality education in primary, secondary and higher education institutions, and for adolescents not enrolled in school?

\*: Provide a summary of legal/policy provisions relating to universal access to information and comprehensive sexuality education.

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<sup>15</sup> Based on WHO: "Reproductive, maternal, newborn and child health and human rights: A toolbox for examining laws, regulations and policies" and the ICPD+20 review survey

## Goal 5 Achieve gender equality and empower all women and girls

**Target 5.a Undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with national laws.**

**Suggested Indicator 1: Share of women among agricultural land owners by age and location (U/R)**

**From FAO:**

Precise definition of the indicator

Definition of indicator:

$$\frac{\text{((Female Agricultural Landowners))}}{\text{(Total Agricultural Landowners)}} \cdot 100$$

Definition of landowner:

The landowner is the legal owner of the land. However, definitions of ownership may vary across countries and surveys. For instance, documented ownership means that ownership is verified through title or deed, while reported ownership relies on individuals' own judgment. Additionally, in some countries, it is more appropriate to investigate land ownership using proxies able to capture a "bundle of rights". Therefore, the indicator will need to be complemented with metadata that specify what definition(s) of ownership is employed.

How is the indicator linked to the specific TARGET as worded in the OWG report and copied above?

The indicator is related to Goal 1, target 1.4: "By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance."

More specifically, this indicator monitors "ownership of land" and it is particularly useful in terms of framing gender differences in land ownership whilst relating them specifically to the population of interest, namely landowners. As such it gives a clearer picture of gender inequalities in land ownership, than for instance looking at the incidence of female ownership in the entire population of a country. An increase in the percentage of women owning land indicates that, within the population of interest (ie., the landowners), progress is made towards achieving equal rights to land among men and women..

In addition, the indicator focuses on agricultural land, because agricultural land is a productive resource, and focusing on agricultural landownership gives a clearer indication of empowerment, compared to lands used for other purposes that are not economically-related. This is particularly true in developing countries.

Does the indicator already exist and is it regularly reported?

The indicator already exists.

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Until now, the indicator has been collected mainly through the LSMS-ISA surveys and to a smaller extent through DHS surveys in collaboration with National Institutes of Statistics. At the time of writing, the indicator is readily available for 11 countries. Additional, but yet unprocessed surveys (e.g., DHS, LSMS, national household income and expenditure surveys etc.) lead to a conservative estimate of an additional 15 countries for which the indicator could be derived. It cannot be excluded that many other surveys not currently available to FAO would be potential sources as well, for countries not covered by LSMS or DHS. Thanks to a fruitful cooperation with IFPRI, FAO is already disseminating the available data for through the Gender and Land Rights Database (GRLD). In the next future, the same data will be also disseminated through the Rural Livelihood Monitoring (RLM) platform. The new World Programme for Agricultural Census (WCA 2020) has proposed the collection of land ownership data disaggregated by sex as a supplementary item. Furthermore, the FAO Statistics Division is starting a project called AGRIS (Agricultural Integrated Surveys) through which methodological guidelines will be provided to countries on how to conduct farm surveys (i.e. key indicators to collect, definitions, methods for data collection, periodicity, etc.), and effort will also be made to support countries in the actual implementation of the farm surveys. By doing so, the availability of this indicator will increase substantially in the future.

While comparability across countries (mainly due to differing ownership definitions) and low current availability pose a challenge to this indicator, it is still fair to consider the indicator superior to the “share of female agricultural holders” because it captures ownership in a strict sense instead of management and, more importantly, because it provides intra-holding/household information.

It also worth mentioning, that the EDGE (Evidence and Data for Gender Equality) initiative has chosen the “proportion of the (adult) population who own land, by sex”, as one of 16 total indicators to be collected across countries as part of the initiative . It also figures as one of the 52 indicators included in the Minimum Set of Gender Indicators approved by the UN Statistical Commission. This further underlines the recognised importance of reporting on land ownership by sex.

Comment on the reliability, potential coverage, comparability across countries, and the possibility to compute the indicator at sub-national level.

### Reliability

The indicator is expected to be reliable because the identification of the plot owner(s) in household surveys is a feasible task. Household surveys are usually done on a sample basis and are statistically representative at national and subnational level.

### Coverage

The indicator is nationally representative insofar the survey data is nationally representative. The indicator can be collected periodically (about every 2-4 years) which is a reasonable frequency to capture significant changes in land ownership.

### Comparability across countries



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Different country definitions of ownership can be problematic. Also, the indicator is collected in different years, depending on when surveys are conducted in individual countries. This can negatively affect comparability across countries.

Sub-national estimates

It is possible to disaggregate the indicator by geographic areas if the surveys are representative for these areas. The level of disaggregation depends on the sample design of the surveys.

Is there a baseline value for 2015?

We do not expect this indicator to change rapidly.

It is worth highlighting that the baseline and follow-up values will be different across countries. To ensure correct comparisons linear interpolation between the actual data points will be necessary.

**Suggested Indicator 2: The legal framework includes special measures to guarantee women's equal rights to land ownership and control.**

**From FAO:**

### 1. Precise definition of the indicator

The precise definition of this indicator is: *"The legal framework includes special measures to guarantee women's equal rights to landownership and control"*.

The indicator monitors reforms that give women equal rights to economic resources, as well as access to ownership and control over land. More specifically, the indicator allows for monitoring progress towards gender equity through the adoption of women-specific measures to promote women's secure rights to land. The indicator has a scoring system from 0 to 4, which signals the stage in the policy/legal framework working towards legal reform, as follows:

Score 0: Absence of the indicator in the legal framework

Score 1: A policy is being developed

Score 1.5: A policy is in place

Score 2: A draft legislation is to be submitted for deliberations

Score 3: The indicator appears in primary law

Score 4: The indicator appears in multiple legal instruments

N/A: Not applicable

The indicator considers whether:

- National legal framework gives priority to women heads of household under land distribution and titling programmes;

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- National legal framework establishes targeted government funds to increase women access to land;
- Joint titling of private property (or user rights) is compulsory in the registration process for husband and wife;

The proposed indicator is supported by a number of international instruments, including:

- Maputo Protocol, Article 19(c):
- “States Parties shall **take all appropriate measures to [...] promote women’s access to and control over productive resources** such as land and guarantee their right to property”;
- It is in line with the Voluntary Guidelines for Responsible Governance of Tenure of Land, Fisheries and Forests (VGGT). Namely:
  - Principle 4 on Gender equality: “Ensure the equal right of women and men to the enjoyment of all human rights, while acknowledging differences between women and men and **taking specific measures** aimed at accelerating de facto equality when necessary. States should ensure that women and girls have equal tenure rights and access to land, fisheries and forests independent of their civil and marital status.”
  - Section 25.6: “**Special procedures** should, where possible, provide the vulnerable, including widows and orphans, with secure access to land, fisheries and forests.”

### 2. How is the indicator linked to the specific TARGET as worded in the OWG report and copied above?

The indicator is related to Goal 5, target 5a: “Undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with national laws.”

In particular, the indicator monitors legal reforms that promote **women’s land rights and increase their access and ownership of productive resources** through land ownership or other special measures. It provides a good indication of government’s efforts to move towards the realization of women’s land rights and more gender-equal land tenure.

### 3. Does the indicator already exist and is it regularly reported?

The indicator exists. It is being collected through the analysis of the legal and policy framework as part of the Legislation Assessment Tool for gender-equitable land tenure (LAT) of the Gender and Land Rights Database.

The indicator is not reported as such by the countries, but information can be extrapolated from the countries’ national laws. The legal information is mainly accessible in FAO’s FAOLEX a database that collects legal material from the official gazettes, compiling texts of laws and regulations that are sent by FAO’s Member Nations pursuant to Article XI of the FAO Constitution. The information is also available in as well as LandWise (Landesa).

The indicator is disseminated through the FAO’s Gender and Land Rights database (GLRD) through its Legislation Assessment Tool.

The indicator has been applied to 18 countries and the results are available on the LAT map of the GLRD. The complete LAT analysis can be expanded to 83 countries and validated by national legal experts with a total investment of US\$450,000 partly funded by FAO. Results are comparable across

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countries; however, the indicator available in the GRLD only applies to the national legal framework and does not include regional legal frameworks.

- 1. Comment on the reliability, potential coverage, comparability across countries, and the possibility to compute the indicator at sub-national level.**

### Reliability

We expect this indicator to be accurate because it reflects the existence of legal measures to promote women's land rights and or productive resources. The indicator will have a value of 1 if one or more legal measures promote women's land rights (as the examples shown above) exist in the country legal framework.

### Coverage

The indicator is nationally representative insofar these special measures apply to the national level.

### Comparability across countries

As mentioned above, the indicator is comparable across countries. Even if countries take different promotional measures according to their context, the indicator measures whether countries are undertaking any legal measure to promote women's rights to land property and/or other productive resources.

### Sub-national estimates

The indicator can be used as a sub-national indicator when special laws and legal procedures pertaining to one geographic area is analysed. However, up till now this indicator is only available at national level.

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**Target 5.b Enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women.**

**Suggested Indicator: Proportion of individuals who own a mobile telephone, by sex**

**From ITU, UN-WOMEN and Partnership on Measuring ICT for Development:**

### **Definition and method of computation:**

This indicator is defined as the 'proportion of individuals who own a mobile telephone, by sex'. An individual owns a mobile cellular phone if he/she has a mobile cellular phone device with at least one active SIM card for personal use. Mobile cellular phones supplied by employers that can be used for personal reasons (to make personal calls, access the Internet, etc.) are included. Individuals who have only active SIM card(s) and not a mobile phone device are excluded. Individuals who have a mobile phone for personal use that is not registered under his/her name are also included. An active SIM card is a SIM card that has been used in the last three months.

*A mobile (cellular) telephone* refers to a portable telephone subscribing to a public mobile telephone service using cellular technology, which provides access to the PSTN. This includes analogue and digital cellular systems and technologies such as IMT-2000 (3G) and IMT-Advanced. Users of both postpaid subscriptions and prepaid accounts are included.

Countries can collect data on this indicator through national household surveys. This indicator is calculated by dividing the total number of in-scope individuals who own a mobile phone by the total number of in-scope individuals.

### **Rationale and interpretation**

Mobile phone networks have spread rapidly over the last decade and the number of mobile-cellular subscriptions is quasi equal to the number of the people living on earth. However, not every person uses, or owns a mobile-cellular telephone. Mobile phone ownership, in particular, is important to track gender equality since the mobile phone is a personal device that, if owned and not just shared, provides women with a degree of independence and autonomy, including for professional purposes. A number of studies have highlighted the link between mobile phone ownership and empowerment, and productivity growth.

Existing data on the proportion of women owning a mobile phone suggest that less women than men own a mobile phone. This indicator highlights the importance of mobile phone ownership to track and to improve gender equality, and monitoring will help design targeted policies to overcome the gender divide. The collection of this indicator was proposed by the Task Group on Gender of the Partnership on Measuring ICT for Development.

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### Sources and data collection

This indicator is a newly developed ITU indicator that was approved by the World Telecommunication/ICT Indicators Symposium (WTIS) 2014. The indicator definition and methodology were developed under the coordination of ITU, through its Expert Groups and following an extensive consultation process with countries. Data for the proportion of individuals owning a mobile phone will be collected through an annual questionnaire that ITU sends to national statistical offices (NSO), starting in 2015. In this questionnaire, through which ITU already collects a number of ICT indicators, ITU collects absolute values. The percentages are calculated a-posteriori. The survey methodology is verified to ensure that it meets adequate statistical standards. The data are verified to ensure consistency with previous years' data and other relevant country-level indicators (ICT and economic).

Data are usually not adjusted, but discrepancies in the definition, age scope of individuals, reference period or the break in comparability between years are noted in a data note. For this reason, data are not always strictly comparable.

A number of countries already collect this indicator through official surveys but data will only be collected at the international level as of 2015.

### Disaggregation

For countries that collect this indicator through a national household survey, and if data allow breakdown and disaggregation, the indicator can be broken down not only by sex but also by region (geographic and/or urban/rural), by age group, by educational level, by labour force status, and by occupation. ITU will collect data for all of these breakdowns from countries.

### Comments and limitations

While the data on the 'proportion of individuals who own a mobile telephone' currently only exist for very few countries, ITU is encouraging all countries to collect data on this indicator through national household surveys and the indicator is expected to be added to the Partnership on Measuring ICT for Development's Core List of Indicators. The number of countries with official data for this indicator is expected to increase in the near future.

### Gender equality issues

Discrepancies exist between the proportion of men and women that access, own, use, and benefit from ICTs and this indicator is important to track the gender digital divide. Mobile phone ownership (as opposed to shared ownership), in particular, is important for a person's independence and autonomy, and increases the potential to fully benefit from mobile communications.

### Data for global and regional monitoring

Data collection for this indicator will only commence in 2015 and no regional or global figures are available (yet).

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### **Supplementary information**

Once ITU has included this indicator in its regular data collection, year-end estimates will be released in December of the following year through the ITU World Telecommunication/ICT Indicators Database.

### **References:**

Since the definition and methodology of this indicator will only be collected as of 2015, the indicator is not yet included in the [ITU Manual for Measuring ICT Access and Use by Households and Individuals 2014](#). It will be included in the next version of the Manual.

For a discussion on the importance of this indicators, see also the [UNCTAD, Measuring ICT and gender: an assessment](#).

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**Target 5.c** Adopt and strengthen sound policies and enforceable legislation for the promotion of gender equality and the empowerment of all women and girls at all levels.

**Suggested Indicator:** Percentage of countries with systems to track and make public allocations for gender equality and women's empowerment

**NO METADATA RECEIVED**

## Goal 6 Ensure availability and sustainable management of water and sanitation for all

**Target 6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all.**

**Suggested Indicator 1: Percentage of population using safely managed drinking water services**

**From UN-WATER, WHO and UNICEF:**

<p><b>Definition and method of computation</b></p>	<p><b>Definition:</b> Population using a basic drinking water source ('improved' sources of drinking water used for MDG monitoring i.e. piped water into dwelling, yard or plot; public taps or standpipes; boreholes or tubewells; protected dug wells; protected springs and rainwater) which is located on premises and available when needed and free of faecal (and priority chemical) contamination.</p> <p><b>Method of computation:</b> Household surveys and censuses currently provide information on types of basic drinking water sources listed above, and also indicate if sources are on premises. These data sources often have information on the availability of water and increasingly on the quality of water at the household level, through direct testing of drinking water for faecal or chemical contamination. These data will be combined with data on availability and compliance with drinking water quality standards (faecal and chemical) from administrative reporting or regulatory bodies.</p> <p>The WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation (JMP) estimates access to basic services for each country, separately in urban and rural areas, by fitting a regression line to a series of data points from household surveys and censuses. This approach was used to report on use of 'improved water' sources for MDG monitoring. The JMP is evaluating the use of alternative statistical estimation methods as more data become available.</p> <p>The accompanying Statistical Note describes in more detail how data on availability and quality from different sources, can be combined with data on use of different types of supplies, as recorded in the current JMP database to compute the proposed indicator.</p> <p><b>Predominant type of statistics:</b> national estimates adjusted for global comparison.</p>
<p><b>Rationale and interpretation</b></p>	<p>MDG target 7C called for 'sustainable access' to 'safe drinking water'. At the start of the MDG period, there was a complete lack of nationally representative data about drinking water safety in developing countries, and such data were not collected through household surveys or censuses. The JMP developed the indicator use of 'improved' water sources, which was used as a proxy for 'safe water', as such sources are likely to be protected against faecal contamination, and this metric has been used since 2000 to track progress towards the MDG target. International consultations since 2011 have established consensus on the need to build on and address the shortcomings of this indicator; specifically, to address normative criteria of the human right to water including accessibility, availability, and quality.</p> <p>The above consultation concluded that JMP should go beyond the basic level of access and address safe management of drinking water services, including dimensions of accessibility, availability and quality. The proposed indicator of 'safely managed drinking water services' is designed to address this.</p>



## Goal 6 Ensure availability and sustainable management of water and sanitation for all

<b>Sources and data collection</b>	<p>Access to water and sanitation are considered core socio-economic and health indicators, and key determinants of child survival, maternal, and children’s health, family wellbeing, and economic productivity. Drinking water and sanitation facilities are also used in constructing wealth quintiles used by many integrated household surveys to analyse inequalities between rich and poor. Access to drinking water and sanitation is therefore a core indicator for most household surveys. Currently JMP database holds around 1600 such surveys and for over 140 countries, at least five data points are available which include information about basic water and sanitation for the period 1990-2015. In high-income countries where household surveys or censuses do not usually collect information on basic access, estimates are drawn from administrative records.</p> <p>Data on availability and faecal and chemical quality of drinking water, and regulation by appropriate authorities will be collected by JMP through consultation with the government departments responsible for drinking water supply and regulation. JMP routinely conducts country consultations with national authorities before publishing country estimates. Data on availability and quality of water supplies are currently available from household surveys or administrative sources including regulators for over 70 high-income countries, and at least 30-40 low- and middle-income countries. Thus, data are currently available from ca. 100 countries, covering the majority of the global population. This number will rise as regulation becomes more widespread in low- and middle-income countries.</p> <p>The population data used by JMP, including the proportion of the population living in urban and rural areas, are those routinely updated by the UN Population Division.</p>
<b>Disaggregation/ additional dimension</b>	<p>Place of residence (urban/rural) and socioeconomic status (wealth, affordability) is possible for all countries. Disaggregation by other stratifiers of inequality (subnational, gender, disadvantaged groups, etc.) will be made where data permit. Drinking water services will be disaggregated by service level, including no service, basic, and safely managed services.</p> <p>Disaggregation by disability can be obtained by including the functioning questions included the World Health Survey (<a href="http://www.who.int/healthinfo/survey/en/">http://www.who.int/healthinfo/survey/en/</a>), WHO Study on global AGEing and adult health (<a href="http://www.who.int/healthinfo/sage/en/">http://www.who.int/healthinfo/sage/en/</a>) or WHO Model Disability Survey (<a href="http://www.who.int/disabilities/data/mds/en/">http://www.who.int/disabilities/data/mds/en/</a>) in population-based health surveys. Data by disability (i.e. by household with a persons with disabilities) was also collected in World Health Surveys (2003-4) and is currently being collected and will continue to be collected through the WHO Study on Ageing and Adult Health (SAGE).</p>
<b>Comments and limitations</b>	<p>Data on availability and safety of drinking water is increasingly available through a combination of household surveys and administrative sources including regulators, but definitions have yet to be standardized. Data on faecal and chemical contamination, drawn from household surveys and regulatory databases, will not cover all countries immediately. However, sufficient data exist to make global and regional estimates of safely managed drinking water services by the time the global community adopts the SDG indicators in 2016/17.</p>
<b>Gender equality issues</b>	<p>In household surveys access to drinking water is measured at the household level and in most cases it is not possible to disaggregate to accurately measure intra-household inequalities such as sex, age, or disability. Gender-specific data are available for household management of drinking water, and the time spent for water collection (including waiting time at public supply points) can be used as a proxy for gender equality.</p>
<b>Data for global and regional monitoring</b>	<p>JMP will draw upon the national data described above, and regional and global aggregations will be made in a similar fashion as has been done for MDG reporting. Estimates of faecal and chemical contamination, and regulation by appropriate authorities, will be collected from countries and used to adjust the data on use of basic drinking water sources as needed.</p>
<b>Supplementary</b>	<p>JMP has developed a detailed Statistical Note outlining and illustrating proposals for measuring</p>

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<b>information</b>	safely managed drinking water services, building on the Statistical Note shared at the Expert Group Meeting in February 2015. JMP will continue to measure and report on use of ‘basic’ and unimproved drinking water sources as part of its drinking water ladder to ensure continuity with MDG monitoring.
<b>References</b>	<p>The most recent JMP report: Progress on sanitation and drinking water – 2015 update and MDG assessment. New York: UNICEF/WHO, 2015.  <a href="http://www.wssinfo.org/fileadmin/user_upload/resources/JMP-Update-report-2015_English.pdf">http://www.wssinfo.org/fileadmin/user_upload/resources/JMP-Update-report-2015_English.pdf</a>  <a href="http://www.wssinfo.org/definitions-methods/data-sources/">http://www.wssinfo.org/definitions-methods/data-sources/</a></p> <p>WASH targets and indicators post-2015: recommendations from international consultations. Geneva: Water Supply and Sanitation Collaborative Council; 2014  <a href="http://www.wssinfo.org/fileadmin/user_upload/resources/post-2015-WASH-targets-factsheet-12pp.pdf">http://www.wssinfo.org/fileadmin/user_upload/resources/post-2015-WASH-targets-factsheet-12pp.pdf</a></p> <p>Methodological note on monitoring WASH and wastewater for the SDGs:  <a href="http://www.wssinfo.org/fileadmin/user_upload/resources/Methodological-note-on-monitoring-SDG-targets-for-WASH-and-wastewater_WHO-UNICEF_8October2015_Final.pdf">http://www.wssinfo.org/fileadmin/user_upload/resources/Methodological-note-on-monitoring-SDG-targets-for-WASH-and-wastewater_WHO-UNICEF_8October2015_Final.pdf</a>.</p> <p>Guidelines for drinking water quality, fourth edition. Geneva: WHO; 2011.  <a href="http://www.who.int/water_sanitation_health/publications/2011/dwq_guidelines/en/">http://www.who.int/water_sanitation_health/publications/2011/dwq_guidelines/en/</a></p> <p>JMP Task Force on Methods Final Report. New York: WHO/UNICEF, December 2014.  <a href="http://www.wssinfo.org/task-forces/">http://www.wssinfo.org/task-forces/</a></p>

**Suggested Indicator 2: Average weekly time spent in water collection (including waiting time at public supply points), by sex, age, location and income.**

**From UN-WOMEN:**

<b>Definition and method of computation</b>	Average weekly time spent in water collection (including waiting time at public supply points), by sex, age, and location
<b>Rationale and interpretation</b>	For many developing countries, accessibility of improved water sources is of fundamental significance to reducing women’s unpaid domestic and care work burden because it reduces time spent collecting water, a task that is commonly carried out by women and girls. [1]
<b>Sources and data collection</b>	Data for this indicator can be collected through time use surveys by adding questions related to the time it takes and the frequency of water collection in existing surveys. [1]
<b>Disaggregation</b>	<p>Recommended disaggregation for this indicator are:</p> <ul style="list-style-type: none"> <li>• Sex</li> <li>• Age</li> <li>• Location</li> <li>• Marital status <ul style="list-style-type: none"> <li>- <i>Urban-rural location.</i></li> </ul> </li> <li>• Income <ul style="list-style-type: none"> <li>- <i>Income group deemed relevant in the country context.</i></li> </ul> </li> <li>• Other characteristics such as disability, race, caste, ethnicity etc. as relevant</li> </ul>

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<b>Comments and limitations</b>	In terms of linkages, this indicator can also be used to monitor <i>Target 6.1: By 2030, achieve universal and equitable access to safe and affordable drinking water for all.</i>
<b>Gender equality issues</b>	In assessing equity in access to drinking water, it is important to consider its gender dimensions.
<b>Data for global and regional monitoring</b>	This indicator is currently Tier III
<b>Supplementary information</b>	
<b>References</b>	[1] UN Women, <i>Monitoring Gender Equality and the Empowerment of Women and Girls in the 2030 Agenda for Sustainable Development: Opportunities and Challenges</i> , UN Women, New York, 2015.

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**Target 6.2 By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations.**

**Suggested Indicator: Percentage of population using safely managed sanitation services**

**From UN-Water, WHO and UNICEF:**

<p><b>Definition and method of computation</b></p>	<p><b>Definition:</b> Population using a basic sanitation facility at the household level ('improved' sanitation facilities used for MDG monitoring i.e. flush or pour flush toilets to sewer systems, septic tanks or pit latrines, ventilated improved pit latrines, pit latrines with a slab, and composting toilets, the same categories as improved sources of drinking water used for MDG monitoring) which is not shared with other households and where excreta is safely disposed in situ or treated off-site. This is therefore a multipurpose indicator also serving the household element of the wastewater treatment indicator (6.3.1)</p> <p><b>Method of computation:</b> Household surveys and censuses provide data on use of types of basic sanitation facilities listed above. The percentage of the population using safely managed sanitation services is calculated by combining data on the proportion of the population using different types of basic sanitation facilities with estimates of the proportion of faecal waste which is safely disposed in situ or treated off-site.</p> <p>The JMP estimates access to basic sanitation facilities for each country, separately in urban and rural areas, by fitting a regression line to a series of data points from household surveys and censuses. This approach was used to report on use of 'improved sanitation' facilities for MDG monitoring. The JMP is evaluating the use of alternative statistical estimation methods as more data become available.</p> <p>The Statistical Note describes in more detail how 'safety factors', or the proportion of household wastewater that is safely disposed of in situ or transported to a designated place, will be generated through a national assessment process, and combined with data on use of different types of supplies, as recorded in the current JMP database. Calculation of safety factors for safe management of sanitation are the same used for safety factors for wastewater treatment required for household part of the indicator 6.3.1.</p> <p><b>Predominant type of statistics:</b> national estimates adjusted for global comparison.</p>
<p><b>Rationale and interpretation</b></p>	<p>MDG target 7C called for 'sustainable access' to 'basic sanitation'. JMP developed the metric of use of 'improved' sanitation facilities, which are likely to hygienically separate human excreta from human contact, and has used this indicator to track progress towards the MDG target since 2000. International consultations since 2011 have established consensus on the need to build on and address the shortcomings of this indicator; specifically, to address normative criteria of the human right to water including accessibility, acceptability, and safety. Furthermore, the safe management of faecal wastes should be considered, as discharges of untreated wastewater into the environment create public health hazards.</p> <p>The above consultation concluded that post-2015 targets, which apply to all countries, should go beyond the basic level of access and address indicators of safe management of sanitation services, including dimensions of accessibility, acceptability and safety. The Expert Working Group called for analysis of faecal waste management along the sanitation chain, including containment, emptying of latrines and septic tanks, and safe on-site disposal or transport of wastes to designated treatment sites. Classification of treatment will be based on categories defined by SEEA and the International Recommendations for Water Statistics and following a ladder approach (primary, secondary and tertiary treatment),</p>

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<b>Sources and data collection</b>	<p>Access to water and sanitation are considered core socio-economic and health indicators, and key determinants of child survival, maternal, and children’s health, family wellbeing, and economic productivity. Drinking water and sanitation facilities are also used in constructing wealth quintiles used by many integrated household surveys to analyse inequalities between rich and poor. Access to drinking water and sanitation is therefore a core indicator for most household surveys. Currently JMP database holds around 1600 such surveys and for over 140 countries, at least five data points are available which include information about basic water and sanitation for the period 1990-2015. In high income countries where household surveys or censuses do not usually collect information on basic access, estimates are drawn from administrative records.</p> <p>Estimates of excreta management will be collected from countries and used to adjust the data on use of basic sanitation facilities as needed. Administrative, population and environmental data can also be combined to estimate safe disposal or transport of excreta, when no country data are available. Data on disposal or treatment of excreta are limited but estimates for safe management of faecal wastes can be calculated based on faecal waste flows associated with the use of different types of basic sanitation facility.</p> <p>The population data used by JMP, including the proportion of the population living in urban and rural areas, are those established by the UN Population Division.</p>
<b>Disaggregation/ additional dimension</b>	<p>Place of residence (urban/rural) and socioeconomic status (wealth, affordability) is possible for all countries. Disaggregation by other stratifiers of inequality (subnational, gender, disadvantaged groups, etc.) will be made where data permit. Sanitation services will be disaggregated by service level, including no service, shared, basic, and safely managed services. Supplementary geospatial analysis will be made to identify populations most at risk of exposure to untreated wastewater.</p> <p><i>Disaggregation by disability can be obtained by including the functioning questions included the World Health Survey (<a href="http://www.who.int/healthinfo/survey/en/">http://www.who.int/healthinfo/survey/en/</a>), WHO Study on global AGEing and adult health (<a href="http://www.who.int/healthinfo/sage/en/">http://www.who.int/healthinfo/sage/en/</a>) or WHO Model Disability Survey (<a href="http://www.who.int/disabilities/data/mds/en/">http://www.who.int/disabilities/data/mds/en/</a>) in population-based health surveys. Data by disability (i.e. by household with a persons with disabilities) was also collected in World Health Surveys (2003-4) and is currently being collected and will continue to be collected through the WHO Study on Ageing and Adult Health (SAGE).</i></p>
<b>Comments and limitations</b>	<p>A framework for measuring faecal waste flows and safety factors has been developed and piloted in 12 countries (World Bank Water and Sanitation Program, 2014), and is being adopted and scaled up by key elements of the sanitation sector. This framework has served as the basis for monitoring plans for indicators 6.2.1 and 6.3.1. Data on safe disposal and treatment is not available for all countries immediately. However, sufficient data exist to make global and regional estimates of safely managed sanitation services by the time the global community adopts the SDG indicators in 2016/17.</p>
<b>Gender equality issues</b>	<p>In household surveys access to sanitation facilities is measured at the household level and in most cases in not possible to disaggregate to accurately measure intra-household inequalities such as sex, age, or disability. Novel data sources, like rapid assessment methods, or crowd-sourced data could be utilized to see intra-household disparity in access or gender discrimination on the use of safe management of sanitation services.</p>
<b>Data for global and regional monitoring</b>	<p>JMP will draw upon the national data described above, and regional and global aggregations will be made in a similar fashion as has been done for MDG reporting.</p>
<b>Supplementary information</b>	<p>JMP has developed a detailed statistical note outlining and illustrating proposals for measuring safely managed sanitation services. JMP will continue to measure and report on</p>

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	use of 'basic' sanitation facilities as a subset of safely managed sanitation services.
<b>References</b>	<p>Progress on sanitation and drinking water – 2015 update and MDG assessment. New York: UNICEF/WHO, 2015.  <a href="http://www.wssinfo.org/fileadmin/user_upload/resources/JMP-Update-report-2015_English.pdf">http://www.wssinfo.org/fileadmin/user_upload/resources/JMP-Update-report-2015_English.pdf</a></p> <p>Methodological note on monitoring WASH and wastewater for the SDGs:  <a href="http://www.wssinfo.org/fileadmin/user_upload/resources/Methodological-note-on-monitoring-SDG-targets-for-WASH-and-wastewater_WHO-UNICEF_8October2015_Final.pdf">http://www.wssinfo.org/fileadmin/user_upload/resources/Methodological-note-on-monitoring-SDG-targets-for-WASH-and-wastewater_WHO-UNICEF_8October2015_Final.pdf</a>.</p> <p>WASH targets and indicators post-2015: recommendations from international consultations. Geneva: Water Supply and Sanitation Collaborative Council; 2014  <a href="http://www.wssinfo.org/fileadmin/user_upload/resources/post-2015-WASH-targets-factsheet-12pp.pdf">http://www.wssinfo.org/fileadmin/user_upload/resources/post-2015-WASH-targets-factsheet-12pp.pdf</a></p> <p>The Missing Link in Sanitation Service Delivery: A Review of Fecal Sludge Management in 12 Cities. World Bank Water and Sanitation Program, 2014.  <a href="http://documents.worldbank.org/curated/en/2014/04/19549016/targeting-urban-poor-improving-services-small-towns-missing-link-sanitation-service-delivery-review-fecal-sludge-management-12-cities">http://documents.worldbank.org/curated/en/2014/04/19549016/targeting-urban-poor-improving-services-small-towns-missing-link-sanitation-service-delivery-review-fecal-sludge-management-12-cities</a></p>

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**Target 6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.**

**Suggested Indicator 1: Percentage of wastewater safely treated , disaggregated by economic activity**

**From UN-Water, WHO and UNICEF:**

<p><b>Definition and method of computation</b></p>	<p><b>Definition:</b> Proportion of wastewater generated both by households (sewage and faecal sludge), as well as economic activities (based on ISIC categories) safely treated compared to total wastewater generated both through households and economic activities. While the definition conceptually includes wastewater generated from all economic activities, monitoring will focus on wastewater generated from hazardous industries (as defined by relevant ISIC categories).</p> <p><b>Method of computation:</b> The wastewater safely treated is calculated by combining the percentage of household (sewage and faecal sludge) wastewater and the percentage of wastewater from hazardous industries treated.</p> <p>Household surveys and censuses provide information on use of types of basic sanitation facilities. These estimates are combined with safety factors for on-site disposal and for transportation to designated places for safe disposal or treatment, as described in indicator 6.2.1. The information generated for indicator 6.2.1 will be combined with safety factors describing the proportion of wastewater from hazardous industries which is safely treated before disposal or reuse to produce indicator 6.3.1. Calculation of safety factors for household wastewater (sewage and faecal sludge) treatment will be coordinated with estimation of similar safety factors for safe management of sanitation required for indicator 6.2.1.</p> <p>The accompanying Statistical Note describes in more detail how ‘safety factors’ for wastewater treatment, disposal and reuse will be generated through a national assessment process, and combined with data on use of different types of sanitation facilities, as recorded in the current JMP database.</p> <p>Statistical methods for measurement of the wastewater treatment (called “wastewater to sewerage” by SEEA-Water) align with the SEEA definitions and treatment categories (primary, secondary, tertiary). Statistical methods for the treatment of industrial wastewater align with the SEEA definitions and treatment categories using ISIC classifications and treated volumes from permits data.</p>
<p><b>Rationale and interpretation</b></p>	<p>SDG proposed target calls for reducing water pollution, minimizing release of hazardous chemical and increasing treatment and reuse. Household wastewater includes faecal waste from onsite facilities (such as emptying and cleaning of cesspools and septic tanks, sinks and pits) as well as off-site wastewater treatment plants according to the ISIC definition 3700 for “Sewerage”. Inclusion of onsite facilities is critical from a public health, environment and equity perspective since approximately two thirds people globally use on-site facilities.</p> <p>Industrial wastewater (which includes point source agricultural discharges) responds to minimizing release of hazardous chemicals. Diffuse agricultural pollution is a major source of water pollution but cannot be monitored at source and therefore its impact on ambient water quality will be monitored under 6.3.2.</p>
<p><b>Sources and data collection</b></p>	<p>The aim is to cover households and the entire economy, and to build on the monitoring framework of JMP, AQUASAT, IBNET, UNSD/UNEP Water Questionnaire for non OECD/Eurostat countries, OECD/Eurostat Questionnaire for OECD countries, etc., as well as</p>

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	<p>pop density, depth to groundwater, land-use/land-cover data from earth observations. Statistical methods for measurement of wastewater treatment will align with the SEEA<sup>16</sup> statistical standard and associated definitions, classifications and treatment categories.</p> <p>The calculation of the indicator value as derived from the framework is the amount treated (off-site and on-site) divided by the total amount of waste generated. The indicator for household wastewater could be expressed in population as expressed in indicator 6.2.1. Data will come from a variety of sources combining utility and regulator data for off-site and potentially household survey questions and measurements relating to onsite treatment supplemented by modelled estimates where no reliable national data exist.</p> <p>The total volume of industrial wastewater (the denominator) can be reliably estimated from an inventory of industries, maintained by vast majority of member states through International Standard Industrial Classification from all economic activities, revision 4, ISIC Rev417). This can be populated from databases and records held by Ministries of Industry, Tax offices, local authority registries etc. For each industry, records will be available on the amount of water they abstract from municipal supplies or from boreholes or other sources. Given the knowledge of the type of industry, from and a mass balance of products in and out, the proportion of wastewater flow generated as waste water can be estimated.</p>
<b>Disaggregation/ additional dimension</b>	<p>Household (on and off-site) and industrial wastewater. The household part of this indicator is also addressed by safely managed sanitation services (indicator 6.2.1)</p> <p>Household wastewater could be further disaggregated to estimate the proportion of treated wastewater that is safely reused responding to the target component “substantially increase recycling and reuse”. However, data availability will be challenging in many countries.</p>
<b>Comments and limitations</b>	<p>A framework for measuring faecal waste flows and safety factors have been developed and piloted in 12 countries (World Bank Water and Sanitation Program, 2014), and is being scaled up post-2015. This framework has served as the basis for monitoring plans for indicators 6.2.1 and 6.3.1. Data on safe disposal and treatment remain scarce, and will not be available all countries immediately. However, sufficient data exist to make global and regional estimates of safely treated wastewater by 2018.</p>
<b>Gender equality issues</b>	<p>Gender disaggregation for wastewater will not be possible since data on use of sanitation facilities is derived from household surveys. Measurement of treatment of wastewater from on-site sanitation is specifically included to respond to equity issues as approximately two thirds of all sanitation is on-site and predominantly used by poorest wealth quintiles who are seldom served by a sewer connection. Unsafe disposal of wastewater in disproportionately affects the poorest who are more likely to reside in affected areas.</p>
<b>Data for global and regional monitoring</b>	<p>Wastewater generated from types of sanitation facilities or types of industries will be aggregated to get national and regional estimates.</p>
<b>Supplementary information</b>	<p>Please refer to the accompanying statistical note for detailed methodology.</p>
<b>References</b>	<p>Progress on sanitation and drinking water – 2015 update and MDG assessment. New York: UNICEF/WHO, 2015.  <a href="http://www.wssinfo.org/fileadmin/user_upload/resources/JMP-Update-report-2015_English.pdf">http://www.wssinfo.org/fileadmin/user_upload/resources/JMP-Update-report-2015_English.pdf</a></p>

<sup>16</sup> System of Environmental and Economic Accounting for Water, adopted by Statistical Commission in 2014. This accounting structure means that these activities cover the whole economy and are considered for each industry, which are defined according to the International Standard Industrial Classification of all Economic Activities (ISIC), and covering 1) abstraction and distribution of water, 2) discharge, reuse and treatment of wastewater, and 3) consumption and returns of water back to the environment, in this accounting structure, disaggregated by industry in a standardised way. Economic activities by ISIC broadly covers agriculture, hazardous industries and other economic activities.

<sup>17</sup> ISIC revision 4 from UN Statistical Division: <http://unstats.un.org/unsd/cr/registry/isic-4.asp>



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Methodological note on monitoring WASH and wastewater for the SDGs:  
[http://www.wssinfo.org/fileadmin/user\\_upload/resources/Methodological-note-on-monitoring-SDG-targets-for-WASH-and-wastewater\\_WHO-UNICEF\\_8October2015\\_Final.pdf](http://www.wssinfo.org/fileadmin/user_upload/resources/Methodological-note-on-monitoring-SDG-targets-for-WASH-and-wastewater_WHO-UNICEF_8October2015_Final.pdf)

The Missing Link in Sanitation Service Delivery: A Review of Fecal Sludge Management in 12 Cities. World Bank Water and Sanitation Program, 2014.  
<http://documents.worldbank.org/curated/en/2014/04/19549016/targeting-urban-poor-improving-services-small-towns-missing-link-sanitation-service-delivery-review-fecal-sludge-management-12-cities>

SEEA-Water System of Environmental-Economic Accounting for Water, United Nations Department of Economic and Social Affairs, 2012

International Standard Industrial Classification of All Economic Activities, Rev.4  
<http://unstats.un.org/unsd/cr/registry/regcst.asp?Cl=27>

Report of the First Stakeholders Consultation on Post-2015 monitoring: Indicators and Monitoring Mechanisms:  
[http://www.unwater.org/fileadmin/user\\_upload/unwater\\_new/docs/Topics/SDG/GEMI\\_Report\\_First\\_Stakeholders\\_Consultation\\_Post-2015\\_Monitoring\\_FINAL2015-04-27.pdf](http://www.unwater.org/fileadmin/user_upload/unwater_new/docs/Topics/SDG/GEMI_Report_First_Stakeholders_Consultation_Post-2015_Monitoring_FINAL2015-04-27.pdf)

### Suggested Indicator 2: Percentage of receiving water bodies with ambient water quality not presenting risk to the environment or human health

From UNEP (GEMS/Water) through GEMI, on behalf of UN-Water:

<p><b>Definition and method of computation</b></p>	<p><b>Definition:</b> Proportion of water bodies (area) in a country with good ambient water quality compared to all water bodies in the country. “Good” indicates an ambient water quality that does not damage ecosystem function and human health according to core ambient water quality indicators.</p> <p><b>Concept:</b> Water quality is estimated based on a core set of five determinands that inform on major water quality impairments present in many parts of the world: total dissolved solids (TDS); percentage dissolved oxygen (% DO); dissolved inorganic nitrogen (DIN); dissolved inorganic phosphorus (DIP); and Escherichia coli (E. coli).</p> <p>As monitoring capacities and coverage vary between countries, a monitoring ladder is proposed. On the first rung, the number of determinands not meeting national water quality guidelines based on the existing monitoring sites are used to estimate the water quality. On the second rung, a water quality index is used to combine the determinand values in a statistically more robust manner, and the monitoring coverage increased. On consecutive rungs, the monitoring coverage can be step-wise increased and complementary determinands covering additional aspects of ambient water quality can be included depending on the national capacities and requirements enabling the indicator to inform on the status of ambient water quality in a more comprehensive way.</p> <p><b>Method of computation:</b></p> <p>The GEMS/Water<sup>1</sup> water quality index approach<sup>2</sup> is used as a general model to calculate the index, in which measured determinand values are compared to guideline values (proximity to target approach):</p>
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	<ol style="list-style-type: none"> <li>1. Proximity-to-target (PTT) scores for each determinand at single monitoring sites are calculated as the difference between the temporal average (for the accounting period) of the determinand concentration and the target divided by the range between the (winsorized) minimum or maximum of the measured determinand concentration (for exceedance and non-exceedance targets, respectively) and the target. The PTT scores are scaled to the range between 0 and 100, where 100 indicates that the target is met and decreasing scores indicate an increasing distance from the target.</li> <li>2. The water quality index (WQI) at site level is computed as the arithmetic mean of the site-level PTT scores for the selected determinands. The WQI scale can be divided into different water quality categories, ranging from very bad to excellent. The thresholds for these categories are country specific and should be reported in the monitoring system by the individual countries</li> <li>3. For the spatial aggregation at the basin level and country level, the water bodies are divided into stretches of homogenous quality (between consecutive monitoring stations).</li> <li>4. The final indicator is calculated from the proportion of the stretches with good quality compared to all water bodies assessed.</li> </ol>
<b>Rationale and interpretation</b>	<p>The proposed indicator informs on the quality of water bodies. The indicator allows for evaluating the impact of human development on ambient water quality and thus enables countries to assess the future services they can obtain from aquatic ecosystems (clean water for drinking, biodiversity, water for food production etc.).</p> <p>Water quality represents the actual outcome of all pollution and pollution reduction activities, and is thus essential to fully describe the environmental status of freshwater systems, as well as to fully report on target 6.3.</p> <p>Water quality also feeds into all other water-related targets, and the proposed indicator can be used to directly report on many other targets or parts of targets (refer to supplementary information).</p>
<b>Sources of and data collection</b>	<p>Existing data (in situ and modelled values) are available from UNEP's GEMS/Water (GEMStat<sup>3</sup>) and OECD. Additional information on optical water properties from remote sensing can be used as proxies for sediments and eutrophication/nutrient loading.</p> <p>Measurements would be completed at local laboratories and/or achieved using field measurements on appropriate protocols for sample collection and analysis.</p> <p>For data-poor areas estimates can be generated using existing in situ data combined with modelled data and remote sensing information.</p> <p>GEMStat (UNEP) contains 4 million records from over 3000 stations in 100 countries, although the sets of parameters, the choice of monitoring station and the collection frequency varies by large between countries.</p>
<b>Disaggregation</b>	<p>Data is collected at the scale of river basins and can be aggregated to the country and regional scale.</p>

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<b>Comments and limitations</b>	<p>Both indicators proposed for 6.3 are considered necessary to deduct comprehensive adaptation strategies and management options with regard to improving water quality and reporting on the target. 6.3.1 is a policy relevant indicator that provides information on local point source pollution, whereas 6.3.2 is an outcome indicator that enables the evaluation of integral impacts of human development on ambient water quality.</p>
<b>Gender equality issues</b>	<p>The indicator is a measure of ambient water quality and therefore is “gender neutral”. However, ambient water quality can impact women, men and socio-economic groups in different ways. These dimensions are therefore relevant to the interpretation of the indicator.</p>
<b>Data for global and regional monitoring</b>	<p><b>Entity responsible for global monitoring:</b> UNEP (through GEMS/Water), on behalf of UN-Water. Under the UN-Water umbrella, a partial monitoring framework is already in place, currently being finalized under the inter-agency monitoring initiative known as <a href="#">GEMI</a> (Integrated Monitoring of Water and Sanitation Related Targets). GEMI is a new coherent monitoring framework, working closely with JMP, to ensure long-term monitoring for the entire SDG 6.</p> <p>Related to indicator 6.3.2, GEMI will draw upon metadata standards which are already in place, among other sources on pre-existing datasets such as GEMStat and FAO-AQUASTAT.</p>
<b>Supplementary information</b>	<p>The proposed indicator is multipurpose and can be used to report on the following targets:</p> <ul style="list-style-type: none"> <li>3.3 (water-borne diseases)</li> <li>8.4 (decouple economic growth from environmental degradation)</li> <li>11.5 (water-related disasters)</li> <li>11.6 (reduce environmental impact of cities)</li> <li>12.4 (environmentally sound management of chemicals and all wastes, reduce their release to air, water and soil)</li> <li>14.1 and 14.2 (marine and costal pollution and ecosystem management)</li> <li>15.1 (status of freshwater ecosystems)</li> </ul>
<b>References</b>	<p><sup>1</sup>GEMS/Water website: <a href="http://www.unep.org/gemswater">www.unep.org/gemswater</a></p> <p><sup>2</sup>GEMS/Water WQI: Water Quality Index for Biodiversity, Technical Report, GEMS/Water, 2008, available at <a href="http://www.unep.org/gemswater/Portals/24154/pdfs/new/2008%20Water%20Quality%20Index%20for%20Biodiversity%20TechDoc%20July%2028%202008.pdf">http://www.unep.org/gemswater/Portals/24154/pdfs/new/2008%20Water%20Quality%20Index%20for%20Biodiversity%20TechDoc%20July%2028%202008.pdf</a></p> <p><sup>3</sup>GEMStat: <a href="http://www.gemstat.org">www.gemstat.org</a></p>

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**Target 6.4** By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity.

**Suggested Indicator 1: Percentage change in water use efficiency over time.**

**From FAO (AQUASTAT) through GEMI, on behalf of UN-Water:**

<p><b>Definition and method of computation</b></p>	<p><b>Definition:</b> This indicator is defined as the output over time of a given major sector per volume of water used by that sector. Main sectors are defined by ISIC standards, including for example agriculture; forestry and fishing; manufacturing; electricity industry; and water supply. The way the indicator is defined and the methodology used for its compilation will need to evolve as testing and feedback are gathered at the country level over the coming months. This indicator is defined as the output over time of a given major sector per volume of water used by that sector. Main sectors, as defined by ISIC standards, can include for example agriculture; forestry and fishing; manufacturing; electricity industry; and municipalities. The way the indicator is defined and the methodology used for its compilation will need to evolve as testing and feedback are gathered at the country level over the coming months.</p> <p><b>Method of computation:</b> Sectoral efficiencies are aggregated in a single indicator through the use of weighting coefficients proportional to each sector's share of total water withdrawal/consumption:</p> <ul style="list-style-type: none"> <li>• Step 1. Water use efficiency for each sector is computed through a sector-specific method. Change in water use efficiency is calculated over a 3 or 5 year period.</li> <li>• Step 2. Each sector change in water use efficiency over the agreed period is multiplied by the proportion of withdrawal tied to that sector.</li> <li>• Step 3. All sectoral results from Step 2 are added together to account for 100% of withdrawals/consumption.</li> </ul> <p><i>Water Efficiency in Agriculture</i> is calculated as the agricultural value added per agricultural water consumed, expressed in USD/m<sup>3</sup>. Agricultural water consumed is computed modifications to AQUASTAT water withdrawal data (in m<sup>3</sup>/year). Agriculture value added in USD is obtained from Gross Value Added by Kind of Economic Activity at constant (2005) prices - USD, Agricultural sector (UNSD). To take into account price volatility due to market fluctuations, FAO maintains a database of agricultural value at standard price. Change in water efficiency over the selected period is obtained by the following:</p> <ul style="list-style-type: none"> <li>• Step 1. Calculate the average of the last 3 years for agricultural water consumed for each reference year (e.g. 2008-2010, for reference year 2010).</li> <li>• Step 2. Calculate the average of the last 3 years for agricultural value added for each reference year (e.g. 2008-2010, for reference year 2010).</li> <li>• Step 3. Divide value added by water consumed to obtain water efficiency for each reference year.</li> <li>• Step 4. Subtract water efficiencies obtained between the two reference years.</li> <li>• Step 5. Divide result by water efficiency for first reference year to calculate percentage change.</li> </ul> <p><i>Water efficiency of industries</i> is calculated as the industrial value added per industrial water withdrawals, and expressed in USD/m<sup>3</sup>. Industrial water withdrawal is obtained from AQUASTAT and expressed in m<sup>3</sup>/year. Industrial value added is obtained from Gross Value Added (GVA) by Kind of Economic Activity at constant (2005) prices – USD. Change in water</p>
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	<p>efficiency over the selected period is obtained by the following:</p> <ul style="list-style-type: none"> <li>• Step 1. Calculate the average of the last 3 years for industrial water withdrawal for each reference year (e.g. 2008-2010, for reference year 2010).</li> <li>• Step 2. Calculate the average of the last 3 years for industrial value added for each reference year (e.g. 2008-2010, for reference year 2010).</li> <li>• Step 3. Divide value added by water withdrawal to obtain water efficiency for each reference year.</li> <li>• Step 4. Subtract water efficiencies obtained between the two reference years.</li> <li>• Step 5. Divide result by water efficiency for first reference year to calculate percentage change.</li> </ul> <p><i>Energy (Power) Water Efficiency</i> is calculated as the power production per unit of water consumed for energy production, and expressed in MWh/m<sup>3</sup>. Energy water withdrawals are obtained from the 2012 World Energy Outlook (International Energy Agency). Electricity production (International Energy Agency), primary energy and primary electricity production (World Bank based on IEA data) or the UNSD energy statistics questionnaire. Change in water efficiency over the selected period is obtained through the following computation:</p> <ul style="list-style-type: none"> <li>• Step 1. Calculate the average of the last 3 years for water withdrawal for energy production for each reference year (e.g. 2008-2010, for reference year 2010). convert to water consumed using evapotranspiration assumptions modelled per electricity source</li> <li>• Step 2. Calculate the average of the last 3 years for megawatt hours for each reference year (e.g. 2008-2010, for reference year 2010).</li> <li>• Step 3. Divide the average megawatt hours produced by water consumed for each reference year.</li> <li>• Step 4. Subtract change between the two reference years.</li> <li>• Step 5. Divide result by water efficiency for first reference year to calculate percentage change.</li> </ul> <p><i>Municipal water supply efficiency</i> is the ratio between water effectively distributed to households/ consumers and the water produced for domestic consumption by water supply utilities. It uses the statistics on unaccounted for water available from the IBNET and other databases. Change in water efficiency over the selected period is obtained through the following computation:</p> <ul style="list-style-type: none"> <li>• Step 1. Calculate the average of the last 3 years for water production by water distribution facilities for each reference year (e.g. 2008-2010, for reference year 2010).</li> <li>• Step 2. Calculate the average of the last 3 years for billed water volumes by water supply utilities for each reference year (e.g. 2008-2010, for reference year 2010) (the difference represents unaccounted for water).</li> <li>• Step 3. Divide the billed water volumes by water production for each reference year.</li> <li>• Step 4. Subtract change between the two reference years.</li> <li>• Step 5. Divide result by municipal water efficiency for first reference year to calculate percentage change.</li> <li>•</li> </ul>
<p><b>Rationale and interpretation</b></p>	<p>The indicator provides an aggregated measure of overall change in efficiency across sectors, but it is built on sectoral data and is therefore relevant to each of the sectors. The indicator provides incentives for countries to improve water efficiency through all sectors, while weighting the focus to those sectors within each country that represent the largest withdrawals. The indicator is most relevant when combined with sector-specific efficiency indicators.</p>
<p><b>Sources and</b></p>	<p>The indicator can be calculated using existing datasets and new data to be collected during country updates from FAO-AQUASTAT (FAO) on water withdrawals in different sectors,</p>

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<p><b>data collection</b></p>	<p>together with datasets on value generation from National Accounts Main Aggregates (UNSD), World Energy Outlook (International Energy Agency), World Bank demographic datasets, WaterStat Database (Water Footprint Network) and IBNET (the International Benchmarking Network for Water and Sanitation Utilities).</p> <p>UNSD Environment Statistics Section collects data from official national sources for water abstraction by ISIC activity through its biennial UNSD/UNEP Water Questionnaire from non OECD/Eurostat countries. UNSD closely collaborates with FAO-AQUASTAT and shares and validates data to provide together the best possible data at the global level. Data for OECD and Eurostat countries are being collected through the OECD/Eurostat Questionnaire that is consistent with the UNSD/UNEP Questionnaire, so data are comparable.</p> <p>Modelled data could be used to fill in gaps while capacity is being developed, so that the indicator could be calculated for all countries immediately.</p>
<p><b>Disaggregation</b></p>	<p>The indicator covers the agricultural, municipal, industrial, and energy sectors. Although it would be difficult to disaggregate the indicator to hydrological basin or subnational scales, the calculations and methods provided as part of indicator development could be replicated by countries or water management organizations to provide similar data at a smaller scale.</p>
<p><b>Comments and limitations</b></p>	<p>Because it is a composite indicator, some changes in its value may be due not to changes in sectoral efficiencies but in changes in the overall share of water use by different sectors. When looking at sectors care should be taken not to double-count (avoid potential overlap of sector definitions).</p> <p>The use of percentage change instead of actual efficiency allows for the use of different units for value generation in the different sectors for efficiency can vary between the sectors. However, it will also give much better values for countries with poor water use efficiencies as there is high potential for improvement. For countries which have already achieved a high degree of water use efficiency the change over time will be much smaller than for countries having still high potential for improvement. In this regard, actual efficiency complements the picture.</p> <p>Also regional differences, in particular in relation to agriculture and different climatic conditions, are to be considered.</p>
<p><b>Gender equality issues</b></p>	<p>Water scarcity disproportionately affects women, particularly in developing countries, and jeopardizes the achievement of their human rights. For example, when water supplies are not readily accessible, water must often be carried from its source and it is women and girls who continue to bear the primary responsibility for water collection in many parts of the world. The 2012 MDG Report highlighted that, in Sub-Saharan Africa, 71 per cent of the water collection burden falls on women and girls. Globally, it is estimated that women spend more than 200 million hours per day collecting water. Increasing water efficiency can serve to play a role in reducing water scarcity, thereby reducing the burden on women and girls.</p>
<p><b>Data for global and regional monitoring</b></p>	<p><b>Entity responsible for global monitoring:</b> FAO (through AQUASTAT), on behalf of UN-Water. Under the UN-Water umbrella, a partial monitoring framework is already in place, currently being finalized under the inter-agency monitoring initiative known as <a href="#">GEMI</a> (Integrated Monitoring of Water and Sanitation Related Targets). GEMI is a new coherent monitoring framework, working closely with JMP, to ensure long-term monitoring for the entire SDG 6.</p> <p>Data on efficiency are available at the country level other than water withdrawal. FAO-</p>

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	AQUASTAT can provide withdrawal data for all countries across sectors (other than energy). Setting the energy withdrawal baseline for the year 2015 would be possible making several assumptions.
<b>Supplementary information</b>	The proposed indicator is multipurpose and can be used to report on the following target:  2.4 (resources use efficiency in agriculture) 8.4 (resource use efficiency in consumption and production) 9.4 (for infrastructure and industry: increased resource-use efficiency and adoption of clean and environmentally sound technologies and industrial processes) 12.2 (efficient use of natural resources) 12.3 (reduce food losses along production and supply chains (e.g. drinking-water net losses))

### Suggested Indicator 2: Percentage of total available water resources used, taking environmental water requirements into account (Level of Water Stress)

From FAO (AQUASTAT) through GEMI, on behalf of UN-Water:

<b>Definition and method of computation</b>	<p><b>Definition:</b> the ratio between total freshwater withdrawn by all major sectors and total renewable freshwater resources, after having taken into account environmental water requirements. Main sectors, as defined by ISIC standards, can include for example agriculture; forestry and fishing; manufacturing; electricity industry; and municipalities. This indicator is also known as water withdrawal intensity.</p> <p>The indicator builds on MDG indicator 7.5 and also accounts for environmental water requirements.</p> <p><b>Concepts:</b> This indicator provides an estimate of pressure by all sectors on the country's renewable freshwater resources. A low level of water stress indicates a situation where the combined withdrawal by all sectors is marginal in relation to the resources, and has therefore little potential impact on the sustainability of the resources or on the potential competition between users. A high level of water stress indicates a situation where the combined withdrawal by all sectors represents a substantial share of the total renewable freshwater resources, with potentially larger impacts on the sustainability of the resources and potential situations of conflicts and competition between users.</p> <p><i>Total renewable freshwater resources (TRWR)</i> are expressed as the sum of internal and external renewable water resources. The terms "water resources" and "water withdrawal" are understood here as freshwater resources and freshwater withdrawal.</p> <p><i>Internal renewable water resources</i> are defined as the long-term average annual flow of rivers and recharge of groundwater for a given country generated from endogenous precipitation.</p> <p><i>External renewable water resources</i> refer to the flows of water entering the country, taking into consideration the quantity of flows reserved to upstream and downstream countries through agreements or treaties (and, where available, the reduction of flow due to upstream withdrawal).</p>
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	<p><i>Total freshwater withdrawal (TWW)</i> is the volume of freshwater extracted from its source (rivers, lakes, aquifers) for agriculture, industries and municipalities. It is estimated at the country level for the following three main sectors: agriculture, municipalities (including domestic water withdrawal) and industries. Freshwater withdrawal includes primary freshwater (not withdrawn before), secondary freshwater (previously withdrawn and returned to rivers and groundwater) and fossil groundwater. It does not include non-conventional water, i.e. direct use of treated wastewater, direct use of agricultural drainage water and desalinated water. TWW is in general calculated as being the sum of total water withdrawal by sector minus direct use of wastewater, direct use of agricultural drainage water and use of desalinated water.</p> <p><i>Environmental water requirements (Env.)</i> are established in order to protect the basic environmental services of freshwater ecosystems. Methods of computation of Env. are extremely variable. For the purpose of the SDG indicator, Env. are expressed as a percentage of the available water resources.</p> <p>More details on method of calculation of the above variables can be found at <a href="http://www.fao.org/nr/water/aquastat/water_res/index.stm">http://www.fao.org/nr/water/aquastat/water_res/index.stm</a> or <a href="http://www.fao.org/nr/water/aquastat/data/wrs/readPdf.html?f=AFG-WRS_eng.pdf">http://www.fao.org/nr/water/aquastat/data/wrs/readPdf.html?f=AFG-WRS_eng.pdf</a>.</p> <p><b>Method of computation:</b> The indicator is computed as the total freshwater withdrawn (TWW) divided by the difference between the total renewable freshwater resources (TRWR) and the environmental water requirements (Env.), multiplied by 100. All variables are expressed in km<sup>3</sup>/year (10<sup>9</sup> m<sup>3</sup>/year).</p> $\text{Stress (\%)} = \frac{TWW}{TRWR - Env.} * 100$ <p>It is proposed to classify the level of water stress in three main categories (levels): low, high and very high. The thresholds for the indicator could be country specific, to reflect differences in climate and national water management objectives. Alternatively, uniform thresholds could be proposed using existing literature and taking into account environmental water requirements.</p>
<p><b>Rationale and interpretation</b></p>	<p>The purpose of this indicator is to show the degree to which water resources are being exploited to meet the country's water demand. It measures a country's pressure on its water resources and therefore the challenge on the sustainability of its water use. It tracks progress in regard to “withdrawals and supply of freshwater to address water scarcity”, i.e. the environmental component of target 6.4.</p> <p>The indicator shows to what extent water resources are already used, and signals the importance of effective supply and demand management policies. It can also indicate the likelihood of increasing competition and conflict between different water uses and users in a situation of increasing water scarcity. Increased water stress, shown by an increase in the value of the indicator, has potentially negative effects on the sustainability of the natural resources and on economic development. On the other hand, low values of the indicator indicate that water does not represent a particular challenge for economic development and sustainability.</p>
<p><b>Sources and data collection</b></p>	<p>Data for this indicator are usually collected by national ministries and institutions having water-related issues in their mandate, such as ministries of water resources, agriculture, or environment. Data are mainly published within national water resources and irrigation master plans, national statistical yearbooks and other reports (such as those from projects, international surveys or results and publications from national and</p>



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	international research centres).
<b>Disaggregation</b>	<p>To compute this indicator, several sectoral data are needed. The indicator can be disaggregated to show the respective contribution of different sectors to the country's water stress, and therefore the relative importance of actions needed to contain water demand in the different sectors (agriculture, municipalities and industry).</p> <p>At national level, water resources and withdrawal are estimated or measured at the level of appropriate hydrological units (river basins, aquifers). It is therefore possible to obtain a geographical distribution of water stress by hydrological unit, thus allowing for more targeted response in terms of water demand management.</p>
<b>Comments and limitations</b>	<p>Water withdrawal as a percentage of water resources is a good indicator of pressure on limited water resources, one of the most important natural resources. However, it only partially addresses the issues related to sustainable water management.</p> <p>Supplementary indicators that capture the multiple dimensions of water management would combine data on water demand management, behavioural changes with regard to water use and the availability of appropriate infrastructure, and measure progress in increasing the efficiency and sustainability of water use, in particular in relation to population and economic growth. They would also recognize the different climatic environments that affect water use in countries, in particular in agriculture, which is the main user of water. Sustainability assessment is also linked to the critical thresholds fixed for this indicator and there is no universal consensus on such threshold.</p> <p>Trends in water withdrawal show relatively slow patterns of change. Usually, three-five years are a minimum frequency to be able to detect significant changes, as it is unlikely that the indicator would show meaningful variations from one year to the other.</p> <p>Estimation of water withdrawal by sector is the main limitation to the computation of the indicator. Few countries actually publish water use data on a regular basis by sector.</p> <p>Renewable water resources include all surface water and groundwater resources that are available on a yearly basis without consideration of the capacity to harvest and use this resource. Exploitable water resources, which refer to the volume of surface water or groundwater that is available with an occurrence of 90% of the time, are considerably less than renewable water resources, but no universal method exists to assess such exploitable water resources.</p> <p>There is no universally agreed method for the computation of incoming freshwater flows originating outside of a country's borders. Nor is there any standard method to account for return flows, the part of the water withdrawn from its source and which flows back to the river system after use. In countries where return flow represents a substantial part of water withdrawal, the indicator tends to underestimate available water and therefore overestimate the level of water stress.</p> <p>Other limitations that affect the interpretation of the water stress indicator include:</p> <ul style="list-style-type: none"> <li>• difficulty to obtain accurate, complete and up-to-date data;</li> <li>• potentially large variation of sub-national data;</li> <li>• lack of account of seasonal variations in water resources;</li> <li>• lack of consideration to the distribution among water uses;</li> <li>• lack of consideration of water quality and its suitability for use; and</li> <li>• the indicator can be higher than 100 per cent when water withdrawal includes secondary freshwater (water withdrawn previously and returned to the</li> </ul>

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	<p>system), non-renewable water (fossil groundwater), when annual groundwater withdrawal is higher than annual replenishment (over-abstraction) or when water withdrawal includes part or all of the water set aside for environmental water requirements.</p> <p>Some of these issues can be solved through disaggregation of the index at the level of hydrological units and by distinguishing between different use sectors. However, due to the complexity of water flows, both within a country and between countries, care should be taken not to double-count.</p>
<p><b>Gender equality issues</b></p>	<p>Women and men tend to have different water-related uses, priorities and responsibilities. There are also trends along gender lines in terms of access and control over water and water rights. Gender differences and inequalities mean that women and men experience and respond to changes in water availability, services or water policies differently. Thus the impact of water stress on women and men should be studied in order to better capture the gender dimension of water use.</p>
<p><b>Data for global and regional monitoring</b></p>	<p><b>Entity responsible for global monitoring:</b> FAO (through AQUASTAT), on behalf of UN-Water. Under the UN-Water umbrella, a partial monitoring framework is already in place, currently being finalized under the inter-agency monitoring initiative known as <a href="#">GEMI</a> (Integrated Monitoring of Water and Sanitation Related Targets). GEMI is a new coherent monitoring framework, working closely with JMP, to ensure long-term monitoring for the entire SDG 6.</p> <p>The Food and Agriculture Organization of the United Nations (FAO) is the agency responsible for compiling data and calculating this indicator at the international level. This is done through its Global Water Information System (AQUASTAT) country surveys since 1994. These surveys are carried out every ten years, on average.</p> <p>Data are obtained through detailed questionnaires filled in by national experts and consultants who collect information from the different institutions and ministries having water-related issues in their mandate. Literature and information at the country and sub-country level are reviewed including national policies and strategies; water resources and irrigation master plans; national reports, yearbooks and statistics; reports from projects; international surveys; results and publications from national and international research centres; and the Internet.</p> <p>Env. data are presently not systematically collected by AQUASTAT, but several methods are available and could be used to compute Env. for countries that do not have the institutional arrangements and standards in place to assess or collect these data.</p> <p>Data obtained from national sources are systematically reviewed to ensure consistency in definitions and consistency in data from countries located in the same river basin. A methodology has been developed and rules established to compute the different elements of national water balances.</p> <p>Estimates are based on country information, complemented, when necessary, with expert calculations based on unit water use figures by sector, and with available global datasets. In the case of conflicting sources of information, the difficulty lies in selecting the most reliable one. In some cases, water resources figures vary considerably from one source to another. There are various reasons for such differences, including differing computation methods, definitions or reference periods, double counting of surface water and groundwater or of transboundary river flows. Moreover, estimates of long-term average annual values can change due to the availability of better data from</p>

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	<p>improvements in knowledge, methods or measurement networks.</p> <p>Where several sources result in divergent or contradictory information, preference is given to information collected at the national or sub-national level rather than at regional or world levels. Moreover, except in the case of evident errors, official sources are privileged. As regards shared water resources, the comparison of information between countries makes it possible to verify and complete data concerning the flows of transboundary rivers and to ensure data coherence at the river basin level. In spite of these precautions, the accuracy, reliability and frequency with which information is collected vary considerably by region, country and category of information. Information is completed using models when necessary.</p> <p>Regional and global level aggregations are obtained by applying the same procedure as for country level computation.</p> <p>AQUASTAT data on water resources and use are published when new information becomes available on the FAO-AQUASTAT website at <a href="http://www.fao.org/nr/aquastat">http://www.fao.org/nr/aquastat</a>.</p> <p>Modelled data are used with caution to fill gaps while capacity is being developed. Data on water resources can be modelled by using GIS-based hydrological models. Data on water withdrawal are estimated by sector on the basis of standard unit values of water withdrawal.</p> <p>UNSD Environment Statistics Section collects data from official national sources for water abstraction by ISIC activity through its biennial UNSD/UNEP Water Questionnaire from non OECD/Eurostat countries. UNSD closely collaborates with FAO-AQUASTAT and shares and validates data to provide together the best possible data at the global level. Data for OECD and Eurostat countries are being collected through the OECD/Eurostat Questionnaire that is consistent with the UNSD/UNEP Questionnaire, so data are comparable.</p>
<p><b>Supplementary information</b></p>	<p>The proposed indicator is multipurpose and can be used to report on the following target:</p> <p>15.1 (level of pressure on freshwater ecosystems)</p> <ul style="list-style-type: none"> <li>•</li> </ul>

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**Target 6.5 By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate.**

**Suggested Indicator: Degree of integrated water resources management (IWRM) implementation (0-100)**

**From UNEP through GEMI, on behalf of UN-Water**

<p><b>Definition and method of computation</b></p>	<p><b>Definition:</b> This indicator reflects the extent to which integrated water resources management (IWRM) is implemented.</p> <p>This indicator is expressed as a percentage, where 100 % correspond to fully implemented.</p> <p><b>Concepts:</b> Integrated Water Resources Management (IWRM) is an approach to managing water in a coordinated way. It takes into account the various users and uses in a given situation, with the aim of maximizing positive social, economic and environmental impacts. It uses water bodies, such as catchments and aquifers, as the principle unit of water management, and stresses decentralization of governance structures and active stakeholder participation in decision making.</p> <p>IWRM describes:</p> <p>(1) The extent to which an <u>enabling environment</u> for IWRM (policy, strategic planning, legal framework and financing) has been established;</p> <p>(2) The structure and performance of an <u>institutional framework</u> to support IWRM processes, and;</p> <p>(3) The degree to which <u>management instruments/tools</u> are applied.</p> <p><b>Method of computation:</b> The indicator is calculated on the basis of a statistical analysis of scored responses to national surveys (one per country) measuring both qualitative and quantitative aspects. It is computed by combining scored responses to 1) the enabling environment with 2) institutional frameworks and 3) management tools/instruments, dividing by 3 and then multiplying by 100.</p>
<p><b>Rationale and interpretation</b></p>	<p>The IWRM target supports the equitable and efficient use of water resources, as well as the identification of barriers to progress. It also facilitates coherence between the various targets within the water and sanitation goal. The target directly links to all other targets as it supports the monitoring, planning and evaluation, as well as associated capacity building within each target and thus the achievement of the overall water Goal.</p>
<p><b>Sources and data collection</b></p>	<p>IWRM implementation has been periodically monitored by UN-Water since 2007, with surveys and reports being prepared for the meetings of the Commission on Sustainable Development in both 2008 (CSD16) and 2012 (CSD20 (Rio+20)).</p>

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	Data are currently available for a total of 134 countries and made available from UNEP-DHI (e.g. <a href="http://www.unepdhi.org/rioplus20">http://www.unepdhi.org/rioplus20</a> (see data file zip link) – full data available on request).
<b>Disaggregation</b>	Data is collected at the national level. The IWRM surveys will specifically address issues relating to gender, governance, ecosystems, expenditures, and human capacity, as well as transboundary interests.
<b>Comments and limitations</b>	While this is a process indicator, it is important for measuring the means of implementation, by helping to ensure that one water-related target is not achieved to the detriment of others. UN-Water is exploring ways by which this indicator can be more closely linked to the outcome-oriented targets within the water and sanitation Goal.
<b>Gender equality issues</b>	Gender equity and women’s empowerment in water resources management is one of the cornerstones of the Dublin-Rio principles upon which IWRM is founded. Gender plays an intricate role in IWRM, not just in the planning process but also through the stakeholder consultations and in helping to secure and enforce rights and responsibilities relating to many different aspects of use. These aspects are captured in the IWRM survey questions. In addition, gender disaggregated water indicators developed by UNESCO WWAP are being tested in AMCOW countries and various transboundary basins.
<b>Data for global and regional monitoring</b>	<p><b>Entity responsible for global monitoring:</b> UNEP, on behalf of UN-Water. Under the UN-Water umbrella, a partial monitoring framework is already in place, currently being finalized under the inter-agency monitoring initiative known as <a href="#">GEMI</a> (Integrated Monitoring of Water and Sanitation Related Targets). GEMI is a new coherent monitoring framework, working closely with JMP, to ensure long-term monitoring for the entire SDG 6.</p> <p>UN Environment Programme (UNEP), in direct support of UN-Water, conducts periodic monitoring of the status of IWRM implementation. This is carried out in direct collaboration with a range of UN-Water members and partners, covering a wide range of water-related areas and interests.</p> <p>The primary data sources for international monitoring are national surveys for all UN member states (one per country) in the form of a score-based questionnaire completed by the government ministry with overall responsibility for water resources management, who are encouraged to confer with counterparts in other water-interested ministries (e.g. agriculture, energy, and environment) in order to provide the most representative response possible.</p> <p>UN-Water supports individual countries by helping to assess its validity based on objective criteria including, but not limited to, national representativeness; quality of the consultation process; and additional quality assurance procedures.</p> <p>In some cases survey questions are adjusted to improve comparability over time or when</p>

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	<p>definitions and practices evolve. Regional and global estimates are aggregated from national data.</p>
<p><b>Supplementary information</b></p>	<p>The indicator will be directly used to support reporting on targets 6.a and 6.b, complementing the UN-Water Global Analysis and Assessment of Sanitation and Drinking-Water (GLAAS) for WASH-related issues. The indicator is also highly interlinked to, and directly underpins, target 5.5 (ensure women’s full and effective participation and equal opportunities for leadership at all levels of decision making in political, economic and public life).</p> <p>The proposed indicator can also be used to report on the following targets:</p> <p>1.b (sound policy frameworks at the national, regional and international levels to support accelerated investment in poverty eradication actions)</p> <p>11.b (integrated policies and plans towards inclusion and resource efficiency).</p>
<p><b>References</b></p>	<p>UN-Water. Status Reports on IWRM. Internet site.  <a href="http://www.unwater.org/publications/status-report-on-integrated-water-resources-management/en/">http://www.unwater.org/publications/status-report-on-integrated-water-resources-management/en/</a></p> <p>UNEP-DHI. Data from the 2012 Survey on the Application of Integrated Approaches to Water Resources Management. Internet site.  <a href="http://www.unepdhi.org/rioplus20">http://www.unepdhi.org/rioplus20</a></p> <p>GEMI – Integrated Monitoring of Water and Sanitation-related SDG Targets. Internet site.  <a href="http://www.unwater.org/gemi/en/">http://www.unwater.org/gemi/en/</a></p>

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**Target 6.6 By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes.**

**Suggested Indicator: Percentage of change in wetlands extent over time**

**From UNEP supported by CBD and Ramsar through GEMI, on behalf of UN-Water**

<b>Definition and method of computation</b>	<p><b>Definition:</b> Percentage of change in total wetland area over time (% change/year). The Ramsar Convention broad definition of “wetland“ is used, which includes rivers and lakes, enabling three of the biome types mentioned in the target to be assessed - wetlands, rivers, lakes - plus other wetland types. The indicator tracks trends in the change in area of these wetland types over time.</p> <p><b>Concepts:</b> Wetlands influence hydrology, including regulating water flows, disaster risk reduction (scarcity and over-abundance) and water quality, and their ability to continue to support the sustainable management of water can be indicated through trends in their extent.</p> <p><b>Method of computation:</b></p> <p>The core indicator uses the existing Living Planet Index methodology for data collection and analysis (<a href="http://www.livingplanetindex.org/home/index">http://www.livingplanetindex.org/home/index</a>). It consists of a number of stages including harvesting of time series data, codification and database entry, aggregation into sub-indices to reduce sampling bias, and further aggregation to create sub-global (ecologically and regionally specific) and global indices. The methodology is flexible to incorporating improving sources of information and data, for a more comprehensive assessment of trends.</p> <p>Wetland extent change time-series data are entered into the database along with the following metadata: Ramsar region (e.g. Europe): country allocations followed those of the Ramsar Convention (2012b); subregion (e.g. Western Mediterranean); country (e.g. France); locality for the wetland (e.g. Camargue); Ramsar wetland type, either marine/coastal, inland or human-made; wetland class (e.g. intertidal wetland); and source reference.</p> <p>Annual values for individual wetland change are interpolated where necessary and annual rates of change between one year and the preceding year are calculated. Individual time series are successively aggregated using geometric means to provide sub-regional, regional and global trend lines, with geographic weightings applied to the regional trends to create the global trend. Indicators for major wetland types can also be derived.</p> <p>Wetland area is most accurately estimated through manual digitalization of aerial or satellite images, a methodology that in the coming years will be advanced by remote sensing and in particular the increasing open access to historical data. Supplementary information comes through national reports and scientific papers. Heterogeneous datasets allow for more discrete analysis by wetland type, location and region.</p>
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<p><b>Rationale and interpretation</b></p>	<p>Wetlands are a prominent ecosystem type influencing the water cycle and therefore of direct importance to the achievement of Goal 6. Wetlands loss leads to increasing water insecurity and wetlands restoration (increasing wetland area) is now a widespread response to achieving sustainable water. Examples include how wetlands contribute to flood regulation, regulation of surface water flows (flow regulation), and nutrient cycling (pollution regulation/water quality). The purpose of this indicator is to show overall trends in wetlands extent as a gross indicator of trends in the ability of wetlands to support the achievement of Goal 6. Refinements in interpretation will be required in order to link trends in specific wetlands types by region and or country to the achievement of Goal 6 (the indicator can be disaggregated to achieve this).</p>
<p><b>Sources and data collection</b></p>	<p>Multiple data sources include national reports submitted to the Ramsar Convention, national wetland inventories where available, published scientific papers and, increasingly, through analysis of remote sensing data.</p> <p>Data relevant to the indicator are not usually collected, or monitored, by traditional national statistics agencies; although such data are becoming increasingly incorporated into some national natural capital accounts. National statistics agencies are therefore not necessarily a reliable source of information on either data or the efficacy of the indicator. However, national level environment related agencies (in particular national Ramsar Convention Administrative Authorities) do generate or have access to relevant data, including national wetland inventories.</p> <p>In the short term, remote sensing techniques provide additional data and information, which is incorporated by the methodology for calculating the indicator. In the longer term, new global baselines and time series of change are anticipated to be calculated based on high resolution remote sensing data improving the spatial and temporal resolution and therefore also the quality and detail of developed global products. Planned activities will lead to enhanced transdisciplinary cooperation and coordination and improved remote sensing methods for covering wetlands in their broad definition, as applied by the Ramsar Convention. This means that inland wetlands (including lakes, rivers, peatlands, etc.), coastal and marine wetlands (including mangrove forests, coral reefs, salt marshes, etc.) as well as artificial wetlands (e.g. rice paddies, wastewater treatment lagoons and reedbeds) will in the future be addressed by remote sensing applications.</p> <p>Global assessments are compiled and disseminated through the Ramsar Convention's "State of the World's Wetlands and their Services" (SoWWS). Baseline data are available at the global level. Historical records are available for some regions and wetlands types from the 1700's (<a href="http://www.publish.csiro.au/paper/MF14173.htm">http://www.publish.csiro.au/paper/MF14173.htm</a>). The baseline assessment will be 2015 (first SoWWS report, <a href="http://www.ramsar.org/sites/default/files/documents/library/cop12_doc23_bn7_sowws_e_0.pdf">http://www.ramsar.org/sites/default/files/documents/library/cop12_doc23_bn7_sowws_e_0.pdf</a>) with remote sensing data using 1970 as the baseline year.</p> <p>Currently, 169 Parties regularly report on trends in wetlands to the Ramsar Convention. Other data sources enable fully global coverage.</p> <p>Data collection and analysis is overseen by the Scientific and Technical Review Panel of the Ramsar Convention. The indicator is also a sub-indicator for Aichi Biodiversity Targets</p>



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	<p>5 and 11 for which a data collection, analysis and reporting framework is already in place through the Biodiversity Indicators Partnership, a science based partnership to generate robust assessments to underpin monitoring for the Strategic Plan for Biodiversity 2011-2020 and all the Aichi Biodiversity Targets (<a href="http://www.bipindicators.net/">http://www.bipindicators.net/</a>). The partnership also includes provision of capacity building support to developing countries regarding monitoring.</p> <p>Assessments are undertaken by the Ramsar Convention on Wetlands, in collaboration with CBD (including the Biodiversity Indicators Partnership) and UNEP, through the GEMI monitoring initiative. Under the UN-Water umbrella, the GEMI monitoring initiative will integrate the monitoring framework for this indicator (in place under the SoWWS).</p>
<b>Disaggregation</b>	<p>The data can be disaggregated by wetland type: for example, for lakes, floodplains, coastal wetlands or artificial/constructed wetlands and by region and country. This enables more refined assessment of progress towards target 6.6 since wetland type and location are relevant variables when assessing progress towards target 6.6.</p>
<b>Comments and limitations</b>	<p>The indicator covers wetlands only, including rivers and lakes. Other ecosystem types are also relevant to target 6.6 (including mountains, forests and aquifers – as mentioned explicitly in the target, among others). However, it is not feasible at present to have an indicator that captures all relevant ecosystem types, but relevant data, monitoring and reporting mechanisms are in place for some of these. These broader aspects of target 6.6 (other ecosystem types) can be captured through supplementary indicators. The percentage change in wetlands extent indicator is recommended for simplicity and ease of understanding regarding relevance to the target. It is the “core” global scale indicator for target 6.6 but it is understood that assessments of progress towards target 6.6 would necessarily include these additional supplementary indicators to capture the full scope of target 6.6. It is anticipated that national level monitoring and assessments (at the discretion of Member States ) regarding target 6.6 would involve a much broader suite of indicators – mostly already in use for national level purposes; examples would include status and trends in other biomes (e.g., forests), soil condition and function, extent and hydrological functions of national protected areas (e.g. protected catchments to secure water supplies) and trends in the use of other forms of natural or green infrastructure as solutions to achieve national and local level sustainable water outcomes.</p> <p>“Wetland area” is a particularly relevant parameter for those wetlands where hydrological functions (e.g. storage capacity) relates to surface area; but not all wetlands (or their functions) are best measured by “area”. For example, area is less relevant for rivers. But this can be catered for since the indicator can be disaggregated by wetland type.</p>
<b>Gender equality issues</b>	<p>The indicator is a measure of ecosystem extent and therefore is “gender neutral”. However, through their local impacts on water quality and quantity, wetlands can impact women, men and socio-economic groups in different ways. These dimensions are therefore relevant to the interpretation of the indicator.</p>
<b>Data for global and regional monitoring</b>	<p><b>Entity responsible for global monitoring:</b> CBD and UNEP, on behalf of UN-Water.</p> <p>Assessments are undertaken by the Ramsar Convention on Wetlands, in collaboration</p>

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	<p>with CBD (including the biodiversity indicators partnership) and UNEP, through the GEMI monitoring initiative.</p> <p>Under the UN-Water umbrella, a partial monitoring framework is already in place, currently being finalized under the inter-agency monitoring initiative known as <a href="#">GEMI</a> (Integrated Monitoring of Water and Sanitation Related Targets). GEMI is a new coherent monitoring framework, working closely with JMP, to ensure long-term monitoring for the entire SDG 6.</p> <p>The data are available at global, regional or national levels depending on the scope of reporting undertaken.</p>
<b>Supplementary information</b>	<p>The proposed indicator is multipurpose and can be used to report on the following targets:</p> <p>11.5 (decrease economic losses due to water-related disasters)</p> <p>11.6 (reduce environmental impact of cities)</p> <p>11.7 (green spaces)</p> <p>12.2 (sustainable management of natural resources)</p> <p>13.1 (resilience and adaptive capacity to climate-related hazards and natural disasters)</p> <p>14.2 and 14.5 (status of marine and coastal ecosystems)</p> <p>15.1 and 15.3 and 15.5 (status of wetlands, natural habitats and biodiversity).</p>
<b>References</b>	<p>Included above</p>

### From RAMSAR Convention:

<b>Definition and method of computation</b>	<p><b>Indicator name:</b> Change in total wetland area over time (% change/year).</p> <p><b>Concepts:</b> Wetlands influence hydrology, including regulating water flows, disaster risk reduction (scarcity and over-abundance) and water quality, and their ability to continue to support the sustainable management of water can be indicated through trends in their extent.</p> <p><b>Method of computation:</b> The 'Wetlands Extent Index' is a methodology that has already been developed and consists of a number of stages including harvesting of time series data, codification and database entry, aggregation into sub-indices to reduce sampling bias, and further aggregation to create sub-global (ecologically and regionally specific) and global indices. The methodology is flexible to incorporating</p>
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	<p>improving sources of information and data, for a more comprehensive assessment of trends. It is based on a similar data collection and analysis methodology as the widely recognized ‘WWF Living Planet Index’.</p> <p>Wetland extent change time-series data are entered into the database along with the following metadata: Ramsar region (e.g. Europe): country allocations followed those of the Ramsar Convention (2012b); subregion (e.g. Western Mediterranean); country (e.g. France); locality for the wetland (e.g. Camargue); Ramsar wetland type, either marine/coastal, inland or human-made; wetland class (e.g. intertidal wetland); and source reference.</p> <p>Annual values for individual wetland change are interpolated where necessary and annual rates of change between one year and the preceding year are calculated. Individual time series are successively aggregated using geometric means to provide sub-regional, regional and global trend lines, with geographic weightings applied to the regional trends to create the global trend. Indicators for major wetland types can also be derived.</p> <p>Wetland area is most accurately estimated through manual digitalization of aerial or satellite images, a methodology that in the coming years will be advanced by remote sensing and in particular the increasing open access to historical data. Supplementary information comes through national reports and scientific papers. Heterogeneous datasets allow for more discrete analysis by wetland type, location and region.</p>
<p><b>Rationale and interpretation</b></p>	<p>Wetlands are the most prominent ecosystem type influencing the water cycle and therefore of direct importance to the achievement of Goal 6.</p> <p>Wetlands loss leads to increasing water insecurity and wetlands restoration (increasing wetland area) is now a widespread response to achieving sustainable water security. Examples include how wetlands contribute to flood regulation, regulation of surface water flows (flow regulation), and nutrient cycling (pollution regulation/water quality).</p> <p>The purpose of this indicator is to show overall trends in wetlands extent as a gross indicator of trends in the ability of wetlands to support the achievement of Goal 6.</p>
<p><b>Sources and data collection</b></p>	<p>Multiple data sources include national reports submitted to the Ramsar Convention, remote sensing data, published scientific papers, and increasingly from data derived through citizen science.</p> <p>The Ramsar Convention has one of the highest reporting rates among the Multilateral Environmental Agreements, with over half of the 169 contracting parties already carrying out national wetlands inventories with detailed information that is directly relevant to measuring wetlands extent and trends. Global assessments can be compiled and disseminated through the Ramsar Convention’s “State of the World’s Wetlands and their Services” (SoWWS)</p>

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	<p>Earth observation derived data on soil moisture, vegetation cover, and groundwater is already available. A number of research studies have been published in peer reviewed journals with key findings about change at a global scale.</p> <p>The concept for a Global Wetlands Observing Systems (GWOS) has existed since 2007 and is receiving renewed interest and attention from a number of relevant organizations (e.g. University of Bonn, Group on Earth Observations, Japanese Aerospace and Exploration Agency (JAXA), European Space Agency (ESA), UNEP-GRID Geneva, Ramsar Convention Science and Technical Review Panel, International Water Management Institute, etc.). GWOS provides a crucial basis for modernizing partnerships and products for our current wetlands monitoring and data collection needs.</p>
<b>Disaggregation</b>	<p>The data can be disaggregated by wetland type: for example, for lakes, floodplains, coastal wetlands or artificial/constructed wetlands and by region and country.</p> <p>This enables more refined assessment of progress towards target 6.6 since wetland type and location are relevant variables when assessing progress towards target 6.6.</p> <p>Modern technology, and increasing citizen science movement, makes it possible to develop granular datasets for different locations and types. The Global Mangrove Watch (GMW) developed by JAXA is a good example of a monitoring system that has already generated a very large (and growing) dataset focused on one type of wetland.</p>
<b>Comments and limitations</b>	<p>The indicator is already established as a sub-indicator for Aichi Biodiversity Target 5 which has a data collection, analysis and reporting framework already in place through the Biodiversity Indicators Partnership, a science based partnership to generate robust assessments to underpin monitoring for the Strategic Plan for Biodiversity 2011-2020 and all the Aichi Biodiversity Targets.</p> <p>A significant limitation is that quantity (area) does not necessarily translate to quality. “Wetland area” is a particularly relevant parameter for those wetlands where hydrological functions (e.g. storage capacity) relates to surface area; but not all wetlands (or their functions) are best measured by “area”.</p>
<b>Gender equality issues</b>	<p>The indicator is a measure of ecosystem extent and therefore is “gender neutral”. However, through their local impacts on water quality and quantity, wetlands can impact women, men and socio-economic groups in different ways. These dimensions are therefore relevant to the interpretation of the indicator.</p>
<b>Data for global and regional monitoring</b>	<p><b>Entity responsible for global monitoring:</b> In August 2015, a task team has been formed to take forwards the development</p>

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	<p>of the indicator, including representatives from UNEP, CBD, Ramsar, IUCN and IWMI.</p> <p>A number of activities are already being carried out in order to further develop the indicator, including a workshop on November 11<sup>th</sup> and 12<sup>th</sup> 2015 which will establish a plan to maximise useful input by relevant entities in the Earth Observation community.</p> <p>The development of indicators is also a stated priority for the Ramsar Convention's Science and Technical Review Panel (STRP), which brings capacity to further develop and implement effective monitoring.</p> <p>Assessments are already undertaken by the Ramsar Convention on Wetlands, in collaboration with CBD and UNEP, through the GEMI monitoring initiative. The data are available at global, regional or national levels depending on the scope of reporting undertaken.</p>
<b>Supplementary information</b>	n/a
<b>References, further reading and links</b>	<p>Wetlands Extent Index Methodology explained at (<a href="http://www.bipindicators.net/lpi">http://www.bipindicators.net/lpi</a>).</p> <p>'State of the World's Wetlands and their Services' (SoWWS). <a href="http://www.ramsar.org/sites/default/files/documents/library/cop12_doc23_bn7_sowws_e_0.pdf">http://www.ramsar.org/sites/default/files/documents/library/cop12_doc23_bn7_sowws_e_0.pdf</a>.</p> <p>Davidson, N. (2014), 'How much wetland has the world lost? Long-term and recent trends in global wetland area.' <i>Marine and Freshwater Research</i> 65 934-941 <a href="http://www.publish.csiro.au/paper/MF14173.htm">http://www.publish.csiro.au/paper/MF14173.htm</a>).</p> <p>Global Mangrove Watch <a href="http://www.eorc.jaxa.jp/ALOS/en/kyoto/mangrovewatch.htm">http://www.eorc.jaxa.jp/ALOS/en/kyoto/mangrovewatch.htm</a></p> <p>Tiner, RW, Lang, M &amp; Klemas, V, 2015 '<i>Remote Sensing of Wetlands: Applications and Advances</i>', 1<sup>st</sup> edn. Taylor &amp; Francis Group, Florida, USA.</p> <p>Hestir, E.L., Brando, V.E., Bresciani, M., Giardino, C., Matta, E., Villa, P., Dekker, A.G. (2015) 'Measuring freshwater aquatic ecosystems: The need for a hyperspectral global mapping satellite mission.' <i>Remote Sensing of Environment</i> 167 181–195</p>

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**Target 6.a** By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies.

**Suggested Indicator:** ODA for water and sanitation related activities and programmes

**From OECD:**

### *Definition and method of computation*

Total net [official development assistance](#) (ODA) to water supply and sanitation ([purpose code 140](#)). Data expressed in US dollars at the average annual exchange rate.

### *Rationale and interpretation*

ODA is the accepted measure of international development co-operation. In this case it captures aid in support of projects and programmes to improve water supply and sanitation infrastructure in developing countries.

### *Sources and data collection*

Data are compiled by the Development Assistance Committee (DAC) of the Organisation for Economic Co-operation and Development from returns submitted by its member countries and other aid providers. Data are available [here](#).

### *Disaggregation*

The data are generally obtained on an activity level, and include numerous parameters. They can thus be disaggregated by provider and recipient country; by type of finance, and by type of resources provided. Some data are also available on the policy objectives targeted by individual projects.

### *Comments and limitations*

The data only cover official concessional support from donor countries. The OECD and other organisations also collect data on broader investment flows to developing countries. However detailed sectoral information on such flows is lacking.

### *Gender equality issues*

The data include a “gender equality” marker which identifies individual projects that have a clear gender dimension.

### *Data for global and regional monitoring*

Data are available for essentially all high-income countries, and for an increasing number of middle-income aid providers.

### *Supplementary information*

See [Aid to water supply and sanitation](#)

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### *References*

OECD, 2015 [Aid to the water supply and sanitation sector](#)

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**Target 6.b** Support and strengthen the participation of local communities in improving water and sanitation management.

**\*\*\* THERE IS CURRENTLY NO SUGGESTED INDICATOR \*\*\***

**UN-Water proposes the following indicator:**

***Indicator 6.b.1: Percentage of local administrative units with established and operational policies and procedures for participation of local communities in water and sanitation management.***

**From WHO through UN-Water GLAAS, supported by UNEP through GEMI, on behalf of UN-Water:**

<b>Definition and method of computation</b>	<p>This indicator builds on data that are already regularly collected by UN-Water GLAAS on the presence, at the national level, of clearly defined procedures in laws or policies for participation by service users.</p> <p>This indicator will also build on the data collected for the Status of Integrated Water Resources Management (IWRM) reporting in SDG target 6.5, in particular on the presence of formal stakeholder structures established at sub-catchment level.</p> <p>Because of the above, it is envisaged that this indicator will evolve and will be further qualified during the SDG period, focussing on sanitation, drinking water and hygiene first and then expanding on water resources management.</p>
<b>Rationale and interpretation</b>	<p>Defining the procedures in policy or law for the participation of local communities is vital to ensure needs of all the community is met, including the most vulnerable and also encourages ownership of schemes which in turn contributes to their sustainability.</p>
<b>Sources and data collection</b>	<p>The main data sources are the UN-Water GLAAS surveys and the IWRM surveys for SDG target 6.5, with ground truthing thanks to the data collected for SDG target 6.1 which also provides information on regulated water supplies, and from household surveys.</p>
<b>Disaggregation</b>	<p>This indicator builds on data that are already regularly collected by UN-Water GLAAS on the presence, at the national level, and data can currently be disaggregated by:</p> <ul style="list-style-type: none"> <li>i) urban sanitation,</li> <li>ii) rural sanitation,</li> <li>iii) urban drinking-water,</li> <li>iv) rural drinking-water and</li> <li>v) hygiene promotion.</li> </ul>



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<b>Comments and limitations</b>	<p>Information gathered through the GLAAS survey aims to assess whether there are formal mechanisms in place to ensure participation of users in planning WASH activities and whether these are used. Participation of users helps ensure that solutions will be relevant and also encourages ownership in the programmes which in turn aids in the sustainability of the services. For instance, planning a national hygiene campaign would need input from representatives of some local communities to understand the main issues to address around hygiene promotion and resources needed to carry out the campaign, thus ensuring ownership and sustainability of the campaign.</p>
<b>Gender equality issues</b>	<p>Both UN-Water GLAAS and IWRM work includes information about inequality issues, which can be directly used to support indicator analysis in this regard.</p>
<b>Data for global and regional monitoring</b>	<p>WHO, through the UN-Water GLAAS and with the support of UNEP through the reporting in SDG target 6.5, on behalf of UN-Water.</p>
<b>Supplementary information</b>	<p>The proposed indicator can also be used to report on the following targets:</p> <p>7.a (enhance international cooperation to facilitate access to clean energy research and technology)</p> <p>13.b (mechanisms for raising capacity for climate change-related planning and management, focusing on women, youth and local and marginalized communities)</p> <p>15.9 (integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts)</p>
<b>References</b>	<p>See above</p>

## **Goal 7 Ensure access to affordable, reliable, sustainable and modern energy for all**

**Target 7.1 By 2030, ensure universal access to affordable, reliable and modern energy services.**

**Suggested Indicator 1: Percentage of population with electricity access (%)**

**From SE4ALL, World Bank and UN-Energy:**

### **Definition and method of computation**

The percentage of the population that has access to electricity. Given the low frequency and the regional distribution of some surveys, a number of countries have gaps in available data. To develop the historical evolution and starting point of electrification rates, a simple modeling approach was adopted to fill in the missing data points - around 1990, 2000, 2010 and 2012. This modeling approach allowed the estimation of electrification rates for 212 countries over these time periods.

The Global Tracking Framework Report (2013) provides more details on the suggested methodology for tracking access to energy (Chapter 2, Section 1, page 82-87).

### **Rationale and interpretation**

Access to electricity addresses major critical issues in all the dimensions of sustainable development. The target is very relevant in the social dimension due to the importance of electricity to ensuring social inclusion, supporting gender equity and inducing the highest global priority of poverty eradication.

### **Sources and data collection**

Data for access to electricity are collected among different sources: mostly data from nationally representative household surveys (including national censuses) were used. Survey sources include Demographic and Health Surveys (DHS) and Living Standards Measurement Surveys (LSMS), Multi-Indicator Cluster Surveys (MICS), the World Health Survey (WHS), other nationally developed and implemented surveys, and various government agencies (for example, ministries of energy and utilities).

For more information on compiling access to energy data see Global Tracking Framework report (2013) (Chapter 2, Annex 2, page 127-129).

### **Data for global and regional monitoring**

Global coverage is available through the World Bank Global Electrification Database 2015.

### **Comments and limitations**

While the existing global household survey evidence base provides a good starting point for tracking household energy access, it also presents a number of limitations that will need to be addressed over time. In many parts of the world, the presence of an electricity connection in the household does not necessarily guarantee that the energy supplied is adequate in quality and reliability or affordable in cost and it would be desirable to have fuller information about

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these critical attributes of the service. Methodologies that are currently being developed and piloted aim to capture these broader dimensions of service quality and would make it possible to go beyond a simple yes/no measure of energy access to a more refined approach that recognizes different levels of energy access. One advantage of these approaches is that they can be applied not only to measuring energy access at the household level, but also its availability to support enterprises and deliver critical community services, such as health and education.

Methodological challenges associated with the measurement of energy access are more fully described in the Global Tracking Framework (2013) (Chapter 2, Section 1, page 75-82).

### References

Global Tracking Framework report (2013) <http://trackingenergy4all.worldbank.org/>

### From UN-Energy:

The latest proposal retains the important indicator on “Percentage of population with electricity access” but has dropped the indicator on “Percentage of population with access to non-solid fuels”. The latter is important because cooking and heating represent a large share of household energy use across the developing world and are not typically undertaken using electricity. Instead, for cooking and heating, households typically rely on solid fuels (such as wood, charcoal, biomass) or non-solid fuels (mainly natural gas or LPG). It is well known that reliance on solid fuels for cooking and heating is associated with high levels of indoor air pollution estimated to cause almost 4 million deaths annually, mainly among women and children. This is more than TB, HIV and malaria combined. These adverse health impacts can be avoided by switching to non-solid fuels, or in some circumstances by adopting advanced combustion cook stoves and adopting strict protocols for their safe use.

Given the importance of clean and safe cooking as a human development issue, universal access to energy among the technical practitioner community is currently taken to mean access to both electricity and non-solid fuels. For this reason, clean cooking forms part of the universal access objective under the UN Secretary General’s Sustainable Energy for All initiative. Therefore, it is recommended to reinstate the previously proposed indicator defined in terms of “Percentage of population with access to non-solid fuels” or alternatively in terms of “Percentage of population with primary reliance on clean fuels and technologies.”

### From IRENA:

#### Definition and method of computation

This indicator should report the proportion of the population in a country that has access to electricity either through a grid connection or through connection to an off-grid generating device, such as a solar panel, small-scale wind turbine, hydro facility or generator. It can be calculated in three steps:

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1. Collect data about the number of residential customers of electricity companies and number of households with access to a working off-grid electricity supply.
2. Multiply each of the above by average household size (using disaggregated data on household size wherever possible with, at a minimum, a distinction between average urban and rural household size for calculation of on and off-grid electricity users). Add the two results together to calculate the number of people with electricity access.
3. Divide this result by total population. Preferably also show separately the results for the urban and rural population with each divided into access to on and off-grid electricity (with off-grid electricity further split by technology: fossil fuel; solar; wind; hydro; biomass).

### Rationale and interpretation

Connection to an electricity supply is an indicator of access to a modern energy service. Inclusion and disaggregation of off-grid electricity access will also give insights into affordability and reliability as well as the extent to which access is being provided to all within a country (rather than just people connected to the grid, who are predominantly in urban areas in many places).

### Sources and data collection

Electricity company statistics (for on-grid customers) and household surveys for off-grid connections. International trade statistics (solar panel imports) can also give a broad indication of increases in access to solar energy (an important component of off-grid electricity), as can records of projects funded through international assistance.

### Disaggregation

At a minimum, data should be disaggregated into rural and urban areas and type of electricity supply (on-grid and off-grid, with off-grid disaggregated by technology if possible).

### Comments and limitations

Over time, more refined measurement of off-grid access could be established in terms of the rated supply provided to each household (in watts – e.g. <20w, 20-200w, 200-200w, >2,000w) and the degree of use (e.g. number of hours per day when electricity is available). Reliability of supply could also be measured in terms of the number of days per year when the supply is available. For on-grid electricity, it should be feasible to obtain similar measures from the records of electricity companies.

### Gender equality issues

As the primary measurement unit for this indicator is the household, it is not well suited to the measurement of gender equality. However, household surveys of off-grid access (and customer data from electricity companies) may give an insight into the provision of electricity access to female and male headed households.

### Data for global and regional monitoring

This data should be suitable for cross-country comparability or aggregation.

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### Supplementary information and references

Access to electricity (% of population)

*World Bank, Sustainable Energy for All (SE4ALL) database from World Bank.*

<http://data.worldbank.org/indicator/EG.ELC.ACCS.ZS>

Solar power capacity

*IRENA Renewable Energy Database*

<http://resourceirena.irena.org/gateway/dashboard>

### Responsible entities

IRENA is willing to contribute to this effort with the collection and analysis of off-grid renewable energy data.

### Current data availability

Access to electricity: 5-year average (2 periods since 2005) for 213 countries (World Bank data)

Solar power capacity: annual data for 174 countries, divided into off-grid and on-grid (IRENA)

### Suggested Indicator 2: Percentage of population with primary reliance on non-solid fuels (%)

**From SE4All, World Bank and UN-Energy:**

#### Definition and method of computation

The percentage of the population that relies on solid fuels as the primary source of domestic energy for cooking and heating. Non-solid fuels for cooking and heating include electricity or gaseous fuels (including liquefied petroleum gas) or solid/liquid fuels paired with stoves exhibiting overall emission rates at or near those of liquefied petroleum gas.

To develop the historical evolution of Non-Solid Fuel Use rates, a multi-level non-parametrical mixed model, using both fixed and random effects, was used to derive solid fuel use estimates for 150 countries. For a country with no data, estimates are derived by using regional trends or assumed to be universal access if a country is classified as developed by the United Nations.

The Global Tracking Framework Report (2013) provides more details on the suggested methodology for tracking access to energy (Chapter 2, Section 1, page 82-87).

#### Rationale and interpretation

The percentage of population with access to non-solid fuels is important because cooking and heating represent a large share of household energy use across the developing world and are not typically undertaken using electricity. Instead, for cooking and heating, households

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typically rely on solid fuels (such as wood, charcoal, biomass) or non-solid fuels (mainly natural gas or LPG). It is well known that reliance on solid fuels for cooking and heating is associated with high levels of indoor air pollution estimated to cause almost 4 million deaths annually, mainly among women and children. This is more than TB, HIV and malaria combined. These adverse health impacts can be avoided by switching to non-solid fuels, or in some circumstances by adopting advanced combustion cook stoves and adopting strict protocols for their safe use.

### Sources and data collection

Data for access to Non-Solid Fuel are collected among different sources: only data from nationally representative household surveys (including national censuses) were used. Survey sources include Demographic and Health Surveys (DHS) and Living Standards Measurement Surveys (LSMS), Multi-Indicator Cluster Surveys (MICS), the World Health Survey (WHS), other nationally developed and implemented surveys, and various government agencies (for example, ministries of energy and utilities).

For more information on compiling access to energy data see Global Tracking Framework report (2013) (Chapter 2, Annex 2, page 127-129).

### Data for global and regional monitoring

Coverage of at least 150 countries is available through the WHO Global Household Energy Database.

### Comments and limitations

Access to non-solid fuel does not fully capture access to modern cooking solutions. The reason for this is that an unknown and likely growing percentage of those without access to non-solid fuels may nonetheless be using acceptable cooking solutions based on processed biomass (such as fuel pellets) or other solid fuels paired with stoves exhibiting overall emissions rates at or near those of liquefied petroleum gas (LPG). At present, it is not possible to adequately measure the number of households in this situation. It is believed to be relatively small but is expected to grow over time as governments and donors place growing emphasis on more advanced biomass cook stoves as a relatively low-cost and accessible method of improving the safety and efficiency of cooking practices.

Methodological challenges associated with the measurement of energy access are more fully described the Global Tracking Framework (2013) Chapter 2, Section 1, page 75-82.

### References

Global Tracking Framework report (2013) <http://trackingenergy4all.worldbank.org/>

WHO Global Health Observatory <http://apps.who.int/gho/data/node.main.134?lang=en>

WHO Energy Database meta data  
[http://apps.who.int/gho/indicatorregistry/App\\_Main/view\\_indicator.aspx?iid=318](http://apps.who.int/gho/indicatorregistry/App_Main/view_indicator.aspx?iid=318)

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### From WHO:

The full evidence-base supporting this reformulation of this indicator can be found in the *WHO indoor air quality guidelines: household fuel combustion*<sup>18</sup>, an authoritative document that uses both systematic reviews of the evidence base and a panel of scientists to provide normative recommendations of what fuels and technologies used in the home can be considered clean and safe for health as well as the environment.

### Rationale:

**Shift in terminology from “nonsolid fuels” to “clean fuels”:** Kerosene, also known as paraffin, is a *liquid* or *nonsolid* fuel that is a major source of air pollution, particularly black carbon. More importantly, scientific studies have shown kerosene to substantially put the health and safety of household members at risk. For example, one epidemiological study shows the relative risk for tuberculosis to be 9 times higher amongst households using kerosene for cooking compared to households using liquefied petroleum gas (LPG). Kerosene is also the leading risk factor for childhood poisonings and is a major cause of fires and burns in low and middle-income countries.

**Inclusion of technologies:** The normative guidance of the *WHO IAQG*, strongly recommends that all major household energy end uses (e.g. cooking, space heating, lighting) use efficient fuels *and* technology combinations to ensure health and environmental benefits. Focusing on the fuel itself limits the utility of this indicator to monitor the impacts of sustainable development, as the emissions (i.e. level of pollution) are directly correlated to how well the technology or device (e.g. cookstove, lamp) burns the fuel. Although currently there are no biomass stoves available in low and middle-income countries that burn efficiently enough to be considered “clean”, reformulating this indicator to account for the fuel in combination with technology, allows for future innovations in biomass stove technologies to be positively counted toward achieving the SDG goal 7 and related targets (i.e. 7.2, 7.3) and other SDGs related to sustainability (e.g. Goal 12, 15).

### Defining the location:

Defining the energy access indicator to refer to as energy access in the *home* makes this indicator more specific, measurable, comparable (over time and geographically) and requires less resources and capacity for its monitoring. Energy access is an important development issue facing households, the community (e.g. health care facilities) and the workplace. The SE4All initiative aims to ensure universal access in all of these settings however the current capacity for and level of data collection on energy access in the community and the workplace is far less robust and geographically representative than compared to households and would require significantly more resources to monitor. Furthermore, the largest health burden from air pollution is in the homes. Accounting for 4.3 million deaths annually, or over half the overall air pollution burden, improving energy access in homes holds some of the greatest and measurable benefits for health.

### Data Sources

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<sup>18</sup> WHO guidelines for indoor air quality: household fuel combustion; 2014; (<http://www.who.int/indoorair/guidelines/hhfc/en/>).

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Four key sources of data and evidence, described below, are integral to effectively tracking access to energy and its associated benefits using the updated indicator. Noting that two of these sources (i.e. WHO's Global household energy database<sup>19</sup>, WHO's Global Health Observatory<sup>20</sup>) are also essential to monitoring the currently proposed OWG indicator.

### ***WHO's Global household energy database***<sup>8</sup>

The WHO's global household energy database has been the primary resource for data on energy access for over a decade. It collates nationally-representative household survey and census data on primary cooking fuel from over 800 surveys, representing 159 countries, with raw data for some countries dating back to 1970 to 2014. This database also stores information on primary cookstove and other cooking attributes such as ventilation, cooking location and it has recently been expanded to include nationally representative survey data on heating and lighting fuels and technologies. WHO is in the process of enhancing the database to include data disaggregated by sex to better capture gender issues associated with household energy use which will help provide better data linkages between SDGs on energy, health, and gender.

### ***WHO's Global Health Observatory***<sup>9</sup>

The metadata on household energy access housed in this global database is used to inform a nonparametrical statistical model which estimates primary solid fuel use for cooking globally, regionally and for all countries between 1980 and the present year. The modelled estimates, as presented in the WHO Global Health Observatory are reported annually in the World Health Statistics and have been used for the global monitoring of the SE4All's Global Tracking Framework, the International Energy Agency's World Energy Outlook and the Global Alliance for Clean Cookstoves top-down monitoring framework, Global Burden of Disease work amongst others.

### ***WHO guidelines for indoor air quality: household fuel combustion***<sup>21</sup>

In November 2014, WHO published the first-ever normative guidance on household energy use and its associated health impacts. The recommendations within the WHO IAQG provide technical specifications in the form of emission rate targets for the fuels and devices used in the home to protect health and the environment. They also provide specific recommendations against home use of unprocessed coal and discourages the use of kerosene in the home. Further guidance on the transition to wide-scale sustained adoption and ensuring climate co-benefits are also included.

### ***Sustainable Energy for All Multi-Tier Tracking Framework***

Since its inception in 2011, under the context of the Sustainable Energy for All Initiative<sup>22</sup>, there has been an ongoing collaboration amongst SE4All members, led by the World Bank, ESMAP and IEA to develop a more refined method to measuring energy access in the home, community and in the workplace. The currently proposed multi-tier framework to track progress towards attaining the goal for universal access to modern energy services in the home includes both quantitative and qualitative elements to better assess all access to energy for basic home energy needs, including cooking, heating and lighting. The technical health-

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<sup>19</sup> WHO Global household energy database ([http://www.who.int/indoorair/health\\_impacts/databases/en/](http://www.who.int/indoorair/health_impacts/databases/en/))

<sup>20</sup> WHO Global health observatory ([http://www.who.int/gho/phe/indoor\\_air\\_pollution/burden/en/](http://www.who.int/gho/phe/indoor_air_pollution/burden/en/))

<sup>21</sup> WHO Guidelines for indoor air quality: household fuel combustion

(<http://www.who.int/indoorair/guidelines/hhfc/en/>)

<sup>22</sup> Sustainable Energy for All (<http://www.se4all.org/tracking-progress/>)



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based recommendations from the WHO IAQG are integrated into the grading of fuels and technologies within the multi-tier tracking framework. The Knowledge Hub of SE4All is currently piloting this tool in a number of countries and should be rolled more extensively soon.

### ***Global Alliance for Clean Cookstoves's Clean Cooking Catalogue***<sup>23</sup>

The Global Alliance for Clean Cookstoves has recently released a clean cooking catalogue which documents the testing results of different cookstoves. This catalogue is updated regularly with new results from various testing centres and studies around the world. This information included in this catalogue is useful resource for monitoring what technologies can be considered clean.

### ***International Organization for Standardization***<sup>24</sup>

In 2012, an international effort to develop standards for cookstoves was initiated. IWA 11:2012 provides a framework for rating cookstoves against tiers of performance for a series of performance indicators, including fuel use, emissions (indoor and overall) and safety. WHO, serving as a Category A Liaison has been actively participating in this process by advocating and providing the technical support to use health impacts as an important benchmark for cookstove standards and testing protocols. The finalization of these ISO standards, expected in 2016 will help support the monitoring of this indicator locally, regionally and globally.

### **Data gaps & opportunities to address such gaps**

Two major data gaps or challenges exist for this updated indicator. Following is a description of each of these gaps along with the current opportunities, resources and ongoing initiatives to address or fill these gaps.

#### ***Technologies***

Traditionally household surveys and censuses limited their assessment of household energy to primary fuel used for cooking. A few household surveys (e.g. USAID's Demographic Health Survey, UNICEF's World Health Survey) have included questions on the type of cooking device but in very general terms that would not adequately facilitate monitoring this proposed indicator on clean fuels and technologies.

#### ***Other household energy-uses:***

Currently there is a paucity in data collection around other household energy end-uses (i.e. space heating, lighting) other than cooking. It is often assumed that access to electricity equivocates to access to clean lighting, however there are a number of studies and surveys showing that this is often not the case due to issues with the electricity supply like reliability (e.g. electricity available only at times when lighting is not needed), affordability (e.g. electricity more expensive than kerosene for lighting) and/or availability (e.g. inadequate supply).

#### ***Addressing data gaps:***

In light of these data gaps, WHO in cooperation with the Global Alliance for Clean Cookstoves initiated an ongoing effort with various surveying agencies (including the

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<sup>23</sup> Global Alliance for Clean Cookstoves Clean Cooking Catalogue (<http://catalog.cleancookstoves.org/>)

<sup>24</sup> International Organization for Standardization ([http://www.iso.org/iso/home/store/catalogue\\_tc/catalogue\\_detail.htm?csnumber=61975](http://www.iso.org/iso/home/store/catalogue_tc/catalogue_detail.htm?csnumber=61975))

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Knowledge hub of the Sustainable Energy for All Initiative, USAID's Demographic Health Survey, UNICEF's Multi-indicator Cluster Survey, World Bank's Living Standards Measurement Survey, etc.) to enhance and harmonize household survey instruments to assess all the types of fuel and technologies used in the home for cooking, heating and lighting. These questions will be freely available to national statistical agencies, surveying agencies and are expected to be incorporated into the International Household Survey Network's question bank. To complement this harmonization process, currently there is work underway to develop a standardized method for measuring emissions from household energy devices in a cost-efficient way that is adaptable to local circumstances and technologies. The current work by International Standards Organization (ISO) to develop standards on cookstoves (i.e. ISO /TC 285 Clean cookstoves and clean cooking solutions) is an important asset and will help to facilitate the monitoring of home energy technologies.

The Sustainable Energy for All Initiative and its multi-tier tracking framework is another important source of data collection that can help facilitate monitoring this proposed indicator. The SE4All multi-tier framework accounts for the fuels and technologies used for cooking and heating in alignment with the WHO IAQG and SE4All has developed a similar metric for assessing household access to electricity, which specifically addresses the challenges with using access to electricity as a proxy for lighting. The SE4All multi-tier tracking framework, currently being piloted will be rolled out in a number of countries, representing a large majority of the high-burden countries (i.e. highest population levels without access). WHO and GACC have worked closely with the World Bank, the leading agency behind the development of this tracking framework, to ensure that it aligns with the current evidence and the WHO IAQG on household fuel combustion. Data from the SE4All multi-tier tracking framework will be included in the WHO's global household energy database and will be utilized to better estimate the relative health burden and developmental impacts from household energy access and the associated household (indoor) air pollution.

### **From IRENA:**

#### **Introduction**

The current suggested indicator does not reflect the affordability dimension of this target, nor does it acknowledge that solid fuels can provide reliable and modern energy services. The largest domestic use of energy in almost all households is for cooking and heating and, in many countries, bioenergy is by far the most affordable (and often the only feasible) source of energy for such purposes. It is unrealistic to believe that this will change much by 2030, nor is it necessarily desirable. Often, the first step beyond using biomass is to switch to liquid fossil fuels (such as kerosene), which can have the same disadvantages as burning biomass. In such situations, the provision of modern energy services can and should be delivered through the provision of access to improved technologies for the combustion of biomass and other solid and liquid fuels (clean cookstoves, more modern heating appliances, etc.) rather than simply by fuel switching. Thus, IRENA supports the alternative formulation of this indicator, as noted by UN-Energy:

#### ***Percentage of population with primary reliance on clean fuels and technologies***

The notes below suggest how this alternative formulation might be measured.

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### Definition and method of computation

This indicator should report the proportion of the population in a country that use clean fuels (gas or electricity) as their main source of energy for cooking and heating, plus the proportion that use improved technology for the combustion of liquid or solid fuels used for the same purpose. It can be calculated in three steps:

1. Establish (from household surveys) the main type of fuel used by households for cooking (and heating, where applicable). For liquid and solid fuels, establish the type of technologies used, following the guidance on cooking technologies provided by the Global Alliance for Clean Cookstoves. A similar scale for rating heating appliances would have to be developed.
2. Multiply the number of households using clean fuels or each type of technology by average household size (using household size data collected as part of household surveys), to get the number of people in each category for cooking (and heating, where applicable). Add together the number of people using clean fuels plus those using solid and liquid fuels with anything other than the minimum technology. (For countries where energy is used for both cooking and heating, use the average of the two results).
3. Divide the result by total population. Preferably also provide results disaggregated by fuel type and technology for both cooking and heating.

### Rationale and interpretation

The use of electricity or gas for cooking and heating is an indicator of access to a modern energy service. Information about the use of improved cooking and heating technologies (burning solid and liquid fuels) gives additional information about progress towards the provision of modern energy services that are likely to be more relevant for the vast majority of people in many less developed countries. Disaggregation of the data by household type could also give insights into the extent to which access is being provided to all within a country.

### Sources and data collection

Household surveys and national censuses would be the most likely source of data. Basic data about fuel use is already collected in many national censuses (type of fuel used and, sometimes, how it is used). More precise information could be gathered using survey instruments similar to those currently used to measure access to safe water supplies (e.g. where individuals are used about what they use to sterilise water).

### Disaggregation

At a minimum, data should be disaggregated into rural and urban areas, type of fuel used and type of technology used (for liquid and solid fuels).

### Comments and limitations

Cooking technologies would have to be carefully described and explained to data collectors, but this does not appear to have been a problem in the collection of safe water statistics.

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### Gender equality issues

As the primary measurement unit for this indicator is the household, it is not well suited to the measurement of gender equality. However, considering that women and children are most at risk from indoor air pollution, the results can be used as a broad indicator of improvements in women's lives.

### Data for global and regional monitoring

This data should be suitable for cross-country comparability or aggregation.

### Supplementary information and references

Numbers of people relying on fuelwood for cooking (global, disaggregated by country):

*FAO State of the World's Forests Report 2014*

<http://www.fao.org/forestry/sofo/en>

### Responsible entities

IRENA is willing to contribute to this effort with the collection and analysis of bioenergy data.

### Current data availability

Data on fuel use is available for most countries, with at least one observation (from censuses) over the last decade. Additional observations are also available from DHS, MICS, LSMS and other household surveys. Some data on the use of improved cooking technologies is also available

## **Goal 7 Ensure access to affordable, reliable, sustainable and modern energy for all**

**Target 7.2 By 2030, increase substantially the share of renewable energy in the global energy mix.**

**Suggested Indicator: Renewable energy share in the total final energy consumption (%)**

**From SE4All, World Bank, UN-Energy:**

### **Definition and method of computation**

The renewable energy share in total final consumption is the percentage of final consumption of energy that is derived from renewable resources. It is calculated by dividing consumption of energy from all renewable sources by total final energy consumption. Renewable energy consumption includes consumption from: hydro, solid biofuels, wind, solar, liquid biofuels, biogas, geothermal, marine and waste. Total final consumption of energy is calculated from national balances and statistics as total final consumption minus non-energy use.

Renewable energy consumption is derived from three tables of the IEA world energy statistics and balances: total final consumption, electricity output and heat output. All volumes reported in the total final consumption table are taken as reported. Since volumes for electricity and heat in the final consumption table are not broken down by technology, electricity and heat output tables are used instead to break down final consumption of electricity and heat by technology. The allocation by technology is done by deriving the share of technology in electricity and heat output tables and multiplying that share by final energy consumption of electricity and heat, respectively. For instance, if total final consumption table reports 150 TJ for waste energy, while total final consumption of electricity is 400 TJ and heat 100 TJ, and the share of waste in total electricity output is 10 percent and 5 percent in heat, the total reported number for waste consumption will be 195 TJ ( $150\text{ TJ} + 400\text{ TJ} * 10\% + 100\text{ TJ} * 5\%$ ).

The Global Tracking Framework Report (2013) provides more details on the suggested methodology for defining and measuring renewable energy (Chapter 4, Section 1, page 201-202).

### **Rationale and interpretation**

The target “By 2030, increase substantially the share of renewable energy in the global energy mix” impacts all three dimensions of sustainable development. Renewable energy technologies represent a major element in strategies for greening economies everywhere in the world and for tackling the critical global problem of climate change. A number of definitions of renewable energy exist; what they have in common is highlighting as renewable all forms of energy that are replenished more rapidly than they are consumed. These include solar, wind, ocean, hydropower, biomass, geothermal resources, and biofuels.

Importantly, this indicator focuses on the amount of renewable energy actually consumed rather than the capacity for renewable energy production, which cannot always be fully utilized. By focusing on consumption by the end user, it avoids the distortions caused by the fact that conventional energy sources are subject to significant energy losses along the production chain.

## Goal 7 Ensure access to affordable, reliable, sustainable and modern energy for all

### Sources and data collection

Data on renewable energy consumption are available through national Energy Balances produced by the International Energy Agency and UN Statistics for more than 180 countries. The energy balances make it possible to trace all the different sources and uses of energy at the national level.

### Comments and limitations

Comments with regard to specific renewable energy resources:

- Solar energy consumption includes solar PV and solar thermal
- Liquid biofuel energy consumption includes biogasoline, biodiesels and other liquid biofuels
- Waste energy consumption is defined in IEA statistics as renewable municipal waste
- Solid biofuels for traditional uses is defined as solid biofuels consumed in the residential sector of non-OECD countries. It includes the following categories in the IEA statistics: primary solid biofuels, charcoal and non-specified primary biofuels and waste.
- Solid biofuels for modern uses is defined as all solid biofuels that are not consumed in the residential sector of non-OECD countries. It includes the following categories in the IEA statistics: primary solid biofuels, charcoal and non-specified primary biofuels and waste.

### Limitations

- A limitation with existing renewable energy statistics is that they are not able to distinguish whether renewable energy is being sustainably produced. For example, a substantial share of today's renewable energy consumption comes from the use of wood and charcoal by households in the developing world, which sometimes may be associated with unsustainable forestry practices. There are efforts underway to improve the ability to measure the sustainability of bio-energy, although this remains a significant challenge.
- Off-grid renewables data is limited and not sufficiently captured in the national accounts
- The method of allocation of renewable energy consumption from electricity and heat output assumes that the share of transmission and distribution losses are the same between all technologies. However, this is not always true because renewables are usually located in more remote areas from consumption centers and may incur larger losses.
- Dividing solid biofuels for traditional and modern uses by applying the residential sector use in non-OECD countries is an imperfect measure, yet it is the best approximation possible with the current state of data availability.

Methodological challenges associated with defining and measuring renewable energy are more fully described in the Global Tracking Framework (2013) Chapter 4, Section 1, page 194-200.

## Goal 7 Ensure access to affordable, reliable, sustainable and modern energy for all

### References

Global Tracking Framework report (2013) <http://trackingenergy4all.worldbank.org/>

### From UN-Energy:

The proposed indicator “Share of energy from renewable sources in net domestic energy use” is unusual in taking “net domestic energy use” as the denominator for measuring the renewable energy share. “Net domestic energy use” is not a very widely used indicator for energy use and is not very precisely defined, compared to more standard and widely used measures such as “primary energy supply” or “total final energy consumption”. This terminology will definitely translate into lack of data, particularly in LDCs and other developing countries.

### From IRENA:

#### Definition and method of computation

This indicator can be calculated from national energy balances that show the total final consumption of energy in a country, divided into different types of energy. The methodology for such calculations is well established amongst energy statisticians and is codified and agreed in the International Recommendations for Energy Statistics (UN, 2011). Consumption of renewable energy would include consumption of the following types of energy: hydro; marine; solar; wind; geothermal; bioenergy; and ambient heat (from heat pumps). The sum of consumption from these sources divided by total consumption (from all energy sources) would produce the indicator.

#### Rationale and interpretation

By their very nature, renewable energy sources are more sustainable than non-renewable energy sources, in that their consumption does not deplete their availability in the future. In the case of bioenergy (which can be depleted), sources of bioenergy can be replaced within a short to medium-term time-frame.

#### Sources and data collection

National energy statistics are already collected in the majority of countries, although some technical assistance may be needed to improve these statistics, particularly in the case of renewable energy sources. Household surveys (in combination with the measurement of other indicators) would be one feasible approach to filling in data gaps.

#### Disaggregation

Disaggregation of the data on consumption of renewable energy could provide insights into other dimensions of the goal, such as affordability and reliability.

#### Comments and limitations

## Goal 7 Ensure access to affordable, reliable, sustainable and modern energy for all

Capacity building for national statistical agencies is likely to be required in some countries.

### Gender equality issues

Not applicable.

### Data for global and regional monitoring

This data should be suitable for cross-country comparability or aggregation.

### Supplementary information and references

Annual total and renewable energy consumption for every country and area

*UN Energy Statistics Database*

<http://unstats.un.org/unsd/energy/edbase.htm>

Annual total and renewable energy consumption for OECD and selected non-OECD countries

*IEA statistics*

<http://www.iea.org/statistics>

Annual renewable energy consumption for every country and area

*IRENA Renewable Energy Database*

<http://resourceirena.irena.org/gateway/dashboard>

### Responsible entities

IRENA is willing to lead the collection and analysis of renewable energy data.

### Current data availability

Between the various existing data sources, annual data is available to calculate this indicator for most countries and areas.



## **Goal 7      Ensure access to affordable, reliable, sustainable and modern energy for all**

**Target 7.3      By 2030, double the global rate of improvement in energy efficiency.**

**Suggested Indicator: Rate of improvement in energy intensity (%) measured in terms of primary energy and GDP**

**From SE4All, World Bank, UN-Energy:**

### **Definition and method of computation**

Rate of primary energy intensity change (%) measured by the Compound Annual Growth Rate (CAGR) of primary energy intensity. Primary energy intensity itself is calculated by dividing total primary energy supply by GDP at PPP.

Energy efficiency concerns the relationship between energy inputs and service outputs. In practice, it is very challenging to measure all the different outputs that energy can produce. Thus, a widely used proxy indicator of energy efficiency is energy intensity, or the amount of energy needed to produce a monetary unit of GDP. The rate of change in energy intensity over time provides some indication of improvements in energy efficiency. For example, over the period 1990-2010, global energy intensity fell by 1.6 percent annually, from 10.2 to 7.9 megajoules per US dollar at 2005 prices. The indicator for this target can be formulated using as the baseline the global decrease of 1.6 percent annually in energy intensity for the 1990-2010 period. Doubling the global rate of improvement in energy efficiency by 2030 will imply a global decrease in energy intensity at a compound annual rate of 3.2 percent for the 2010- 2030 period.

For more information on methodology for defining and measuring energy efficiency, see Global Tracking Framework Report (2013) Chapter 3, Section 1, page 139-141.

### **Rationale and interpretation**

The target of “Doubling the global rate of improvement in energy efficiency by 2030 impacts all sectors of the economy, including households, industrial, transport, services, energy, agriculture and commercial. All sectors of the economy require modern energy services that are indispensable to securing economic growth and to powering industrialization processes. Providing modern energy services to all sectors of the economy in many countries is a major expense that may commit a considerable part of the country’s revenues, in particular if the fuels and energy resources need to be imported.

The efficiency of the energy system is important as well. Improving conversion efficiency, reducing transmission and distribution losses, reducing or eliminating unpaid use, etc. would not only affect the price (hence affordability) and environmental impacts (emissions), and other aspects of energy supply but would also contribute to another sustainable development criterion: the efficient use of natural resources, especially depletable ones.

### **Sources and data collection**

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IEA and UN energy balances combined provide primary energy supply data for 181 countries. GDP data is available for all countries in the World Development Indicators database of the World Bank.

### Comments and limitations

Primary energy intensity level is only an imperfect proxy to energy efficiency indicator. It can be affected by a number of factors, such as climate, structure of the economy, nature of economic activities etc. that are not necessarily linked to pure efficiency. In the long-term, it is critically important to improve the availability of data on energy inputs and service outputs of key economic sectors and processes, particularly in developing countries, in order to more accurately monitor energy efficiency. Only this kind of information will allow countries to pinpoint the nature of their energy efficiency challenges. Getting there will not be possible without a concerted global effort to improve energy efficiency statistics.

Methodological challenges associated with defining and measuring energy efficiency are more fully described the Global Tracking Framework (2013) Chapter 3, Section 1, page 134-138.

### References

Global Tracking Framework report (2013) <http://trackingenergy4all.worldbank.org/>

### From UN-Energy:

The proposed indicator “Ratio of value added to net domestic energy use, by industry” is an energy intensity measure at the level of individual industries. There are two problems with this formulation.

First, while the industrial sector is an important consumer of energy, it is far from being the only consumer of energy. This indicator therefore does nothing to capture the energy efficiency of all other sectors of the economy including transport, energy production, residential sector, agriculture and services.

Second, the indicator proposes reporting separate energy intensity information for each industry. In this sense, it is not a single indicator but rather a family of indicators, a separate one for the steel industry, the cement industry, the manufacturing industry, etc. Furthermore, there are at present relatively few countries in the world that have energy intensity data available at the level of individual industries.

Finally, energy intensity measures are more commonly expressed as the inverse of what is proposed (that is energy usage per dollar of value added as opposed to value added per unit of energy). Furthermore, the same comments made above under renewable energy regarding the use of the indicator “net domestic energy use” would also apply here, in particular in relation to the lack of data in many developing countries.

**Goal 7** Ensure access to affordable, reliable, sustainable and modern energy for all

**Target 7.a** By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology.

**Suggested Indicator: Improvement in the net carbon intensity of the energy sector (GHG/TFC in CO2 equivalents)**

**From OECD:**

***Definition and method of computation***

Estimates of CO<sub>2</sub> (and other GHG) emissions are based on the emissions embodied in the production of a final good and allocated to the country where final consumption occurs. As such the accounting framework shifts the ‘responsibility’, from an accounting perspective, to the consumer, as opposed to conventional measures, which focus on the producer perspective.

Total CO<sub>2</sub> (or other GHG) embodied in a given country *i*’s Final Demand can be estimated as:

$$\text{Con\_CO2}_i = \text{CO2} * (\text{I-A})^{-1} * \text{DFD}_i$$

Two approaches can be used.

The first follows the *industry by industry* formulation:

Where:

- CO<sub>2</sub> is a (1\*n\*k) vector, with CO<sub>2</sub><sub>1(i\*(n-1)+j)</sub> reflecting the ratio of CO<sub>2</sub> emissions per unit of output in a common currency (USD) produced by industry *j* in country *k* and *n* is the number of industry groupings used for all countries.
- (I-A)<sup>-1</sup> is the Leontief inverse matrix of size n\*k\*n\*k, with A<sub>((n\*1-1)+i),((n\*m-1)+j)</sub> reflecting the intermediate consumption by industry *j* in country *m* of goods and/or services produced by industry *i* in country *l*
- DFD is (n\*k)\*(k) matrix of domestic final demand where *n* is the number of industries and *k* is the number of countries, and DFD<sub>((n\*1-1)+i),((m-1))</sub> reflects domestic final demand by country *m* of the output of industry *i* in country *l*. DFD<sub>*m*</sub> is the *m*’th column vector, dimension (n\*k,1) of this matrix.
- Domestic final demand transactions include the following, as defined in the 2008 System of National Accounts: Household Final Consumption, Non-Profit Institutions Serving Households, General Government Final Consumption and Gross Capital Formation.

All transactions are measured at basic prices

The second approach follows the *product by product* formulation:

Where:

- CO<sub>2</sub> is a (1\*n\*k) vector, with CO<sub>2</sub><sub>1(i\*(n-1)+j)</sub> reflecting the ratio of CO<sub>2</sub> emissions per unit of output in a common currency (USD) produced of product *j* in country *k* and *n* is the number of product groupings used for all countries.
- (I-A)<sup>-1</sup> is the Leontief inverse matrix of size n\*k\*n\*k, with A<sub>((n\*1-1)+i),((n\*m-1)+j)</sub> reflecting the intermediate consumption by purchased in the production of product *j* in country *m* of product *i* from country *l*

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- DFD is  $(n \times k) \times (k)$  matrix of domestic final demand where  $n$  is the number of products and  $k$  is the number of countries, and  $DFD_{((n \times 1) + i), ((m - 1))}$  reflects domestic final demand by country  $m$  of the product  $i$  from country  $l$ .  $DFD_m$  is the  $m$ 'th column vector, dimension  $(n \times k, 1)$  of this matrix.
- Domestic final demand transactions include the following, as defined in the 2008 System of National Accounts: Household Final Consumption, Non-Profit Institutions Serving Households, General Government Final Consumption and Gross Capital Formation.

All transactions are measured at basic prices

### ***Rationale and interpretation***

GHG abatement policies focus on reducing global emissions. Measures that focus on the production of these emissions at source provide a concrete means of estimating total global emissions and emissions produced at the national level. Typically, policy levers used to reduce emissions also focus on the producer perspective. However, firms and indeed countries, are able to shift production to jurisdictions where environmental abatement policies may be less stringent. Indeed such forms of relocation can have the effect of increasing global emissions if the relocation is to a country where energy efficiencies may be lower. Indeed, cost minimisation strategies are not the only potential drivers. In many developed economies there is an increasing servicification of activity with production of goods (which are typically more carbon or GHG intensive than services activity), shifting offshore. In recent years therefore there has been increasing awareness that attention should also focus on consumption based measures (often referred to as footprint approaches), at least, if only, to complement the production based measures and to allow them to be put into perspective

### ***Sources and data collection***

A prerequisite for compilation is the availability of a global input-output table. The OECD's inter-country input-output tables currently contain information for 61 economies, covering over 90% of global GDP and global trade. At the national level the requirements for integration in table are input-output or supply-use tables for the economy in question. Ideally these tables should be consistent with the SNA, and be as detailed in coverage (industries/products) as possible, with transactions in basic prices. Tables should be produced as regularly and as timely as possible

Detailed data on emissions (quantities) by industries are also needed. The classification of industries/products (allocation of firms or statistical units to a given industry/product) for the emissions data should be consistent with that used in constructing national input-output/supply-use tables.

### ***Disaggregation***

The minimum breakdown of activities or products required is as follows:

Agriculture, hunting and forestry, fishing (ISIC Rev 3.1 equivalent section codes A, B)

Mining and quarrying (ISIC Rev 3.1 equivalent section code C)

Manufacturing (ISIC Rev 3.1 equivalent section code D)

Electricity, gas and water supply (ISIC Rev 3.1 equivalent section code E)

Construction (ISIC Rev 3.1 equivalent section code F)

Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods (ISIC Rev 3.1 equivalent section code G)

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Hotels and restaurants (ISIC Rev 3.1 equivalent section code H)

Transport, storage and communications (ISIC Rev 3.1 equivalent section code I)

Other Business Services: Financial intermediation, Real estate, renting and business activities (ISIC Rev 3.1 equivalent section codes J, K)

Other Services: Public administration and defence; compulsory social security, Education, Health and social work, Other community, social and personal service activities, Activities of private households as employers and undifferentiated production activities of private households, Extraterritorial organizations and bodies (ISIC Rev 3.1 equivalent section codes H-Q)

### ***Comments and limitations***

Even with the limited breakdown of activities/products, there is a possibility that some countries may not be able to generate an input-output table. In these circumstances estimates can be derived using the input-output table for a similar economy (similar GDP per capita, same region, similar export profile). For many industries/products in developing economies, in particular primary goods such as commodities and raw agricultural products, production function coefficients are similar.

### ***Gender equality issues***

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### ***Data for global and regional monitoring***

The OECD-WTO TiVA initiative already contains data for 61 economies, with plans to expand it over time to have comprehensive global coverage. As an SDG target indicator this process should gather momentum.

### ***References***

See [www.oecd.org/trade/valueadded](http://www.oecd.org/trade/valueadded)

Ahmad, N and A Wyckoff (2003); "Carbon Dioxide Emissions Embodied in International Trade of Goods" OECD Science, Technology and Industry Working Papers 2003/15.

**Goal 7** Ensure access to affordable, reliable, sustainable and modern energy for all

**Target 7.b** By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries and small island developing States.

**Suggested Indicator:** Ratio of value added to net domestic energy use, by industry.

**NO METADATA RECEIVED**

**Goal 8** Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

**Target 8.1** Sustain per capita economic growth in accordance with national circumstances and, in particular, at least 7 per cent gross domestic product growth per annum in the least developed countries.

**Suggested Indicator: GDP per capita, PPP**

**From ILO:**

#### **Definition and method of computation**

This indicator is calculated as nominal Gross Domestic Product (GDP) converted to international dollars using purchasing power parity (PPP) exchange rates divided by total population. GDP can be measured using the expenditure or the income approach as  $GDP = \text{Consumption} + \text{Gross Investment} + \text{Government Spending} + (\text{Exports} - \text{Imports})$  or  $GDP = \text{Compensation of employees} + \text{Rent} + \text{Interest} + \text{Proprietor's Income} + \text{Corporate Profits} + \text{Indirect business taxes} + \text{Depreciation} + \text{Net foreign factor income}$ . The population comprises persons of all ages who were usual residents living in the country during the reference period, regardless of legal residency status or citizenship.

#### **Rationale and interpretation**

GDP is one of the most widely used measures of output (mainly market production) for a given national economy. GDP per capita indicates the average output per person and has often been used to indicate a country's standard of living.

#### **Comments and limitations**

GDP primarily measures market production, but has often been treated as if it were a measure of economic well-being. Equating the two will lead to misinterpretations about people's material living standards which in fact are more closely linked to measures such as net national income, real household income and consumption.

#### **Gender equality issues**

This indicator is not relevant for identifying gender equality issues.

#### **Data for global and regional monitoring**

Global and regional aggregate estimates are available from a number of sources, including the World Bank, IMF and UN.

#### **Responsible entities**

World Bank.

**Goal 8** Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

**Target 8.2** Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value-added and labour-intensive sectors.

**Suggested Indicator: Growth rate of GDP per employed person**

**From ILO:**

#### **Definition and method of computation**

This indicator is a measure of labour productivity growth, which is computed as the annual growth rate of: Gross Domestic Product (GDP) at market prices for the aggregate economy divided by total employment. Employment refers to the average number of persons with one or more paid jobs during the year.

#### **Rationale and interpretation**

Economic growth in a country can be ascribed either to increased employment or to more production on average by those who are employed. The latter effect can be described through statistics on labour productivity and thereby it is a key measure of economic and labour market performance.

#### **Sources and data collection**

GDP figures based on National Accounts and employment figures on Household surveys.

#### **Disaggregation**

Disaggregation by economic sector is feasible. No sex disaggregation.

#### **Comments and limitations**

Despite common principles that are mostly based on the United Nations System of National Accounts, there are still significant problems in international consistency of national accounts estimates, in particular for economies outside the OECD. This includes: 1) different treatment of output in services sectors; 2) different procedures in correcting output measures for price changes, in particular the use of different weighting systems in obtaining deflators; 3) different degree of coverage of informal economic activities in developing economies and of the underground economy in developed (industrialized) economies in national accounts. As in the case of output estimates, the employment estimates are sensitive to under-coverage of informal or underground activities.

#### **Gender equality issues**

This indicator is not relevant for identifying gender equality issues.

#### **Data for global and regional monitoring**

The ILO produces global and (flexible) regional estimates of labour productivity growth.



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**Responsible entities**

ILO.

**Current data availability**

The ILO has data for 124 countries.

## Goal 8 Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

**Target 8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services.**

**Suggested Indicator: Share of informal employment in non-agriculture employment by sex.**

**From ILO:**

### **Definition and method of computation**

The share of informal employment in total non-agriculture employment refers to employment in informal jobs expressed as a percentage of total non-agriculture employment. Informal employment comprises persons who in their main or secondary jobs were: (a) Own-account workers, employers and members of producers' cooperatives employed in their own informal sector enterprises. The informal nature of their jobs follows directly from the characteristics of the enterprise; (b) Own-account workers engaged in the production of goods exclusively for own final use by their household (e.g. subsistence farming or do-it-yourself construction of own dwellings), if covered; (c) Contributing family workers, irrespective of whether they work in formal or informal sector enterprises. The informal nature of their jobs is due to the fact that contributing family workers usually do not have explicit, written contracts of employment, and that usually their employment is not subject to labour legislation, social security regulations, collective agreements, etc.; (e) Employees holding informal jobs, whether employed by formal sector enterprises, informal sector enterprises, or as paid domestic workers by households. Employees are considered to have informal jobs if their employment relationship is, in law or in practice, not subject to national labour legislation, income taxation, social protection or entitlement to certain employment benefits (paid annual or sick leave, etc.) for reasons such as: non-declaration of the jobs or the employees; casual jobs or jobs of a limited short duration; jobs with hours of work or wages below a specified threshold (e.g. for social security contributions); employment by unincorporated enterprises or by persons in households; jobs where the employee's place of work is outside the premises of the employer's enterprise (e.g. outworkers without employment contract); or jobs, for which labour regulations are not applied, not enforced, or not complied with for any other reason. Operational criteria used by countries to define informal jobs of employees include lack of coverage by social security system, lack of entitlement to paid annual or sick leave, or lack of written employment contract.

### **Rationale and interpretation**

This is considered an important indicator regarding the quality of employment in an economy, and is relevant to developing and developed countries alike. A decreasing share of informal employment indicates progress as regards the proportion of persons employed that generally lack basic social or legal protections or employment benefits, whether they work in the formal sector, informal sector, or households.

### **Sources and data collection**

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Household surveys (LFS, HIES, LSMS, Integrated HH surveys, etc.).

### Disaggregation

Data are available by sex.

### Comments and limitations

Given that informal employment is a job-based concept and encompasses those jobs that generally lack basic social or legal protections or employment benefits, which may be found in the formal sector, informal sector or households, the preferred official national data source for this indicator is a household-based labour force survey including the necessary questions specifically designed to capture all the relevant information. Other household surveys with an appropriate employment module including questions targeting informal employment can also be used to obtain the required data. This has a clear impact on data availability, since such collections are not necessarily in place in all countries. Also, given its relatively low volatility, the frequency of data collection and dissemination for the share of informal employment could be less than that required for other key labour market indicators. Furthermore, as informal employment is comprised of several component categories defined by status in employment and type of production unit, it would always be best to analyse this indicator along with statistical information on the levels and changes of its components, since the conclusions might vary significantly depending on these.

### Gender equality issues

As this indicator is disaggregated by sex, it is well-suited for analysis of gender equality issues.

### Data for global and regional monitoring

The ILO does not currently produce global and regional estimates on informal employment.

### Supplementary information and references

For details, refer to the *Resolution concerning statistics of employment in the informal sector*, available at:

[http://www.ilo.org/global/statistics-and-databases/standards-and-guidelines/resolutions-adopted-by-international-conferences-of-labour-statisticians/WCMS\\_087484/lang-en/index.htm](http://www.ilo.org/global/statistics-and-databases/standards-and-guidelines/resolutions-adopted-by-international-conferences-of-labour-statisticians/WCMS_087484/lang-en/index.htm) ;

the *Guidelines concerning a statistical definition of informal employment*, available at [http://www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/normativeinstrument/wcms\\_087622.pdf](http://www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/normativeinstrument/wcms_087622.pdf) ;

and the ILO manual *Measuring informality: A statistical manual on the informal sector and informal employment*, available at:

[http://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms\\_222979.pdf](http://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_222979.pdf)

*Handbook on Measuring Quality of Employment: A Statistical Framework.* (UNECE- CES)

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[http://www.unece.org/fileadmin/DAM/stats/documents/ece/ces/2015/4\\_Add.2\\_Rev1\\_Guidelines\\_on\\_QoEmployment.pdf](http://www.unece.org/fileadmin/DAM/stats/documents/ece/ces/2015/4_Add.2_Rev1_Guidelines_on_QoEmployment.pdf)

**Responsible entities**

ILO.

**Current data availability**

The ILO has data on the share of informal employment for 62 countries.

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**Target 8.4** Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10-year framework of programmes on sustainable consumption and production, with developed countries taking the lead.

**Suggested Indicator:** Resource productivity.

**NO METADATA RECEIVED**

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**Target 8.5** By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value.

**Suggested Indicator 1: Average hourly earnings of female and male employees by occupations (Wages/Gender wage gap).**

**From ILO:**

#### **Definition and method of computation**

The gender wage gap measures the relative difference between the average hourly earnings for men and the average hourly earnings for women. It is computed as the difference between the gross average hourly earnings of male and female employees expressed as percentage of gross average hourly earnings of male employees. Earnings refers to regular remuneration received from employers, in cash and in kind, and includes direct wages and salaries for time worked or work done, remuneration for time not worked (e.g. paid annual leave), as well as bonuses and gratuities that are regularly received. It excludes contributions paid by employers to social security and pension schemes in respect of their employees, benefits received by employees under these schemes, and severance and termination pay.

#### **Rationale and interpretation**

The gender wage gap measures the extent to which the wages of men differ from those of women and therefore directly addresses the target of "equal pay for work of equal value". When the gender pay gap equals "0", it denotes equality of earnings. Positive values reflect the extent to which women's earnings fall short of those received by men, where a value closer to "100" denotes more inequality than a value closer to "0". Negative values reflect the extent to which women's earnings are higher than men's.

#### **Sources and data collection**

Household surveys (LFS, HIES, LSMS, Integrated HH surveys, etc.), Establishment surveys, Administrative records.

#### **Disaggregation**

Data are available by gender and occupation.

#### **Comments and limitations**

The gender wage gap is calculated for paid employees only, as earnings data are typically available for employees. Hence, the gender pay gap does not cover large numbers of own-account workers or employers, especially in the informal sector where income differences between men and women may be larger. The gender pay gap does not capture either income differences between the sexes that result from uneven access to paid employment. For instance, when men are over-represented among paid employees (with relatively high incomes) and women are over-represented among the self-employed in the informal sector (with relatively

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low incomes), the overall gap in incomes is likely to be greater than what can be captured by the gender wage gap.

### Gender equality issues

As this indicator provides a direct comparison of wages between men and women, it is well-suited for analysis of gender equality issues.

### Data for global and regional monitoring

The ILO has estimates of wages for the world as a whole and by regional groupings, although these are not currently disaggregated by gender.

### Supplementary information and references

For details, refer to the *Resolution concerning an integrated system of wage statistics*, available at:

[http://www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/normativeinstrument/wcms\\_087496.pdf](http://www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/normativeinstrument/wcms_087496.pdf)

*Decent Work Indicators: ILO Manual - Second Version*, available at:

[www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/publication/wcms\\_223121.pdf](http://www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/publication/wcms_223121.pdf)

### Responsible entities

ILO.

### Current data availability

The ILO has data on hourly earnings and gender wage gap for 66 countries.

## Suggested Indicator 2: Unemployment rate by sex, age-group and disability.

### From ILO:

#### Definition and method of computation

The unemployment rate is calculated by dividing the total number of unemployed (for a country or a specific group of workers) by the corresponding labour force, which itself is the sum of the total persons employed and unemployed in the group. Persons in unemployment are defined as all those of working age who were not in employment, carried out activities to seek employment during a specified recent period and were currently available to take up employment given a job opportunity.

#### Rationale and interpretation

Information on unemployment by age illustrates the different dimensions of the lack of jobs for people of a given age group. For example, in a country where the youth unemployment rate is

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high and the ratio of the youth unemployment rate to the adult unemployment rate is close to one, it may be concluded that the problem of unemployment is not specific to youth, but is country-wide. The problem of unemployment is unequally distributed when, in addition to a high youth unemployment rate, the proportion of youth unemployment in total unemployment is high. In this case, employment policies might usefully be directed towards easing the entry of young people into the world of work.

### **Sources and data collection**

Household surveys (LFS, HIES, LSMS, Integrated HH surveys, etc.), Official estimates, Administrative records.

### **Disaggregation**

Data are available by gender and age.

### **Comments and limitations**

There are a variety of issues affecting cross-country comparability, including but not limited to different sources, measurement differences, conceptual variation, survey coverage and collection methodology.

### **Gender equality issues**

Information on unemployment by sex shows the difficulty to enter the labour market by gender, revealing in some cases a harder situation for women, which is directly linked to a country's social and cultural aspects and traditions.

### **Data for global and regional monitoring**

The ILO has estimates of the unemployed (number and rate) disaggregated by sex and age (youth and adult) for the world as a whole and by (flexible) regional groupings. The global and regional estimates are based on both real and imputed values.

### **Supplementary information and references**

For details, refer to the Resolution concerning statistics of work, employment and labour underutilization, available at [http://www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/normativeinstrument/wcms\\_230304.pdf](http://www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/normativeinstrument/wcms_230304.pdf)

### **Responsible entities**

ILO.

### **Current data availability**

The ILO has data for 224 countries.



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**Target 8.6** By 2020, substantially reduce the proportion of youth not in employment, education or training.

**Suggested Indicator: Percentage of youth (15-24) not in education, employment or training (NEET).**

**From ILO:**

#### **Definition and method of computation**

The NEET is defined as the percentage of youth (15-24 years old) who are not in employment and not in education or training.

#### **Rationale and interpretation**

NEET provides a measure of youth who are outside the educational system, not in training and not in employment, and thus serves as a broader measure of potential youth labour market entrants than youth unemployment. A high NEET rate as compared with the youth unemployment rate could mean that a large number of youth are discouraged workers, or do not have access to education or training. A high NEET rate among females as compared with males is often an indication of gender imbalances, with female youth engaged in household chores such as washing clothes, cooking, cleaning and taking care of siblings.

#### **Sources and data collection**

Household surveys (LFS, HIES, LSMS, Integrated HH surveys, etc.), Administrative records.

#### **Disaggregation**

Data are available by gender.

#### **Comments and limitations**

In practice, many national statistics offices apply definitions of youth which differ from the international standard.

#### **Gender equality issues**

As this indicator is disaggregated by sex, it is well-suited for analysis of gender equality issues.

#### **Data for global and regional monitoring**

The ILO does not currently produce global and regional estimates for NEET.

#### **Supplementary information and references**

Decent Work Indicators: ILO Manual - Second Version

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[http://www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/publication/wcms\\_223121.pdf](http://www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/publication/wcms_223121.pdf)

**Responsible entities**

ILO.

**Current data availability**

The ILO has data for 88 countries.

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**Target 8.7** Take immediate and effective measures to eradicate forced labour, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labour, including recruitment and use of child soldiers, and by 2025 end child labour in all its forms.

**Suggested Indicator: Percentage and number of children aged 5-17 years engaged in child labour, per sex and age group (disaggregated by the worst forms of child labour)**

**From ILO:**

#### **Definition and method of computation**

The term child labour reflects the engagement of children in prohibited work and, more generally, in types of work to be eliminated as socially and morally undesirable as guided by national legislation, the ILO Minimum Age Convention, 1973 (No. 138), and the Worst Forms of Child Labour Convention, 1999 (No. 182), their respective supplementing Recommendations (Nos 146 and 190), and the United Nations Convention on the Rights of the Child.

The statistical measurement framework for child labour is structured around (i) the age of the child; (ii) the productive activities by the child, including their nature and the conditions under which these are performed, and the duration of engagement by the child in such activities.

For the purpose of statistical measurement, children engaged in child labour include all persons aged 5 to 17 years who, during a specified time period, were engaged in one or more of the following categories of activities:

- (a) worst forms of child labour, (as described in paragraphs 17–30, 18th ICLS resolution);
- (b) employment below the minimum age, (as described in paragraphs 32 and 33 of the 18th ICLS resolution); and
- (c) hazardous unpaid household services, (as described in paragraphs 36 and 37 of the 18th ICLS resolution), applicable where the general production boundary is used as the measurement framework.

#### **Rationale and interpretation**

To monitor the progress against the target 8.7.

Indicator is straightforward to interpret, as it gives the headcount of child labourers at national, regional and global levels.

#### **Sources and data collection**

Household surveys (Child Labour Surveys, Mixed Surveys, LFS, HIES, LSMS, Integrated HH surveys, etc.).

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### Disaggregation

National estimates: Total and by age group, gender, area of residence, sector and status in employment

Global estimates: Total and by country, region, sector, sex, age group and national income level.

### Comments and limitations

The indicator is limited in terms of capturing the worst forms of child labour other than hazardous.

### Gender equality issues

The indicator permits the separate monitoring progress by sex, in turn permitting the evolution of gender disparities in child labour.

### Data for global and regional monitoring

Data for global and regional monitoring are available through nationally-representative national household surveys. UNICEF maintains a global database on this issue and supports data collection for this indicator through MICS.

### Supplementary information and references

ILO-IPEC (2013). Making progress against child labour. Global estimates and trends 2000-2012. International Labour Office, International Programme on the Elimination of Child Labour (IPEC) - Geneva: ILO, 2013.

[http://www.ilo.org/wcmsp5/groups/public/---ed\\_norm/---ipec/documents/publication/wcms\\_221513.pdf](http://www.ilo.org/wcmsp5/groups/public/---ed_norm/---ipec/documents/publication/wcms_221513.pdf)

Diallo, Y., Etienne, A., and Mehran, F. (2013). Global child labour trends 2008 to 2012. International Labour Office, International Programme on the Elimination of Child Labour (IPEC) - Geneva: ILO, 2013.

[http://www.ilo.org/ipec/Informationresources/WCMS\\_IPEC\\_PUB\\_23015/lang--en/index.htm](http://www.ilo.org/ipec/Informationresources/WCMS_IPEC_PUB_23015/lang--en/index.htm)

18th ICLS resolution

[http://www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/normativeinstrument/wcms\\_112458.pdf](http://www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/normativeinstrument/wcms_112458.pdf)

### Responsible entities

ILO.

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**From UNICEF:**

### **Definition and method of computation**

This indicator provides the proportion of children aged 5-17 years who are engaged in child labour. It is calculated by dividing the number of children aged 5-17 years who are reported to have been engaged in child labour in the past week by the total number of children aged 5-17 in the population.

### **Rationale and interpretation**

Children around the world are routinely engaged in paid and unpaid forms of work that are not harmful to them. However, children are considered to be involved in child labour when they are either too young to work or are involved in activities harmful to their health and development. Children's involvement in hazardous work can compromise their physical, mental, social and educational development.

The issue of child labour is guided by three main international conventions: ILO Convention No. 138 concerning minimum age for admission to employment and Recommendation No. 146 (1973); ILO Convention No. 182 concerning the prohibition and immediate action for the elimination of the worst forms of child labour and Recommendation No. 190 (1999); and the United Nations Convention on the Rights of the Child (Article 32), including its Optional Protocol on the sale of children, child prostitution and child pornography. These conventions frame the concept of child labour and form the basis for child labour legislation enacted by countries that are signatories.

As per the 2008 Resolution concerning Statistics of Child Labour, the operation definition of child labour is based on number of hours spent working and working conditions, and encompasses both engagement in economic activities as well as household chores.

### **Sources and data collection**

Household surveys such as UNICEF-supported MICS, DHS and ILO-supported SIMPOC have been collecting data on this indicator in low- and middle-income countries since around 2000. Many countries also produce national labour estimates and reports that often include data on child labour and/or employment among children.

### **Disaggregation**

Data are available by age, sex, place of residence and wealth quintiles.

### **Comments and limitations**

There are existing tools and mechanisms for data collection that countries have implemented to monitor the situation with regards to this indicator.

It is recognized that the target is broader and inclusive of more concepts than just child labour but it is recommended that the indicator should be focused on hazardous work since there is currently no solid or internationally agreed methodologies for collecting information on the

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worst forms of child labour or the involvement of children in armed conflicts. The proposed indicator will be indicative of progress towards achieving the target.

### **Gender equality issues**

As this indicator is disaggregated by sex, it is well-suited for analysis of gender equality issues.

### **Data for global and regional monitoring**

UNICEF has estimates for the percentage of children aged 5-17 years who are engaged in child labour disaggregated by age, sex, place of residence and wealth quintile for the world as a whole and by (flexible) regional groupings. The global and regional estimates are based on available data from 114 countries.

### **Supplementary information and references**

*UNICEF website on child labour data:*

<http://data.unicef.org/child-protection/child-labour.html>

### **Responsible entities**

UNICEF, ILO

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**Target 8.8** Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment.

**Suggested Indicator 1: Frequency rates of fatal and non-fatal occupational injuries and time lost due to occupational injuries by gender and migrant status**

**From ILO:**

### **Definition and method of computation**

An occupational injury refers to any personal injury, disease or death resulting from an occupational accident, which is an unexpected and unplanned occurrence, including acts of violence, arising out of or in connection with work which results in one or more workers incurring a personal injury, disease or death. A fatal occupational injury is the result of an occupational accident where death occurred within one year from the day of the accident, whereas non-fatal occupational injuries entail a loss of working time. The frequency rates of fatal and non-fatal occupational injury are calculated as the number of new cases of fatal and non-fatal occupational injury during the reference year respectively, divided by the total number of hours worked by the workers in the reference group during the reference year, multiplied by 1'000'000. The time lost due to occupational injuries refers to the total number of calendar days during which those persons temporarily incapacitated due to occupational injuries were unable to work, excluding the day of the accident, up to a maximum of one year.

### **Rationale and interpretation**

Occupational safety and health at work are vital components of decent work. The frequency rates of fatal and non-fatal occupational injuries and the time lost due to occupational injuries provide an indication of the extent to which workers are protected from work-related hazards and risks, and present information that is essential for planning preventive measures. Possible under-reporting of occupational injuries should be kept in mind when interpreting the data, and proper systems should be put in place to ensure the best reporting and data quality.

### **Sources and data collection**

Household surveys (LFS, HIES, LSMS, Integrated HH surveys, etc.), Official estimates, Establishment surveys, Administrative records.

### **Disaggregation**

Data are currently available by gender (as well as by economic activity and occupation), but not by migrant status. However, as the target is explicit in this dimension, countries increasingly should be compiling information to allow this disaggregation.

### **Comments and limitations**

Because data quality issues may be present, it may be more relevant to analyze indicator trends rather than levels. When measured over a period of time, the data can reveal progress or

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deterioration in occupational safety and health, and thus point to the effectiveness of prevention measures. This indicator is volatile and strong annual fluctuations may occur due to unexpected but significant accidents or national calamities. The underlying trend should therefore be analysed.

### Gender equality issues

As this indicator is disaggregated by sex, it is well-suited for analysis of gender equality issues.

### Data for global and regional monitoring

The ILO does not currently produce global and regional estimates on occupational injuries.

### Supplementary information and references

For further details, refer to the Resolution concerning statistics of occupational injuries (resulting from occupational accidents), available at [http://www.ilo.org/global/statistics-and-databases/standards-and-guidelines/resolutions-adopted-by-international-conferences-of-labour-statisticians/WCMS\\_087528/lang--en/index.htm](http://www.ilo.org/global/statistics-and-databases/standards-and-guidelines/resolutions-adopted-by-international-conferences-of-labour-statisticians/WCMS_087528/lang--en/index.htm)

### Responsible entities

ILO.

### Current data availability

The ILO has data on the frequency rates of fatal occupational injuries for 117 countries; on the frequency rates of non-fatal occupational injuries for 89 countries; and on the time lost due to occupational injuries for 107 countries. The breakdown by migrant status is not currently available.

### From Global Migration Working Group:

Indicator	<b>Frequency rates of fatal and non-fatal occupational injuries and time lost due to occupational injuries, by sex, disaggregated reporting by migratory status (citizenship status or nativity status)</b>
OWG targets addressed	8.8 <i>Protect labour rights and promote safe and secure working environment of all workers, including migrant workers, particularly women migrants, and those in precarious employment</i>
Rationale	<b>TBC</b>
Method of computation	<b>TBC</b>
Data sources and number of countries for which data is currently available	Disaggregated reporting by migratory status ( <i>citizenship status or nativity status</i> ) Labour force surveys, administrative records
Responsible entity	National Statistical Offices; Ministry of Labour, Ministry of Health



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Other targets for which this indicator is relevant	10.7 <i>facilitate orderly, safe, regular and responsible migration and mobility of people, including through implementation of planned and well-managed migration policies</i>
Comments	Much could be covered by introducing new questions into existing surveys, but in some instances new surveys might be needed. Administrative records may need to be adjusted to distinguish between migrants and non-migrants.

### **Suggested Indicator 2: Number of ILO conventions ratified by type of convention.**

#### **From ILO:**

#### **Definition and method of computation**

This indicator conveys the number of ILO fundamental, governance and technical conventions ratified by each country. The eight ILO fundamental conventions cover subjects that are considered fundamental principles and rights at work: freedom of association and the effective recognition of the right to collective bargaining; the elimination of all forms of forced or compulsory labour; the effective abolition of child labour; and the elimination of discrimination in respect of employment and occupation. The four governance conventions relate to, and are important for, the functioning of the international labour standards system and are considered as the most important instruments from the point of view of governance.

#### **Rationale and interpretation**

ILO conventions are legally binding international treaties drawn up by the ILO's constituents (governments, employers and workers) and setting out basic principles and rights at work. Thus, the number of ILO fundamental, governance and technical conventions ratified by each country gives an indication of the national legal framework ruling the labour market, and the country's commitment to international labour standards. For analytical purposes, it might be useful to calculate the number of ILO fundamental, governance and technical conventions ratified by each country as a percentage of the existing conventions of such type.

#### **Sources and data collection**

NORMLEX (Information System on International Labour Standards of the ILO).

#### **Disaggregation**

Data could be obtained by type of convention (fundamental, governance or technical).

#### **Comments and limitations**

The number of ILO conventions ratified does not convey any information on their actual application or on the respect in practice of international labour standards in the national context.

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### **Gender equality issues**

The ILO recognizes gender equality not only as a basic human right, but also as intrinsic to the global aim of decent work for all. The ILO mandate on gender equality is stated in numerous resolutions of the International Labour Conference, as well as relevant International Labour Conventions (including the two fundamental conventions n°100 on equal remuneration and n°111 on employment and occupation discrimination).

### **Data for global and regional monitoring**

The ILO has information on the fundamental, governance and technical conventions ratified and on the up-to-date conventions not ratified by each country. It also has information on the global number of countries that have ratified each convention. Such information can be found in NORMLEX, the ILO Information System on International Labour Standards.

### **Supplementary information and references**

NATLEX, the ILO database of national labour, social security and related human rights legislation provides extensive information on the national legal framework for 196 countries.

### **Responsible entities**

ILO.

### **Current data availability**

The ILO has information on all ILO member states (185), broken down by type of ILO convention (fundamental, governance, technical).

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**Target 8.9** By 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products.

**Suggested Indicator:** Tourism direct GDP (as % of total GDP and in growth rate); and Number of jobs in tourism industries (as % total jobs and growth rate of jobs, by gender)

**From UNWTO:**

As it stands, there are two complementary parts to this indicator: (a) Tourism Direct GDP (as % total GDP and in growth rate) and (b) Number of jobs in tourism industries (as % total jobs and growth rate of jobs, by gender).

#### **Definition**

**... of (a) Tourism Direct GDP (as % total GDP and in growth rate)**

Tourism Direct GDP (TDGDP) is defined as the sum of the part of gross value added (at basic prices) generated by all industries in response to internal tourism consumption plus the amount of net taxes on products and imports included within the value of this expenditure at purchasers' prices ([TSA: RMF 2008](#) para. 4.96).

Presenting this economic contribution of tourism as a share of GDP shows the relative size of the tourism sector in the economy.

**... of (b) Number of jobs in tourism industries (as % total jobs and growth rate of jobs, by gender)**

The “tourism industries”, or tourism characteristic industries, comprise all establishments for which the principal activity is a tourism characteristic activity, i.e. the activities that typically produce tourism characteristic products ([IRTS 2008](#) paras. 5.10-5.11). For international comparability purposes these are (according to ISIC Rev. 4 categories): accommodation for visitors (5510, 5520, 5590, 6810 and 6820), food and beverage serving activities (5610, 5629 and 5630), railway passenger transport (4911), road passenger transport (4922), water passenger transport (5011 and 5021), air passenger transport (5110), transport equipment rental (7710), travel agencies and other reservation service activities (7911, 7912 and 7990), cultural activities (9000, 9102, 9103), and sport and recreational activities (7721, 9200, 9311, 9319, 9321 and 9329).

Regarding jobs, the agreement between an employee and the employer defines a job and each self-employed person has a job. The number of jobs in the economy thus exceeds the number of persons employed to the extent that some employees have more than one job (SNA 2008 para. 19.30 in [IRTS 2008 Compilation Guide](#) para. 7.6). Consequently, the number of jobs (demand side) and the number of persons employed (supply side) are dissimilar categories and therefore usually do not match.

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In this respect, it should be noted that employment in the tourism industries refers to all the jobs (in all occupations) in both tourism-characteristic activities and non-tourism-characteristic activities in all establishments in tourism industries<sup>25</sup>.

The indicator shows the relative importance of jobs in the tourism industries as a share of the economy's total jobs.

### Method of computation

**... of (a) Tourism Direct GDP (as % total GDP and in growth rate)**

$$\frac{TDGDP}{GDP} * 100$$

**... of (b) Number of jobs in tourism industries (as % total jobs and growth rate of jobs, by gender)**

$$\frac{Jobs\ in\ tourism\ industries}{Total\ jobs} * 100$$

### Rationale

Target 8.9 has several dimensions but the essence of the target seems to be on promoting sustainable tourism [that ...]. It is recognized that the suggested indicator does not cater to all dimensions of the target, but finding one indicator that would do so seems unviable, certainly over the short-medium term.

There is the added challenge that the concept “sustainable tourism” is mainly a policy construct and not defined nor part of an established or internationally conceptual/statistical framework at this point. Even though UNWTO together with a number of countries, UNSD and OECD, and counting on the support of the UNCEEA are putting put in motion an initiative towards developing the measurement of the relationship between tourism and sustainability, notably through linking SEEA and TSA, it seems that the production of internationally comparable data on (something that could approximate for) “sustainable tourism” in a significant number of countries still has some years to go.

For the meantime, the suggested indicator (in its two parts, on tourism related GDP and jobs) seems to be a sensible approximation because (a) it is a good conceptual fit to some key dimensions of the target (b) it stems from a systems approach and is based on sound internationally agreed methodology, and (c) there is a significant number of countries already producing data for this indicator. In addition, the suggested indicator (tourism related GDP and jobs) is in line with Goal 8's general focus on economic growth and employment.

Finally, the TDGDP/GDP part of this indicator can complement Target 14.7's indicator: “Fisheries as a % of GDP” in order to cater to tourism dimension of this target.

### Interpretation

**... of (a) Tourism Direct GDP (as % total GDP and in growth rate)**

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<sup>25</sup> International Recommendations for Tourism Statistics: Compilation Guide (Chapter 7. Employment in the tourism industries). Madrid, UN New York 2008WTO, Madrid 2014, para. 7.4; available at: [http://unstats.un.org/unsd/publication/SeriesM/seriesm\\_83rev1e.pdf](http://unstats.un.org/unsd/publication/SeriesM/seriesm_83rev1e.pdf)

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Target 8.9 has several dimensions; this caters to the dimension: *tourism; promote [...] tourism.*

The value of the economic contribution of tourism captured by this indicator, and (relative) increases or decreases in it, could indicate the degree to which tourism is being successfully promoted.

This indicator is useful for policy on tourism at national level and the level of sub-national regions as it gives the only credible measure of the economic contribution of tourism, which can be compared to GDP contributions of other economic activities. The indicator has been found especially useful in promoting and mainstreaming tourism in policy agendas at all levels. The indicator can also be compared across countries, although true international comparability of the figures needs to be improved.

### **... of (b) Number of jobs in tourism industries (as % total jobs and growth rate of jobs, by gender)**

Target 8.9 has several dimensions; this caters to the dimension: *tourism that creates jobs.* It could also give an indication on how successful the "promotion" of tourism as job creator is being: *promote [...] tourism that creates jobs*

### **Sources and data collection**

#### **... for (a) Tourism Direct GDP (as % total GDP and in growth rate)**

The indicator already exists. The indicator is sourced from countries' Tourism Satellite Account, which is a satellite account to the National Accounts. About 60 countries have some kind of TSA exercise and data available on this indicator, as shown in an international TSA data compilation exercise UNWTO realized in 2010. Eurostat and OECD have also occasionally collected data on this indicator. The indicator is currently not structurally compiled into an international dataset but UNWTO will start on this over the short term.

Some countries cannot produce TDGDP but have Tourism Direct Value Added (% Total Value Added), which can be used as an approximation.

#### **... for (b) Number of jobs in tourism industries (as % total jobs and growth rate of jobs, by gender)**

The indicator, or data series for populating this indicator, already exist and are regularly produced in a substantial number of countries.

Currently UNWTO compiles in its international dataset country yearly data on "Jobs in tourism industries" (approx. 26 countries for reference year 2012). This is currently not compiled by gender. ILO compiles in its international dataset (ILOStats) data country data on "total jobs", by gender (approx.. 111 countries). Coverage could be increased over the medium term through joint UNWTO/ILO and capacity building in countries.

While the indicator can already be produced for some 30 countries, time is required to develop or upgrade national statistical capacity of a considerable number of countries to produce the recommended indicators. It should, however be specially stressed that all these indicators are methodologically robust and based on existing internationally agreed definitions, classifications and practices. The methodology behind the indicators (data

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sources, methods of computation, treatment of missing values, regional estimates, etc.) is well documented and readily available. Moreover, these indicators can be collected from well-established sources.

### **Disaggregation**

#### **... of (a) Tourism Direct GDP (as % total GDP and in growth rate)**

To the extent that a TSA is available, TDGDP is derived from the productive activities that cater directly to tourism and so it could be possible to disaggregate by tourism industries (e.g. accommodation for visitors, the different kinds of passenger transportation, etc.).

Sub-national disaggregation/estimates of Tourism Direct GDP are possible and there are a number of sub-national regions that have information on this. However, there is no consensus on a methodology for doing this in a standardized way, compromising international comparability, although UNWTO is working on this (through the INRouTe project). In any case, it seems that collection of data would be warranted only for those regions that consider tourism a significant (economic) activity.

Like GDP, it is not possible to disaggregate this by gender.

#### **... of (b) Number of jobs in tourism industries (as % total jobs and growth rate of jobs, by gender)**

Depending on country, data could be available or produced that disaggregates by tourism industry, by gender, by status of employment.

Currently UNWTO does not compile data on number of jobs in tourism industries disaggregated by gender (only full-time equivalent jobs) but this could be realized.

### **Comments and limitations**

Given that a growing number of countries produce Tourism Satellite Account (TSA), data on (both parts of) the suggested indicators could become available in many more countries in the near future.

Though inherent to much statistical production, the lag in production of data for Tourism Direct GDP by countries should be noted. The data demands (detailed input-output or supply and use tables) for setting up a TSA mean that it is often not possible to have current data nor frequent updating of the TSA. A solution some countries chose is to produce estimates of TSA aggregates, in between reference years, to have more current data and to produce a time series.

TDGDP/GDP tends to not show large variations from one year to the next and variations may stem from the numerator and/or denominator. This could warrant considering the indicator in different forms: absolute value, % GDP and % change.

The suggested indicator (on tourism related GDP and jobs) as defined above can be supplemented with information on:

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- Number of full-time equivalent jobs<sup>26</sup> (FTE jobs) in tourism industries. This is valuable because tourism tends to have a large share of part-time work and seasonality, elements related to sustainability. UNWTO compiles country data on FTE jobs in tourism industries, by gender and employed/self-employed, though coverage is still low.
- number of persons employed in tourism industries (growth rate, by gender, % total)
- TDGDP per employed person in tourism industries (growth rate), as the tourism equivalent of the suggested indicator for Target 8.2: “*Growth rate of GDP per employed person*”

These indicators are methodologically robust and based on existing internationally agreed definitions, classifications and practices. The methodology behind the indicators (data sources, methods of computation, treatment of missing values, regional estimates, etc.) is well documented and readily available.

Moreover, these indicators can be collected from well-established sources. The statistical capacity for data collection and analysis to support the indicator already partially exists in countries that conduct regular labour Force Surveys<sup>27</sup>. But it is also true that in order to produce regular estimates of persons employed in the tourism industries, many countries would need launching pilot projects supported with necessary resources and test the indicators produced.

### Supplementary information and references

The above suggested indicator (both parts, on GDP and jobs) is firmly based in the *International Recommendations for Tourism Statistics 2008 (IRTS 2008)*, approved by the United Nations Statistical Commission at its 39th session (26-29 February 2008) and the *Tourism Satellite Account: Recommended Methodological Framework 2008 (TSA: RMF 2008)*, which updates the 2000 version adopted by the UN Statistical Commission.

The IRTS 2008 provides the methodological framework (concepts, definitions and classifications) for basic tourism statistics, while the TSA: RMF 2008 provides the conceptual framework for linking tourism statistics to the System of National Accounts, enabling the economic measurement of tourism and the generation of aggregates such as Tourism Direct GDP.

### Responsible entities

World Tourism Organization (UNWTO)

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<sup>26</sup> Full-time equivalent employment is the number of full-time equivalent jobs, defined as total hours actually worked by all employed persons divided by the average number of hours actually worked in full-time jobs. Source: *SNA 2008*, para. 14.43.

<sup>27</sup> According to the ILO information over 100 countries worldwide conduct LFS.

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**Target 8.10** Strengthen the capacity of domestic financial institutions to encourage and expand access to banking, insurance and financial services for all.

**Suggested Indicator 1: Number of commercial bank branches and ATMs per 100,000 adults**

From UNCDF:

### **Definition and Method of Computation**

#### **Number of ATMs per 100,000 adults**

Calculated as: (number of ATMs)\*100,000/adult population in the reporting country.

#### **Number of branches per 100,000 adults**

Calculated as follows: (number of institutions + number of branches)\*100,000/adult population in the reporting country --- calculated separately for commercial banks, credit unions and financial cooperatives, and all MFIs.

### **Rationale and Interpretation**

People and businesses need access to financial services that are safe, reliable, and convenient. The high costs of providing these services, particularly to those living and working in more remote areas or for those whose transaction values are low, have led to limited access. New technologies and delivery channels are lowering costs and bringing timely and appropriate services to even more people, but require the institutions providing or partnering to provide services to have the capability to design and deliver these services.

### **Sources and Data Collection**

The IMF Financial Access Survey (FAS) is the most comprehensive global supply-side data on financial inclusion. The FAS database currently contains annual data for 184 jurisdictions, including all G20 economies, covering a nine-year period (2004-2012). To date, over 94,000 interviews in 126 countries have taken place.

FAS collects data on access to and usage of financial services from central banks and other financial regulators around the world on an annual basis. The key FAS indicators help:

- Identify knowledge gaps and set priorities for policies on broadening financial access;
- Monitor the effectiveness of these policies over time;
- Advance research and analysis to strengthen understanding of the determinants and implications of financial access and usage.

### **Disaggregation**

### **Comments and Limitations**

In the event that there are future reviews to reduce the number of global SDG indicators, this target could relating to the capacity of financial institutions could be monitored by the



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percentage of population that have an account. Therefore, the following indirectly related indicator can be used to monitor Target 8.10:

Adults owning an account either through a financial institution or mobile money provider, disaggregated by income level, geography location, gender, age and education (Global Findex)

This is a multi-purpose indicator that is relevant to Targets 1.4, 2.3, 5.a, 10.2.

### Gender Equality Issues

### Data for Global and Regional Monitoring

The IMF is responsible for annually collecting and compiling this indicator at the international level.

### References

International Monetary Fund. *Financial Access Survey (FAS)*. Washington, DC. Internet site: <http://fas.imf.org/Default.aspx>

[http://fas.imf.org/misc/Explanatory\\_Notes.pdf](http://fas.imf.org/misc/Explanatory_Notes.pdf)

**Suggested Indicator 2: % adults with a formal account or personally using a mobile money service in the past 12 months". Possible to have a break down by income e.g. bottom 40% of income share or <\$1.25/day, by gender, age (youth) and rural. Adults: ages 15+**

**From UNCDF:**

### Definition and Method of Computation

#### **Definition**

This indicator denotes the percentage of respondents who report having an account (by themselves or together with someone else) at a bank or another type of financial institution; having a debit card in their own name; receiving wages, government transfers, or payments for agricultural products into an account or through a mobile phone at a financial institution in the past 12 months; paying utility bills or school fees from an account at a financial institution in the past 12 months; receiving wages or government transfers into a card in the past 12 months; or personally using a mobile phone to pay bills or to send or receive money through a GSM Association (GSMA) Mobile Money for the Unbanked (MMU) service in the past 12 months (% age 15+)

#### **Concepts**

**Account (% age 15+):** The percentage of respondents who report having an account (by themselves or together with someone else) at a bank or another type of financial institution

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(see definition for “account at a financial institution”) or personally using a mobile money service in the past 12 months (see definition for “mobile money account”).

### **Rationale and Interpretation**

Access to formal financial services such as savings, insurance, payments, credit and remittances is essential to the ability of people—regardless of income level, gender, age, education or where they live—to manage their lives, build their futures, and grow their businesses. Having access to an account is an important starting point for people to access a range of financial services.

### **Sources and Data Collection**

**The Global Findex** is the only global demand-side data source allowing for global and regional cross-country analysis. The over 100 indicators in the 2014 Global Financial Inclusion (Global Findex) database are drawn from survey data covering almost 150,000 people in 143 economies—representing more than 97 percent of the world’s population. The survey was launched in 2011 by the World Bank with financial support from the Bill & Melinda Gates Foundation. The survey was again carried out in 2014 calendar year by Gallup, Inc. as part of its Gallup World Poll, which since 2005 has continually conducted surveys of approximately 1,000 people in each of more than 160 economies and in over 140 languages, using randomly selected, nationally representative samples. The target population is the entire civilian, non-institutionalized population age 15 and above. The global survey will be conducted every three years.

### **Data Collection: Interview Procedure**

Surveys are conducted face to face in economies where telephone coverage represents less than 80 percent of the population or is the customary methodology. In most economies the fieldwork is completed in two to four weeks. In economies where face-to-face surveys are conducted, the first stage of sampling is the identification of primary sampling units. These units are stratified by population size, geography, or both, and clustering is achieved through one or more stages of sampling. Where population information is available, sample selection is based on probabilities proportional to population size; otherwise, simple random sampling is used. Random route procedures are used to select sampled households. Unless an outright refusal occurs, interviewers make up to three attempts to survey the sampled household. To increase the probability of contact and completion, attempts are made at different times of the day and, where possible, on different days. If an interview cannot be obtained at the initial sampled household, a simple substitution method is used. Respondents are randomly selected within the selected households by means of the Kish grid. In economies where cultural restrictions dictate gender matching, respondents are randomly selected through the Kish grid from among all eligible adults of the interviewer’s gender.

In economies where telephone interviewing is employed, random digit dialing or a nationally representative list of phone numbers is used. In most economies where cell phone penetration is high, a dual sampling frame is used. Random selection of respondents is achieved by using either the latest birthday or Kish grid method. At least three attempts are made to reach a person in each household, spread over different days and times of day.

### **Disaggregation**

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It is possible to disaggregate this indicator by country and region, as well as by income level, geography (rural/urban), gender, age and education level. Disaggregation is especially important (1) by income level to monitor progress on target 1.4 on poverty; (2) by geographic location to monitor progress on target 2.3 on agricultural productivity; (3) by gender to monitor progress on target 5.a on gender equality and women's empowerment; and (4) by all these dimensions to address issues of equality and inclusion of all in target 10.2.

### **Comments and Limitations**

#### **Gender Equality Issues**

The indicator can be disaggregated by gender.

#### **Data for Global and Regional Monitoring**

The World Bank is responsible for compiling this indicator at the international level.

### **Supplementary Information**

#### **Examples**

#### **References**

Asli Demirguc-Kunt, Leora Klapper, Dorothe Singer, and Peter Van Oudheusden, "The Global Findex Database 2014: Measuring Financial Inclusion around the World". Policy Research Working Paper 7255

Data for all indicators can be found on the website. World Bank. *Global Findex*. Washington, DC. Internet site: <http://www.worldbank.org/en/programs/globalfindex>

### **From Universal Postal Union (UPU):**

In the sections below, the UPU provides metadata regarding a postal component to be included in indicator "% adults with a formal account or personally using a mobile money service in the past 12 months", namely the "% adults with a formal account at a postal financial institution in the past 12 months".

#### *Definition and method of computation*

"% adults with a formal account at a postal financial institution in the past 12 months: this is the percentage of the adult population holding an account at a postal financial institution, usually belonging to the postal operator and operating with or without a banking license, in the last 12 months.

The ratio is determined by the number of accounts held at a postal financial institution divided by the adult population in a country.

#### *Rationale and interpretation*

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Postal operators are the second largest contributors to financial inclusion after banks. As of 2014, more than one billion people had an account at a postal financial institution. For instance, the Japanese postal bank is the largest deposit-taking institution in the world. In emerging and developing countries such as China, Brazil, India or Morocco, postal financial institutions have played a critical role to bank the unbanked. Postal financial institutions have a strong focus on savings and insurance for low-income groups. They are increasingly introducing mobile money services.

### *Source and data collection*

The data is collected through the UPU Postal Statistics questionnaires sent to 192 UPU member countries every year since 1875. Only countries providing financial services through their postal networks are providing data on their number of accounts.

### *Disaggregation*

Besides the annual collection of country level data on postal accounts holders, the Universal Postal Union regularly launch surveys related to postal financial inclusion issues, including access to postal financial services in rural areas.

### *Comments and limitations*

The indicator may include accounts that have not been active during the last 12 months. However, the revised UPU Postal Statistics questionnaire for 2015 asks for the number of dormant accounts, namely those accounts without activity other than posting of interests in the last 12 months.

### *Gender equality issues*

In developing countries, data shows that postal financial institutions have twice as many female account holders as other financial institutions.

### *Supplementary information*

Postal, parcel and express delivery networks are dealing with at least half a trillion economic transactions every year. Furthermore, post offices represent the largest physical retail network in the world with over 650,000 offices worldwide.

### *References*

Ansón J., Berthaud A., Klapper L., and D. Singer (2013). Financial inclusion and the role of the post office. Policy research working paper No. 6630. World Bank. At: <http://elibrary.worldbank.org/doi/pdf/10.1596/1813-9450-6630>

Davico G., and A. Berthaud. (2012). Global Panorama on Postal Financial Inclusion: Business Models and Key Issues. UPU. At: <http://www.upu.int/fileadmin/documentsFiles/activities/financialInclusion/globalPanoramaPostalFinancialInclusionFullEn.pdf>

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Smriti Rao (2015). Gender and Financial Inclusion Through the Post. UPU and UN Women. At: [http://www.empowerwomen.org/~media/files/un-women/knowledge-gateway/resourcefiles/2015/08/31/13/56/gender\\_and\\_financial\\_inclusion\\_through\\_the\\_post-un\\_women-upu-24\\_july\\_2015-final\\_version.ashx](http://www.empowerwomen.org/~media/files/un-women/knowledge-gateway/resourcefiles/2015/08/31/13/56/gender_and_financial_inclusion_through_the_post-un_women-upu-24_july_2015-final_version.ashx)

UPU Postal Statistics website: <http://www.upu.int/en/resources/postal-statistics/about-postal-statistics.html>

*Targets for which indicators are relevant*

1.4, 2.3, 5.a, 8.10.

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**Target 8.a** Increase Aid for Trade support for developing countries, in particular least developed countries, including through the Enhanced Integrated Framework for Trade-Related Technical Assistance to Least Developed Countries.

**Suggested Indicator: Aid for Trade Commitments and Disbursements**

**From OECD:**

*Definition and method of computation*

Total [official development assistance](#) (ODA) disbursements that qualify as [aid for trade](#). Data expressed in US dollars at the average annual exchange rate.

*Rationale and interpretation*

ODA is the accepted measure of international development co-operation. In this case it captures aid in support of projects and programmes to improve the trade and production capacities of developing countries.

*Sources and data collection*

Data are compiled by the Development Assistance Committee (DAC) of the Organisation for Economic Co-operation and Development from returns submitted by its member countries and other aid providers. Data are available [here](#).

*Disaggregation*

The data are generally obtained on an activity level, and include numerous parameters. They can thus be disaggregated by provider and recipient country; by type of finance, and by type of resources provided. Some data are also available on the policy objectives targeted by individual projects.

*Comments and limitations*

The data only cover official concessional support from donor countries. The OECD and other organisations also collect data on broader investment flows to developing countries. However detailed sectoral information on such flows is lacking.

*Gender equality issues*

The data include a [“gender equality” marker](#) which identifies individual projects that have a clear gender dimension.

*Data for global and regional monitoring*

Data are available for essentially all high-income countries, and for an increasing number of middle-income aid providers.

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### *Supplementary information*

See [Aid for trade](#)

### *References*

See links to publications [here](#).

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**Target 8.b** By 2020, develop and operationalize a global strategy for youth employment and implement the Global Jobs Pact of the International Labour Organization.

**Suggested Indicator:** Total government spending in social protection and employment programmes as percentage of the national budgets and GDP and collective bargaining rates

**From ILO:**

#### **Definition and method of computation**

This indicator represents the total public expenditure in social protection and employment programmes expressed as a percentage of the national budget and the Gross Domestic Product (GDP). It also includes the collective bargaining coverage rate, which is calculated as the percentage of employees whose pay and conditions of employment are determined by one or more collective agreements. A collective bargaining agreement refers to "all agreements in writing regarding working conditions and terms of employment concluded between an employer, a group of employers or one or more employers' organizations, on the one hand, and one or more representative workers' organizations, on the other" (ILO Collective Agreements Recommendation, 1951).

#### **Rationale and interpretation**

Total public expenditure in social protection and employment programmes synthesizes the overall public redistributive and employment promotion efforts. Calculating it as a percentage of the national budget and the GDP allows for the analysis of its relative place in the national economy as a whole. The collective bargaining coverage rate provides a measure of the reach of collective bargaining agreements and, as such, can help in assessing and monitoring the development of industrial relations.

#### **Sources and data collection**

Household surveys (LFS, HIES, LSMS, Integrated HH surveys, etc.), Official estimates, Establishment surveys, Administrative records.

#### **Disaggregation**

Data on collective bargaining coverage are available (for a more reduced number of countries) by sex and main economic activity.

#### **Comments and limitations**

The percentage of the national budget or the GDP allocated to the expenditure in social protection and employment programmes is useful for comparative analysis at the national level and at the level of the components (social security scheme, types of employment programmes), but its interpretation presents inherent difficulties. These include understanding the



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composition of the national social security system and the configuration of employment programmes as well as changes to the framework over time. Other difficulties pertain to the interpretation of each national legal framework underlying national social protection systems and employment programmes. Regarding the collective bargaining coverage rate, given that its reference group is most commonly employees, the relative importance of self-employment in total employment should be kept in mind when interpreting it. This is of particular importance for developing countries, where employees represent a lower share of total employment.

### Data for global and regional monitoring

The ILO does not currently produce global and regional estimates on the topics covered by this indicator.

### Supplementary information and references

For general information on social security statistics, refer to the Resolution concerning the development of social security statistics, available at: [http://www.ilo.org/global/statistics-and-databases/standards-and-guidelines/resolutions-adopted-by-international-conferences-of-labour-statisticians/WCMS\\_087550/lang--en/index.htm](http://www.ilo.org/global/statistics-and-databases/standards-and-guidelines/resolutions-adopted-by-international-conferences-of-labour-statisticians/WCMS_087550/lang--en/index.htm)

Statistical information on social security can be found in the statistical knowledge base of the ILO Social Protection Department, available at: <http://www.ilo.org/secsoc/areas-of-work/statistical-knowledge-base/lang--en/index.htm>

For further details on collective bargaining statistics, refer to the Resolution concerning statistics of collective agreements, available at: [http://www.ilo.org/global/statistics-and-databases/standards-and-guidelines/resolutions-adopted-by-international-conferences-of-labour-statisticians/WCMS\\_087547/lang--en/index.htm](http://www.ilo.org/global/statistics-and-databases/standards-and-guidelines/resolutions-adopted-by-international-conferences-of-labour-statisticians/WCMS_087547/lang--en/index.htm)

For further details of the collective bargaining rates in the context of European and developed countries using the Quality of Employment Framework, please refer to:

*Handbook on Measuring Quality of Employment: A Statistical Framework.* (UNECE and CES):

[http://www.unece.org/fileadmin/DAM/stats/documents/ece/ces/2015/4\\_Add.2\\_Rev1\\_Guidelines\\_on\\_QoEmployment.pdf](http://www.unece.org/fileadmin/DAM/stats/documents/ece/ces/2015/4_Add.2_Rev1_Guidelines_on_QoEmployment.pdf)

### Responsible entities

ILO.

### Current data availability

The ILO has data on the collective bargaining rates for 84 countries.

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### **Collective bargaining coverage rate**

**Name** Percentage of employees covered by collective bargaining agreements

### **Objectives**

This indicator gives the proportion of workers in paid employment whose pay and/or conditions of employment are determined by a collective agreement. It provides a measure of the reach of collective bargaining agreements and, as such, can help in assessing and monitoring the development of industrial relations.

### **Formula**

$$\left( \frac{\text{Number of employees whose pay and/or conditions are determined by collective agreement}}{\text{Total number of employees}} \right) \times 100$$

### **Concepts and definitions**

Collective bargaining and collective bargaining agreement as defined by ILO conventions C098 and C154 and the Resolution concerning statistics of collective agreements, adopted by the Third International Conference of Labour Statisticians, 1926 (see glossary).

*Employees* (age 15+): Employees are defined according to the ICSE-1993 (see glossary). According to national circumstances, it might be useful to include all employed persons for the calculation of the indicator as defined by the Resolution on work, employment and labour underutilisation, adopted by the 19<sup>th</sup> ICLS in 2013. In this case, the indicator should be disaggregated by status in employment. The denominator used should be documented in the metadata.

### **Recommended data source(s)**

Common sources for statistics on collective bargaining coverage are administrative records (maintained by unions or government agencies). The numerator and denominator should have the same coverage. As an alternative, establishment surveys or labour force surveys can be used.

### **Recommended metadata**

The coverage and the reliability of the data sources should be documented. The type of metadata to be provided depends on the source that has been used. In the case of administrative records, the reliability of the data depends on whether the registration of collective agreements is compulsory. Since the duration of collective agreements may vary, care should be taken to also capture the coverage of agreements which have been registered in previous year(s) but are still valid. Possible double counting problems of workers covered by agreements that are reached at different levels should be mentioned. Also, as registered agreements possibly have no expiry date, there may be some element of under- or over-representation which should be documented. Indeed in such a case information will only have been recorded when the agreement registration was first negotiated. In the case of a labour force survey, the worker coverage should be documented. Moreover, it is possible that many workers do not know their coverage status. Thus, a question on collective bargaining coverage can suffer from item non-response and information on the quality of the responses should be provided.

In the case of an establishment survey, the firm size and sectorial coverage should be documented. Such surveys may exclude enterprises with a small number of workers or enterprises from specific sectors (e.g. informal sector) or economic activities (e.g. agriculture).

Information about inclusion of workers indirectly covered by one or more collective agreement (e.g. through extension clauses) should also be indicated.

### **International comparisons**

The Resolution concerning statistics of collective agreements adopted by the Third International Conference of Labour Statisticians in 1926 provides guidance to countries regarding the concept definition of collective agreements and frequency of recording such agreements, as well as other key

## Goal 8 Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

aspects of statistics on collective agreements and their principal contents. Despite the existence of this international statistical standard, there is a high degree of methodological variation across countries and over time as regards statistics of collective agreements.

The Resolution concerning the International Classification of Status in Employment (ICSE) adopted by the Fifteenth International Conference of Labour Statisticians in 1993 provides a statistical definition of employees. Nonetheless, there are differences in operational definitions of employees across countries.

### Further readings

Broughton, A. and C. Welz, 2013: Impact of the crisis on industrial relations.

Dublin: European Foundation for the Improvement of Living and Working Conditions. Available at: <http://www.eurofound.europa.eu/eiro/studies/tn1301019s/tn1301019s.htm>

Eurofound, 2012: Social dialogue in times of global economic crisis. Dublin: European Foundation for the Improvement of Living and Working Conditions. Available at:

<http://www.eurofound.europa.eu/publications/htmlfiles/ef1221.htm>

ILO, 1926: Resolution concerning statistics of collective agreements. Adopted by the Third International Conference of Labour Statisticians, 1926. Available at:

[http://www.ilo.org/global/statistics-anddatabases/standards-and-guidelines/resolutions-adopted-byinternational-conferences-of-labour-statisticians/WCMS\\_087547/lang--en/index.htm](http://www.ilo.org/global/statistics-anddatabases/standards-and-guidelines/resolutions-adopted-byinternational-conferences-of-labour-statisticians/WCMS_087547/lang--en/index.htm)

ILO, 2013: Decent Work Indicators - Guidelines for producers and users of statistical and legal framework indicators. Second edition, Geneva: ILO. Available at:

[http://www.ilo.org/stat/Publications/WCMS\\_223121/lang--en/index.htm](http://www.ilo.org/stat/Publications/WCMS_223121/lang--en/index.htm)

ICTWSS: Database on Institutional Characteristics of Trade Unions, Wage Setting, State Intervention and Social Pacts in 34 countries between 1960 and 2012. Available at: <http://www.uva-aias.net/207>

ILOSTAT Database of labour statistics, with statistics for over 100 indicators and 230 countries, areas and territories; includes information on collective bargaining coverage rate for different disaggregations. Available at: <http://www.ilo.org/ilostat>

## Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

**Target 9.1 Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.**

**Suggested Indicator 1: Share of the rural population who live within 2km of an all season road**

**NO METADATA RECEIVED**

**Suggested Indicator 2: Passenger and freight volumes**

**From Universal Postal Union (UPU) (input contains metadata for both indicators listed under this target):**

In the sections below, the UPU provides metadata regarding a postal component on the quality of infrastructure should other indicators be considered for the measurement of Target 9.1. The indicator on quality of the postal infrastructure would be the following: “Average parcel shipping time/parcel shipping time standard, by country, both for domestic and international parcel services, and by product”.

### *Definition and method of computation*

“Average parcel shipping time/parcel shipping time standards, by country, both for domestic and international parcel services, and by product”: this is the level of reliability of domestic or international parcel delivery services and for different products exchanged between countries.

This ratio is determined after dividing the average parcel shipping time by the standard shipping time expected for parcels delivery at the national or international level, and at the product level depending on data availability.

An alternative way of computing a similar quality of service ratio would be to use the percentage of parcels actually delivered within the quality standard, i.e. within the standard for shipping times. The standard for shipping time is the expected end-to-end transit time and is often expressed as the posting day + one, two, three, four or five days depending on the country geography and distance between countries.

### *Rationale and interpretation*

With the strong development of national and international e-commerce, the quality of the postal and parcels delivery services is becoming a major concern for millions of enterprises and consumers transacting online. It is sometimes considered as a major hurdle by these market players and one of the challenges for trade facilitation, particularly for micro, small and medium-size enterprises interested in internationalizing their activities.

## Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

### *Source and data collection*

The official data will start to be collected by the UPU in 2016 through the UPU Postal Statistics questionnaire. However, it is already possible to estimate the abovementioned shipping times through the UPU's international tracking systems for parcels and postal items enabling real-time analysis of billions of data records.

### *Disaggregation*

The possibility of accessing tracking systems data enables the maximal disaggregation level from a geographic perspective, with detailed information available for any location involved in international postal and parcels exchanges within a country.

### *Comments and limitations*

UPU tracking systems are currently limited to international postal and parcel transactions only. The official data to be collected in UPU's Postal Statistics questionnaires is covering domestic postal items up to two kilogrammes only. However, data collection on this issue could be expanded to items up to fifty kilogrammes in the coming three to five years.

### *Gender equality issues*

The proportion of male or female recipients of postal items could be estimated by sampling postal traffic in each country.

### *Supplementary information*

Postal, parcel and express delivery networks are dealing with at least half a trillion economic transactions every year. Furthermore, post offices represent the largest physical retail network in the world with over 650,000 offices worldwide.

### *References*

UNCTAD. (2015). Information Economy Report 2015. Unlocking the Potential of E-commerce for Developing Countries. UNCTAD. At: [http://unctad.org/en/PublicationsLibrary/ier2015\\_en.pdf](http://unctad.org/en/PublicationsLibrary/ier2015_en.pdf)

UPU Postal Statistics website: <http://www.upu.int/en/resources/postal-statistics/about-postal-statistics.html>

### *Targets for which indicators are relevant*

2.3, 11.2

## Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

**Target 9.2 Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry's share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries.**

**Suggested Indicator 1: Manufacturing Value Added (share in GDP, per capita, % growth)**

**From UNIDO:**

### **Definition and method of computation**

Manufacturing value added (MVA) is the total value of goods and services net of intermediate consumption. It is generally compiled as the sum of the value added of all manufacturing activity units in operation in the reference period. It can be presented in percentage to gross domestic product (GDP) as well as per capita for any reference year. MVA growth rates are given at constant prices.

### **Rationale and interpretation**

MVA is a well-recognized and widely used indicator by researchers and policy makers to assess the level of industrialization of a country. MVA measures the contribution of manufacturing to economy. The indicator is exceptionally good for international comparison. Share of MVA in GDP establishes the role of manufacturing in the economy. In other words, this indicator specifies the contribution of the manufacturing sector to total production. MVA per capita is the basic indicator of a country's level of industrialization adjusted for the size of the economy. And finally, the MVA growth provides insight into the general direction and magnitude of growth for the manufacturing sector. In practice, it is a measure of the rate of change that an economy's MVA goes through from one year to another at constant prices.

### **Sources and availability**

Currently UNIDO maintains the World MVA database which contains data for about 200 economies. Data are presented at constant and current prices.

### **Disaggregation**

Data can be presented for country groups (LDCs, LLDC) and the world regions. Value added can also be presented by sector (ISIC)

## Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

### Suggested Indicator 2: Manufacturing employment, in percent to total employment

From ILO:

#### **Indicator 9.2.2: Share of industry in total employment (identifying manufacturing).**

##### **Definition and method of computation**

This indicator is computed as the number of persons employed in the industry sector divided by total employment. Employed persons are defined as all those of working age who, during a short reference period, were engaged in any activity to produce goods or provide services for pay or profit. The industry sector comprises mining and quarrying, manufacturing, construction and public utilities (electricity, gas and water).

##### **Rationale and interpretation**

The industry sector, which is largely composed of manufacturing, is central to the economy given its significant contribution to national product and employment. It impacts also other aspects of life such as health and the environment. The industry sector being a major source of job creation (directly and indirectly), the study of trends and patterns of the share and growth of employment in industry can reveal valuable information on the labour market configuration and the situation in terms of social cohesion.

##### **Sources and data collection**

Household surveys (LFS, HIES, LSMS, Integrated HH surveys, etc.), Official estimates, Establishment surveys.

##### **Disaggregation**

Data are available by gender or by occupation.

##### **Comments and limitations**

There are a variety of issues affecting cross-country comparability, including but not limited to differences in the definition of working-age, different sources, measurement differences, conceptual variation, survey coverage and collection methodology.

##### **Gender equality issues**

As this indicator is disaggregated by sex, it is well-suited for analysis of gender equality issues.

##### **Data for global and regional monitoring**

The ILO produces global and (flexible) regional estimates of employment by industry, disaggregated by sex, including disaggregated data on manufacturing.

##### **Supplementary information and references**

## Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

For details, refer to the Resolution concerning statistics of work, employment and labour underutilization, available at: [http://www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/normativeinstrument/wcms\\_230304.pdf](http://www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/normativeinstrument/wcms_230304.pdf)

### **Responsible entities**

ILO with UNIDO inputs.

### **Current data availability**

The ILO has data on the share of employment in industry for 175 countries. The coverage for annual growth rates which would require consecutive annual data points is more limited.

### **From UNIDO:**

#### **Definition and method of computation**

Employment is defined as a work performed for pay or profit. The value is obtained by summing up the number of employed in all manufacturing activities. The manufacturing employment indicator is presented in absolute terms as well as relative to total employment.

#### **Rationale and interpretation**

This indicator represents the contribution of manufacturing in job creation. It is universally important indicator. For industrialized countries it represents sustained growth, for developing countries it shows the ability of manufacturing to absorb surplus labour from traditional sectors. Compared to the indicator 9.2.1 it measures the labour productivity – another key indicator for measuring technological progress.

#### **Sources and availability**

Manufacturing employment data are widely available from the industrial survey results. UNIDO's INDSTAT database contains employment data for 170 countries. Total employment data (for calculation of percentage) are available in ILO database.

#### **Disaggregation**

Data can be presented for country groups and the world regions. Gender disaggregated data are available.



## Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

**Target 9.3** Increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets.

**Suggested Indicator:** Percentage share of (M) small scale industries' value added in total industry value added.

**From UNIDO:**

**Definition and method of computation:** value added is the total value of goods and services produced by an industry in the given reference period. The indicator is computed as the total value added of small scale industries (as defined in the survey) divided by the total value added of industries of all sizes and multiplied by 100.

### **Rationale and interpretation**

Small scale industry plays an important role in the economy of all countries which can be established with the small amount of investment. Such industries are based on processing local raw materials. It generates employment and self-employment. Their share in total value added best describes the size and structure of small industry. This indicator is also well-correlated with other indicators such as the income and employment generated by small scale industry.

### **Source and availability**

Data are obtained from the household and establishment-based surveys. Limited data are available in UNIDO database.

### **Disaggregation**

Data can be disaggregated by industry and by regions.

## Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

**Target 9.4** By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities.

**Suggested Indicator: Carbon emission per unit of value added.**

**From UNIDO:**

### **Definition and method of computation**

CO2 emission per unit of value added is a ratio indicator between the carbon emission and value added. Carbon emission is estimated from the data on energy consumption.

### **Rationale and interpretation**

Carbon emission per unit of value added is a universal indicator for measuring the impact of industrial production on environment. It captures the intensity of energy use, energy efficiency of production technology and most importantly use of fossil fuels. This indicator can also be presented as CO2 emission per unit of output.

### **Sources and availability**

Energy consumption and value added data are available for more than 150 countries from UNIDO MVA database and UNSD energy database as well as International Energy Agency (IEA) database. Emission data are directly reported by NSOs in many cases.

### **Limitations;**

Estimates of emission are missing sometime due to the lack of breakdown by energy sources.

### **Disaggregation**

Data can be presented by country, country groups and by industrial sector

## Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

**Target 9.5 Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending.**

**Suggested Indicator: R&D expenditure as percentage of GDP**

**From UNESCO:**

- Definition and method of computation;

The OECD Frascati Manual provides the relevant definitions for research and experimental development, gross domestic expenditure on R&D and researchers.

*Research and experimental development (R&D)* comprise creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications. (FM §63)

*Intramural expenditures* are all expenditures for R&D performed within a statistical unit or sector of the economy during a specific period, whatever the source of funds. (FM §358)

*Researchers* are professionals engaged in the conception or creation of new knowledge, products, processes, methods and systems and also in the management of the projects concerned. (FM §301)

Although an OECD manual, the application is global. The Frascati Manual is currently under revision, with the next edition to be released in October 2015. The new edition of the Manual will be a truly global manual. There will be some changes to the definitions provided above, but these are not substantial.

- Rationale and interpretation;
- The indicator is a direct measure of R&D spending referred to in the target. Sources and data collection;

Data are collected through national R&D surveys, either by the national statistical office or a line ministry (such as the Ministry for Science and Technology)

- Disaggregation;

R&D expenditure can be broken down by sector of performance, source of funds, field of science, type of research and type of cost.

Researchers can be broken down by sector of employment, field of science, sex and age, all in head counts and full-time equivalent.

- Comments and limitations;

## Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

(will follow)

- Gender equality issues;

Researcher data can be broken down by sex, allowing to track gender parity.

- Data for global and regional monitoring;

OECD and Eurostat collect data from their member countries. The UNESCO Institute for Statistics (UIS) imports these data into its global database, and collects the data directly from all other countries in the world, in partnership with RICYT in Latin America and NEPAD in Africa. Data are currently available for 137 countries.

- Supplementary information;

None

- References

Frascati Manual: [www.oecd.org/sti/frascati/manual](http://www.oecd.org/sti/frascati/manual) and [http://www.uis.unesco.org/Library/Documents/OECDFrascatiManual02\\_en.pdf](http://www.uis.unesco.org/Library/Documents/OECDFrascatiManual02_en.pdf)

UIS Data centre:

[http://data.uis.unesco.org/Index.aspx?DataSetCode=SCN\\_DS&popupcustomise=true&lang=en](http://data.uis.unesco.org/Index.aspx?DataSetCode=SCN_DS&popupcustomise=true&lang=en)

## Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

**Target 9.a Facilitate sustainable and resilient infrastructure development in developing countries through enhanced financial, technological and technical support to African countries, least developed countries, landlocked developing countries and small island developing States.**

**Suggested Indicator: Amount of investments in infrastructure as a % of GDP.**

**From UNIDO:**

9.a.1	Amount of investment in infrastructure	Infrastructure here refers to housing, water, sanitation, transport and communication. Total amount of investment in these sectors indicate the SDG implementation with respect to infrastructure.	Total investment directed to the construction of infrastructure facilities	Data are to obtained from the administrative sources such as government accounts and
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## Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

**Target 9.b Support domestic technology development, research and innovation in developing countries, including by ensuring a conducive policy environment for, inter alia, industrial diversification and value addition to commodities.**

**Suggested Indicator: Percentage share of medium and high-tech (MHT) industry value added in total value added.**

**From UNIDO:**

### **Definition and method of computation**

Classification of industry by technological intensity is based in R&D intake in manufacturing output. Higher the share of R&D expenditure higher the level of technological intensity. MHT sectors are classified at 3-digit level of ISIC. Above indicator is calculated as the relation of the sum of the value added of MHT to the total value added of manufacturing.

### **Rationale and interpretation**

This indicator captures the innovation and technology endowment in manufacturing. It reveals the level of production technology in manufacturing of an economy, which makes it highly policy relevant indicator.

### **Sources and availability**

Data are available from the annual industrial survey. INDSTAT database of UNIDO contains time series data for more than 170 countries.

### **Disaggregation;**

Data can be presented separately for each MHT sector as well as by region and country group.

## Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

**Target 9.c** Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020.

**Suggested Indicator:** Percentage of the population covered by a mobile network, by technology.

**From ITU and Partnership on Measuring ICT for Development:**

### **Definition and method of computation:**

The indicator *percentage of the population covered by a mobile network, broken down by technology*, refers to the percentage of inhabitants living within range of a mobile-cellular signal, irrespective of whether or not they are mobile phone subscribers or users. This is calculated by dividing the number of inhabitants within range of a mobile-cellular signal by the total population and multiplying by 100.

The indicator is based on where the population lives, and not where they work or go to school, etc. When there are multiple operators offering the service, the maximum population number covered should be reported. Coverage should refer to broadband (3G and more) and narrowband (2G) mobile-cellular technologies and include:

- 2G mobile population coverage: Mobile networks with access to data communications (e.g. Internet) at downstream speeds below 256 kbit/s. This includes mobile-cellular technologies such as GPRS, CDMA2000 1x and most EDGE implementations. The indicator refers to the theoretical ability of subscribers to use non-broadband speed mobile data services, rather than the number of active users of such services.
- 3G and above mobile-population coverage: Refers to the number of mobile-cellular subscriptions with access to data communications (e.g. the Internet) at broadband downstream speeds (defined here as greater than or equal to 256 kbit/s). The indicator refers to the theoretical ability of subscribers to use broadband speed mobile data services, rather than the number of active users of such services. This includes all high-speed mobile-cellular telephone subscriptions with access to data communications, and includes mobile-cellular technologies such as WCDMA (UMTS) and associated technologies such as HSPA, CDMA2000 1x EV-DO, mobile WiMAX 802.16e and LTE. It excludes low-speed mobile-broadband subscriptions and fixed (wired) Internet subscriptions.

As technologies evolve and as more and more countries will deploy and commercialize more advanced mobile-broadband networks (4G, 5G etc.), the indicator will include further breakdowns.

## Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

ITU collects data for this indicator through an annual questionnaire from national telecommunication regulatory authorities or Information and Communication Technology (ICT) Ministries, who collect the data from licensed mobile-cellular operators. However, they are likely to have different levels and locations of coverage. Another method would be to request each operator's coverage maps, which can be overlaid with maps showing the population of the country.

### **Rationale and interpretation**

The percentage of the population covered by a mobile cellular network can be considered as a minimum indicator for ICT access since it provides people with the possibility to subscribe to and use mobile-cellular services to communicate. Over the last decade, mobile-cellular networks have expanded rapidly and helped overcome very basic infrastructure barriers that existed when fixed-telephone networks – often limited to urban and highly populated areas - were the dominant telecommunication infrastructure.

While 2G (narrowband) mobile-cellular networks offer limited (and mainly voice-based) services, higher-speed networks provide increasingly high-speed, reliable and high-quality access to the Internet and its increasing amount of information, content, services, and applications. Mobile networks are therefore essential to overcoming infrastructure barriers, helping people join the information society and benefit from the potential of ICTs, in particular in least developed countries.

The indicator highlights the importance of mobile networks in providing basic, as well as advanced communication services and will help design targeted policies to overcome remaining infrastructure barriers, and address the digital divide. Many governments track this indicator and have set specific targets in terms of the mobile population coverage (by technology) that operators must achieve.

### **Sources and data collection**

This indicator is based on an internationally agreed definition and methodology, which have been developed under the coordination of ITU, through its Expert Groups and following an extensive consultation process with countries. It is also a core indicator of the Partnership on Measuring ICT for Development's Core List of Indicators, which has been endorsed by the UN Statistical Commission (last time in 2014).

ITU collects data for this indicator through an annual questionnaire from national regulatory authorities or Information and Communication Technology Ministries, who collect the data from Internet service providers. By 2014, data on 2G mobile population coverage were available for about 144 countries, from developed and developing regions, and covering all key global regions. Data on 3G mobile population coverage were available for 135 countries. ITU publishes data on this indicator yearly.



## Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

### **Disaggregation**

Based on the data for the *percentage of the population covered by a mobile network, broken down by technology*, and on rural population figures, countries can produce estimates on rural and urban population coverage. ITU produces global estimates for the rural population coverage, by technology.

### **Comments and limitations**

Some countries have difficulty calculating overall mobile-cellular population coverage. In some cases, data refer only to the operator with the largest coverage, and this may understate the true coverage.

### **Data for global and regional monitoring**

ITU produces regional and global aggregates for the *'percentage of the population covered by a mobile network, broken down by technology*.

Year-end data are released in December of the following year through the ITU World Telecommunication/ICT Indicators Database.

### **References:**

- ITU Handbook for the collection of Administrative Data on Telecommunications/ICT, 2011 (and revisions and new indicators)

### **Targets for which indicator are relevant:**

1.4, 2.3, 2.c, 9.1, 11.b, 13.1,

## Goal 10 Reduce inequality within and among countries

**Target 10.1** By 2030, progressively achieve and sustain income growth of the bottom 40 per cent of the population at a rate higher than the national average.

**Suggested Indicator: Growth rates of household expenditure or income per capita among the bottom 40 percent of the population and the total population**

From OHCHR:

<p><b>Goal and target addressed</b></p>	<p>This indicator is proposed to monitor the following targets:            1.2 (people living in poverty)            10.1 (income growth of lowest 40%)            10.2 (inclusion)            10.3 (inequalities of outcome)            10.4 (progressive achievement of greater equality)</p>
<p><b>Definition and method of computation</b></p>	<p>“Real disposable household income” is the sum of wages and salaries, mixed income, net property income, net current transfers and social benefits other than social transfers in kind, less taxes on income and wealth and social security contributions, after adjustment for price changes.</p>
<p><b>Rationale and interpretation</b></p>	
<p><b>Sources and data collection</b></p>	<p>The main data source is household surveys.</p>
<p><b>Disaggregation</b></p>	<p>This indicator should be disaggregated by ethnicity, sex, age, geographic location, disability, religion, migratory or displacement status, civil status, and other statuses relevant at the national level, which may for example include minority or indigenous status, language spoken at home, etc.</p>
<p><b>Comments and limitations</b></p>	<p>In many national contexts, household surveys, which are the main data source for this indicator, exclude the homeless or low-income groups without access to telephones. Face-to-face surveys often exclude non-urban populations or members of linguistic minorities.</p>
<p><b>Gender equality issues</b></p>	<p>In many instances, household surveys are conducted only with the ‘head’ of the household, who answers for other persons living at the same address. As this is most often the oldest male resident, the indicator may not fully capture the experience of women or give a picture of women’s control over their income and resources. Where it is not feasible for this reason to disaggregate by sex, the indicator should be disaggregated for female-headed households.</p>

## Goal 10 Reduce inequality within and among countries

<b>Data for global and regional monitoring</b>	The World Bank collects some relevant data at global level, although this indicator is not currently computed.
<b>Supplementary information</b>	
<b>References</b>	World Bank data: <a href="http://data.worldbank.org/">http://data.worldbank.org/</a>

## Goal 10 Reduce inequality within and among countries

**Target 10.2** By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status.

**Suggested Indicator: Proportion of people living below 50% of median income disaggregated by age and sex**

From OHCHR:

<p><b>Goal and target addressed</b></p>	<p>This indicator is proposed to monitor the following targets:            1.2 (reduction in proportion of persons living in poverty)            1.3 (social protection floors)            5.1 (discrimination against women and girls)            10.1 (income growth of lowest 40%)            10.2 (inclusion)            10.3 (equal opportunities)            10.4 (progressive achievement of greater equality)</p>
<p><b>Definition and method of computation</b></p>	<p>The indicator is calculated as the proportion of persons living in households (adjusted for household size) below 60% of the national median income, using population-weighted subgroup estimates from household surveys.</p>
<p><b>Rationale and interpretation</b></p>	<p>This indicator is a measure of relative income poverty at the national level. It measures how far individuals are from the median standard of living, approximating a measure of social exclusion. Persons living in relative poverty often experience many other forms of social and economic disadvantage through unemployment, poor housing, inadequate health care and barriers in accessing education and economic, social, political and cultural activities, which can result from social stigmatisation.</p>
<p><b>Sources and data collection</b></p>	<p>The main data source is household surveys.</p>
<p><b>Disaggregation</b></p>	<p>This indicator should be disaggregated by ethnicity, sex, age, geographic location, disability, religion, migratory or displacement status, civil status, and other statuses relevant at the national level, which may for example include minority or indigenous status, language spoken at home, etc.</p>
<p><b>Comments and limitations</b></p>	<p>In many national contexts, household surveys, which are the main data source for this indicator, exclude the homeless or low-income groups without access to telephones. Face-to-face surveys often exclude non-urban populations or members of linguistic minorities.</p> <p>Because it focuses on income only, this indicator does not measure other forms of poverty, and should therefore be supplemented with other indicators on access to</p>

## Goal 10 Reduce inequality within and among countries

	adequate housing, social services, health care, as well as the assets or expenses of the household (e.g. home owners will have more disposable income than renters with the same household income).
<b>Gender equality issues</b>	In many instances, household surveys are conducted only with the ‘head’ of the household, who answers for other persons living at the same address. As this is most often the oldest male resident, the indicator may not fully capture the experience of women or give a picture of women’s control over their income and resources. Where it is not feasible for this reason to disaggregate by sex, the indicator should be disaggregated for female-headed households.
<b>Data for global and regional monitoring</b>	At the international and regional levels, OECD and the EU both collect these data for their Member States. The World Bank currently compiles data on percentage of people below national (i.e. country-specific) poverty lines, but this could be amended or supplemented to include this comparable indicator.
<b>Supplementary information</b>	
<b>References</b>	

## Goal 10 Reduce inequality within and among countries

**Target 10.3 Ensure equal opportunity and reduce inequalities of outcome, including by eliminating discriminatory laws, policies and practices and promoting appropriate legislation, policies and action in this regard.**

**Suggested Indicator: Percentage of population reporting having personally felt discriminated against or harassed within the last 12 months on the basis of a ground of discrimination prohibited under international human rights law.**

**From OHCHR (and TST):**

<b>Goal and target addressed</b>	This indicator is proposed to monitor the following targets: 10.2 (inclusion) 10.3 (equal opportunities) 16.3 (rule of law) 16b (non-discriminatory laws and policies)
<b>Definition and method of computation</b>	<p>International human rights law outlaws discrimination against population groups on the basis of specific characteristics or ‘grounds’. The grounds of discrimination prohibited under international human rights law, as enshrined in the 1948 Universal Declaration of Human Rights and subsequently elaborated upon by international human rights mechanisms, include ethnicity, sex, age, income, geographic location, disability, religion, migratory or displacement status, civil status, sexual orientation and gender identity. While some grounds are common to all countries and follow standard definitions, such as sex, age or disability, the precise categories to be included under grounds such as ethnicity, geographic location and religion will vary according to national circumstances and should be determined in a participatory process at national level.</p> <p>The indicator is calculated as the percentage of persons reporting having personally felt discriminated against or harassed within the last 12 months on the basis of a ground of discrimination prohibited under international human rights law. This will be calculated using the full survey results, with techniques of imputation, estimation and data weighting to ensure a representative sample and data reliability.</p>
<b>Rationale and interpretation</b>	This outcome indicator provides a measure of how well non-discriminatory laws and policies are applied in practice, from the perspective of the population. It is based on personal experience rather than perception to ensure greater validity of data, as perceptions of the experience of others may themselves be affected by stereotyping.
<b>Sources and data collection</b>	The primary data source is surveys conducted at the national or regional level.
<b>Disaggregation</b>	Data for this indicator should be disaggregated by ground of discrimination, relationship with the person or entity felt to have discriminated (employer/employee, public official or employee, private enterprise, teacher/student, etc.), and place where the discrimination occurred (work, street,

## Goal 10 Reduce inequality within and among countries

	home, school, etc.).
<b>Comments and limitations</b>	<p>Because the indicator measures the percentage of the population reporting discrimination during the time period, each victim is counted only once, irrespective of the number of times discrimination or harassment was experienced. Without this information, the indicator does not therefore permit estimates of incidence of discrimination.</p> <p>In many national contexts, surveys may exclude the homeless or low-income groups without access to telephones. Face-to-face surveys often exclude non-urban populations or members of linguistic minorities. There is evidence to suggest that the most marginalised populations are less likely to respond to surveys, but this effect is reduced by ensuring their participation in the preparation of the survey.</p>
<b>Gender equality issues</b>	Data for the indicator should be disaggregated by sex, sexual orientation and gender identity. Multiple grounds of discrimination (e.g. women members of an ethnic minority who have suffered discrimination based on both sex and ethnicity) should be noted.
<b>Data for global and regional monitoring</b>	Data for this indicator are collected in an increasing number of countries. At the regional level, the EU Fundamental Rights Agency has collected the data for 27 EU Member States. Relevant data is also collected in Eurobarometer and Afrobarometer surveys, and this question could easily be added.
<b>Supplementary information</b>	
<b>References</b>	<p>FRA survey data and methodology:  <a href="http://fra.europa.eu/en/survey/2012/eu-midis-european-union-minorities-and-discrimination-survey">http://fra.europa.eu/en/survey/2012/eu-midis-european-union-minorities-and-discrimination-survey</a></p>

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### Target 10.4 Adopt policies, especially fiscal, wage and social protection policies, and progressively achieve greater equality.

**Suggested Indicator: Labour share of GDP, comprising wages and social protection transfers.**

#### From ILO:

#### Definition and method of computation

The definition of the labor share is based on ILO (2014a) and augmented with social protection transfers including (but not only) employers' social security contributions.

#### Rationale and interpretation

The current indicator mistakenly overlooks the internationally agreed definition of social protection, mainly based on cash transfers (eg pensions, disability, child and maternity benefits, etc). . Furthermore, coverage of social protection floor is already captured in indicator 1.3. In contrast, the alternative indicator addresses income distribution directly.

The rationale is to monitor progress toward Target 10.4 encompassing all three policies (fiscal, wage, social protection) and their impact on inequality.

The indicator provides and an aggregate measure of primary income inequality, offering insights the role that social protection can have in reducing it.

#### Disaggregation

National estimates: total.

Global estimates: total, by region, national income level.

#### Comments and limitations

#### Gender equality issues

The indicator is aggregate and not available by sex.

#### Data for global and regional monitoring

Data for global and regional monitoring are extracted from administrative data. They are available in ILO (2014a) and IMF (2014) databases and in the System of National Accounts, for 200 countries.

**Responsible Entities** ILO.

**Supplementary information** No supplementary information.



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### Target 10.5 Improve the regulation and monitoring of global financial markets and institutions and strengthen the implementation of such regulations.

**Suggested Indicator: Adoption of a financial transaction tax (Tobin tax) at a world level**

**From OHCHR:**

<b>Goal and target addressed</b>	This indicator is proposed to monitor the following targets: 10.5 (regulation of global financial markets) 17.3 (mobilize additional financial resources for developing countries)
<b>Definition and method of computation</b>	A “financial transaction tax (Tobin tax)” is defined as an internationally agreed, uniform tax applying to all purchases of financial instruments denominated in another currency.  This is a structural indicator. Its measurement is binary: Yes if such a tax is adopted, and no if it is not. The percentage rate of the tax should be noted in case of adoption.
<b>Rationale and interpretation</b>	Spot conversions of one currency to another and other forms of exchange rate speculation can cause significant fluctuations in financial markets, with particular impacts on developing countries. An internationally agreed financial transaction tax would aim to reduce such volatility and return a margin of manoeuvre to governments and issuing banks in developing countries. It would also aim to raise revenue for spending on public services.
<b>Sources and data collection</b>	The main source of data would be the international agreement to introduce such a tax. Under Article 102 of the UN Charter, such agreements would be registered with the UN Secretariat. The information source is therefore the Treaty Section of the UN Office of Legal Affairs.
<b>Disaggregation</b>	Disaggregation does not apply to this indicator.
<b>Comments and limitations</b>	Some commentators claim that such a tax could lead to market distortion, and would be ineffective in achieving its aims, but others argue it would not in fact have a significant distortionary effect, but rather would raise significant revenue in the form of a progressive tax.
<b>Gender equality issues</b>	While sudden economic crashes have been demonstrated to have more severe and immediate effects on women than men, measurement of this indicator does not require attention to any specific equality issues.

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<b>Data for global and regional monitoring</b>	N/A
<b>Supplementary information</b>	
<b>References</b>	<p>James Tobin, <i>A Proposal for International Monetary Reform</i>, Eastern Economic Journal (Eastern Economic Association): 153–159, 1978.</p> <p>Mahbub ul Haq, Inge Kaul, Isabelle Grunberg, <i>The Tobin Tax: Coping with Financial Volatility</i>, Oxford University Press, 1996.</p>

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**Target 10.6 Ensure enhanced representation and voice for developing countries in decision-making in global international economic and financial institutions in order to deliver more effective, credible, accountable and legitimate institutions.**

**Suggested Indicator: Percentage of members or voting rights of developing countries in international organizations.**

**From OHCHR:**

<b>Goal and target addressed</b>	This indicator is proposed to monitor the following targets: 10.6 (enhanced representation for developing countries in decision-making) 16.3 (rule of law at the international level) 16.8 (participation of developing countries in institutions of global governance) 17.10 (non-discriminatory and equitable multilateral trading system)
<b>Definition and method of computation</b>	The indicator is computed as the number of voting rights allocated to developing countries, divided by the total number of voting rights in international organizations, multiplied by 100.
<b>Rationale and interpretation</b>	The UN is based on a principle of sovereign equality of all its Member States (Article 2, UN Charter). Voting rights in international organizations, particularly those under the auspices of the UN system, should respect this principle. This indicator aims to measure the degree to which States enjoy equal representation in international organizations.
<b>Sources and data collection</b>	The data for this indicator are publicly available in the founding documents of each international organization, as updated.
<b>Disaggregation</b>	Data should be calculated and presented separately for each organization (World Bank, IMF, etc.).
<b>Comments and limitations</b>	To be meaningful, the indicator must be compared to the relevant percentage of UN Member States, i.e. the voting rights in the General Assembly. This is a structural indicator. Such indicators do not in general track gradual change or progress, but they are useful to demonstrate a state of affairs or policy commitments.
<b>Gender equality issues</b>	N/A
<b>Data for global and regional monitoring</b>	N/A

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<b>Supplementary information</b>	
<b>References</b>	

## Goal 10 Reduce inequality within and among countries

### Target 10.7 Facilitate orderly, safe, regular and responsible migration and mobility of people, including through the implementation of planned and well-managed migration policies.

**Suggested Indicator 1: Recruitment cost born by employee as percentage of yearly income earned in country of destination.**

**From Global Migration Working Group:**

Indicator	<b>Recruitment cost born by employee as a percentage of yearly income earned in country of destination</b>
OWG targets addressed	<i>10.7 facilitate orderly, safe, regular and responsible migration and mobility of people, including through implementation of planned and well-managed migration policies</i>
Rationale	Migrant workers often pay recruitment agencies sums amounting to several months' expected wage. This contravenes the ILO Private Employment Agencies Convention commitment to abolish such fees. These fees disproportionately affect low-skilled, low-income workers from low-income countries. By reducing recruitment costs the disposable incomes of low-income workers are increased and inequalities are reduced by enabling people who could otherwise not afford to seek employment abroad to do so without ending up in debt bondage.
Method of computation	Recruitment cost borne by agricultural workers, domestic workers and construction workers divided by yearly income earned in country of destination
Data sources and number of countries for which data is currently available	Progress is measured as reduction in comparison to baseline, currently under development by KNOMAD (ILO and the World Bank). Data would be collected through annual cost surveys based on household surveys, labour force surveys, or ad hoc surveys.
Responsible entity	National statistical offices, ministries of labour.  Global Migration Group
Other targets for which this indicator is relevant	<i>8.8 protect labour rights and promote safe and secure working environments of all workers, including migrant workers, particularly women migrants, and those in precarious situations</i> <sup>28</sup>
Comments	Much could be covered by introducing new questions into existing surveys, but in some instances new surveys might be needed.

### Suggested Indicator 2: International Migration Policy Index

**From Global Migration Working Group (and TST):**

Indicator	<b>International Migration Policy Index</b>
OWG targets addressed	<i>10.7 facilitate orderly, safe, regular and responsible migration and mobility of people, including through implementation of planned and well-managed migration policies</i>
Rationale	With target 10.7 the OWG has acknowledged the significance of well-managed migration policies for the quality of migration ("orderly, safe, regular and responsible") which in turn determines development outcomes of migration. This would ensure that migrants are not left

<sup>28</sup> Noting that migration is a cross-cutting issue, a number of additional targets would benefit from this indicator including: 10.2 (social and economic inclusion); 10.3 (equal opportunity and ending discriminatory laws); 10.4 (adopt policies and achieve greater equality); 1.3 (implement social protection systems for all); 1.4 (ensure that all men and women, particularly the vulnerable have access to basic services); 3.8 (achieve universal health care coverage); 4.1 (girls and boys complete primary and secondary education); 17.3 (mobilize additional financial resources); 16.1 (reduce violence and related death rates); 1.5 (build the resilience of those in vulnerable situations to disasters); 11.5 (reduce the number of deaths and people affected by disasters).

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	<p>behind. Bearing in mind that “well-managed migration policies” is a multi-dimensional issue, spanning issues like migrant remittances, circular migration, responses to climate change and crises; a composite index would be the only way to capture progress and to make actionable gap analyses. The monitoring of the commitment to “well-managed migration policies” through a composite index would enable to bring together the already existing broad range of sources on migration policy such as follow-up mechanisms of international conventions and protocols related to international migration<sup>29</sup> as well as elements captured in the outcome documents from the deliberations in the 2<sup>nd</sup> and 3<sup>rd</sup> Committees of the General Assembly, the High-level Dialogues on International Migration and Development, the Commission on Population and Development, the Human Rights Council, the <a href="#">Global Forum on Migration and Development</a> and IOM Council.</p>
Method of computation	<p>The International Migration Policy Index would track development and identify gaps through aggregation of reporting on migration policies relevant for the SDG framework. The aggregation of constituent items of “well-managed migration policies” will be based on existing regional and thematic migration policy indexes and state of the art methodology on conceptualizing and measuring migration policies (<a href="#">Bjerre et. al 2015</a>). Current work points toward the index tracking status regarding the following migration policy strands:</p> <ul style="list-style-type: none"> <li>• Promoting and protecting the human rights of migrants</li> <li>• Supporting socio-economic outcome</li> <li>• Supporting regulated mobility</li> <li>• Mobility dimensions of crisis</li> <li>• Partnerships and cooperation</li> </ul> <p>Computation would be based on a three-tier-scale, e.g. 100 = <i>comprehensive</i>; 50 = <i>elaborated</i>; 0 = <i>basic</i> level of implementation; or 100 = 100%-90%; 50 = 89%-40%; 0 = 39% and below for proportion of coverage etc.</p>
Data sources and number of countries for which data is currently available	<p>Government agencies, including reporting to follow-up mechanisms of relevant human rights instruments.</p> <p><a href="#">The United Nations Inquiry among Governments on Population and Development</a>, collected every 5 years since 1963, and the associated <a href="#">World Population Policies Database</a> and <a href="#">World Population Report</a>, which has data on migration policy dating back to 1976, which currently puts out data covering 196 countries on a biannual basis.</p> <p>83 countries covered by either thematic or regional migration policy indexes (<i>cf. Bjerre supra</i>)</p> <p>171 countries’ migration policies covered by <a href="#">Migration Profiles</a></p>
Responsible entity	Collective effort by members of the Global Migration Group, supported by national governments and statistical agencies
Other targets for which this indicator is relevant	This could be a "multi-purpose indicator" for 5.2/16.2, 8.8, 10.7 and 16.1.
Comments	<p>There exist already 13 migration policy indexes that either are limited to certain themes of migration policy (e.g. integration or “migrant accessibility”) or cover certain regions (e.g. OECD countries). The International Migration Policy Index will be the first global index intended to cover all major aspects of migration policy output. Efforts are currently under way, and broad consultations with stakeholders will be held, including through the Global Forum on Migration and Development as well as the IOM Council.</p> <p>The index <u>will not present a ranking of countries</u>, as this would not serve any purpose in the post-2015 context but rather to group countries in a manner that would serve to illustrate to HLPF progress on migration policies and gap-analysis.</p>

<sup>29</sup> The core international human rights instruments including the International Convention on the Protection of the Rights of All Migrant Workers and Members of their Families; 1951 refugee convention and its 1967 protocol; human trafficking and migrant smuggling protocols to transnational crime convention;; two conventions on prevention and reduction of statelessness; two ILO labour migration conventions; ILO domestic worker convention (to be completed with formal nomenclature).

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**Suggested Indicator 3: Number of detected and non-detected victims of human trafficking per 100,000; by sex, age and form of exploitation**

**NO METADATA RECEIVED**

**Goal 10** Reduce inequality within and among countries

**Target 10.a** Implement the principle of special and differential treatment for developing countries, in particular least developed countries, in accordance with World Trade Organization agreements.

**Suggested Indicator:** Share of tariff lines applied to imports from LDCs/developing countries with zero-tariff.

**NO METADATA RECEIVED**



## Goal 10 Reduce inequality within and among countries

**Target 10.b Encourage official development assistance and financial flows, including foreign direct investment, to States where the need is greatest, in particular least developed countries, African countries, small island developing States and landlocked developing countries, in accordance with their national plans and programmes.**

**Suggested Indicator OECD ODA data, disaggregated by recipient and donor countries.**

**From OECD:**

### *Definition and method of computation*

Net [official development assistance](#) (ODA) to all countries on the [DAC List of ODA Recipients](#) and net official development assistance to the [Least Developed Countries, SIDS and LLDCs](#), as well as African countries. Data are usually expressed in US dollars at the average annual exchange rate, or as a share of provider countries' gross national income (GNI).

### *Rationale and interpretation*

ODA is the accepted measure of development co-operation, including both grants and soft loans provided by governments for development and welfare objectives in developing countries. UN members have agreed a total net ODA target for economically advanced countries of 0.7% of GNI, and a target of 0.15-0.20% for ODA to LDCs.

### *Sources and data collection*

Data on ODA are compiled by the Organisation for Economic Co-operation and Development from returns submitted by its member countries and other aid providers. Data can be accessed [here](#).

### *Disaggregation*

The data are generally obtained on an activity level, and include numerous parameters. They can thus be disaggregated by provider and recipient country, by the groups of countries listed in Target 10b; and by sector assisted, by type of finance, and by type of resources provided.

### *Comments and limitations*

The data only address concessional flows for development and welfare purposes provided by governments. The OECD and other organisations also collect data on broader financial flows to developing countries, including non-concessional official flows, foreign direct investment, bank lending, export credits and other flows. The World Bank makes estimates of remittance flows, and the IMF compiles balance-of-payments data. However the poverty focus and concordance of the various categories of flows with national development plans is less clear, and further discussion may be required to arrive at an agreed measure of non-ODA official and private flows “to implement programmes and policies to end poverty in all its dimensions”.

### *Gender equality issues*

The data include a [“gender equality” marker](#) which identifies individual projects that have a clear gender dimension. There are also dedicated purpose codes for activities specifically targeting gender equality or that aim to combat violence against women and girls (in preparation).

## Goal 10 Reduce inequality within and among countries

### *Data for global and regional monitoring*

Data are available for essentially all high-income countries, and for an increasing number of middle-income aid providers.

### *Supplementary information*

See the [DAC Aid Statistics page](#).

### *References*

OECD 2011, [Measuring Aid](#)

## Goal 10 Reduce inequality within and among countries

**Target 10.c** By 2030, reduce to less than 3 per cent the transaction costs of migrant remittances and eliminate remittance corridors with costs higher than 5 per cent.

**Suggested Indicator: Remittance costs as a percentage of the amount remitted**

**From Global Migration Working Group (and TST):**

Indicator	<b>Remittance costs as a percentage of the amount remitted</b>
OWG targets addressed	10.c by 2030, reduce to less than 3% the transaction costs of migrant remittances and eliminate remittance corridors with costs higher than 5%
Rationale	Remittances are an important private source of income for migrant families. They benefit wider communities and improve the human development of migrant households. With total remittances going to developing countries projected at USD 454 billion in 2015, reaching the target of reducing remittances to less than 3% would save more than USD 20 billion/year. The G20 has already committed to reducing the transfer costs of remittances (with 5 percentage points over five years), the so-called “5x 5 initiative”. To monitor this commitment, a designated group in the World Bank was created to monitor the implementation of this commitment.
Method of computation	Fees paid, including indirect costs for inflated exchange rates, divided by the amount remitted.
Data sources and number of countries for which data is currently available	Data already collected through quarterly surveys in 226 migration corridors. Information is compiled in existing remittance price database: <a href="http://remittanceprices.worldbank.org/en">http://remittanceprices.worldbank.org/en</a> , (survey based, mystery shopping)
Responsible entity	The World Bank
Other targets for which this indicator is relevant	10.7 <i>facilitate orderly, safe, regular and responsible migration and mobility of people, including through implementation of planned and well-managed migration policies</i> ; 17.3 <i>Mobilize additional financial resources for developing countries from multiple sources</i>
Comments	The ratings this indicator received from UN Statistics Division survey among national statistics offices (CBB) is misleading as it does not take into account the existing data collection (quarterly surveys) carried by the World Bank in a large number of number of migration corridors. Suggested rating: AAA

# Goal 11 Make cities and human settlements inclusive, safe, resilient and sustainable

## Target 11.1 By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums.

**Suggested Indicator: Proportion of urban population living in slums**

**From UN-Habitat:**

Indicator 11.1.1	Metadata Percentage of urban population living in slums or informal settlements
<b>Scope</b>	Used as part of the MDGs and in the City Prosperity Initiative (CPI)
<b>Rationale:</b>	Spatial inequalities are generally expressed as segregation of certain population groups, which resemble poverty as well as inadequate life conditions. Moreover, rapid urbanization, if not well managed, will lead to more informal settlements and poverty. Therefore, in order to sharpen policies it is necessary to identify and quantify the slums of a city. A prosperous and inclusive city is able to reduce spatial inequalities.
<b>Definition:</b>	Proportion of people living in households lacking at least one of the following five housing conditions: access to improved water; access to improved sanitation facilities; sufficient-living area (not overcrowded); durable housing; and security of tenure.
<b>Unit [ ]</b>	%
<b>Methodology:</b>	<p>Proportion of households, which lack one or more of the following: Durable housing, sufficient living space, easy access to safe water, access to adequate sanitation, and security of tenure, United Nations (2007) proposes the following definitions.</p> <p><b>Access to improved water:</b> A household is considered to have access to improved drinking water if it has sufficient amount of water for family use. A sufficient amount is the availability of at least 20 liters/person/day. The following criteria are used to determine the access to improved water:</p> <ul style="list-style-type: none"> <li>• Piped connection to house or plot</li> <li>• Public stand pipe serving no more than 5 households</li> <li>• Protected spring</li> <li>• Bore hole</li> <li>• Protected dug well</li> <li>• Bottle water (new)</li> <li>• Rain water collection</li> </ul> <p><b>Access to improved sanitation:</b> A household is considered to have access to improved sanitation according to the following criteria:</p> <ul style="list-style-type: none"> <li>• Direct connection to public sewer</li> <li>• Direct connection to septic tank</li> <li>• Poor flush latrine</li> <li>• Ventilated improved pit latrine</li> <li>• Pit latrine with slab (new)</li> </ul> <p><b>Sufficient-living area, not overcrowded:</b> A dwelling unit is considered to provide a sufficient living area for the household members if there are fewer than four people per habitable room. Additional indicators of overcrowding have been proposed: area-level indicators such as average in-house living area per person or the number of households per area; housing-unit level indicators such as the number of persons per bed or the number of children under five per room may also be viable.</p> <p><b>Structural quality/durability of dwellings:</b> A house is considered as 'durable' if it is built on a non-hazardous location and has a structure permanent and adequate enough to protect its inhabitants from the extremes of climatic conditions. The following criteria are used to determine the structural quality/durability of dwellings:</p> <ul style="list-style-type: none"> <li>• Permanency of Structure</li> <li>• Permanent building material for the walls, roof and floor</li> <li>• Compliance of building codes</li> <li>• The dwelling is not in a dilapidated state</li> <li>• The dwelling is not in need of major repair</li> <li>• The dwelling is not located on a steep slope</li> <li>• The dwelling is not located on or near toxic waste</li> <li>• Location of house (hazardous)</li> <li>• The dwelling is not located in a flood plain</li> <li>• The dwelling is not located in a dangerous right of way (rail, highway, airport, power lines).</li> </ul>

## Goal 11 Make cities and human settlements inclusive, safe, resilient and sustainable

	<p><b>Security of tenure:</b> Secure Tenure is the right of all individuals and groups to effective protection by the State against arbitrary unlawful evictions. Secure tenure can be made evident through formal or informal mechanisms in codified law and in customary law. The following criteria are used to determine security of tenure:</p> <ul style="list-style-type: none"><li>• Evidence of documentation that can be used as proof of secure tenure status</li><li>• Either de facto or perceived / protection from forced evictions</li></ul> <p>Formally,</p> $\text{Slum Households} = \frac{\text{Number of people living in slum}}{\text{City population}} * 100$
<b>Source:</b>	Global Urban Indicators Database 2012. UN-HABITAT. Data are computed from Household Surveys.
<b>Benchmark</b>	Censuses Min = 0 Max = 100
<b>Standardization (S)</b>	$\text{Slum Households}^{(S)} = 100 - \text{Slum Households}$
<b>Notes</b>	
<b>References</b>	<p><b>Bibliographic references</b> United Nations (2007). Indicators of Sustainable Development: Guidelines and Methodologies. Third Edition, United Nations, New York.</p> <p><b>URL References</b></p>

## Goal 11 Make cities and human settlements inclusive, safe, resilient and sustainable

**Target 11.2** By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons.

**Suggested Indicator: Proportion of the population that has a public transit stop within 0.5 km**

From UN-HABITAT:

<b>Indicator 11.1.1 (Proportion of the population that has a public transit stop within 0.5 km)</b>
<b>Feasibility:</b>
<ul style="list-style-type: none"> <li>• Although it is an indicator not easy to collect in all cities/countries in the world, it proposes an innovative mechanism of data collection and analysis.</li> <li>• As the Outcome Document 2<sup>nd</sup> Meeting of the Urban SDGs Campaign in Bangalore (12-14 February 2015) recognizes:               <ul style="list-style-type: none"> <li>○ No internationally agreed methodology exists for measuring convenience and service quality of public transport. In addition, global/local on urban transport systems do not exist. Moreover, data is not harmonized and comparable at the world level.</li> <li>○ To obtain this data will require collecting it at municipal/city level with serious deficiencies in some areas such as data on mass transit and on transport infrastructure.</li> </ul> </li> <li>• The European Commission, on the contrary, considers that “this is a good indicator which can be collected in a relatively straightforward way” (DG REGIO, 2015). The assessment of the indicator done by the EC applies only for cities in the developed world, and not all.</li> <li>• The EC document highlights that the indicator was calculated for 80 European cities and stresses that the estimation requires the following data availability: (1) geo-coded public transport stops and the number of departures at each stop, (2) a high resolution GIS layer with population (for example census enumeration areas or a population grid) and (3) a street network (if available).</li> <li>• However, these data requirements are not available in most middle income countries.</li> </ul>
<b>Suitability:</b>
<ul style="list-style-type: none"> <li>• The indicator is suitable, particularly in the countries/cities where the information exists. The Target is too broad intending to measure multiple aspects of urban mobility. The indicator covers three critical aspects of this target: accessible in distance, energy-efficient and the expansion of public transport.</li> <li>• UN-Habitat position, in line with all the organizations supporting this indicator, is that necessary adjustments are required to minimize its complexity and make it more suitable for global monitoring.</li> <li>• The indicator can be measured by a proxy, which is the <i>proportion of the population that has a public transit stop within 0.5 km</i>. This reduces the complexity of the 20 minutes (which is very variable in different hours of the day or days of the week).</li> <li>• In case there is no spatial information on the population location and density, the indicator can measure the proportion of the surface that has a public transit stop.</li> <li>• As cities/countries evolve in their data collection systems, the indicator could be harmonized to include the elements indicated by the EC (street network and frequency of the transport).</li> </ul>
<b>Relevance:</b>
<ul style="list-style-type: none"> <li>• UN-Habitat disagrees with this rating. This is a very relevant indicator. It is empirically proven that public transport makes cities more inclusive, safe and sustainable.</li> <li>• Effective and low-cost transportation for mobility is critical for urban poverty and inequalities reduction, and economic development because it provides access to jobs, health care, education services and other public goods.</li> <li>• Clean Public transport is very efficient for the reduction of CO2 emissions and therefore it contributes to climate change.</li> </ul>
<b>Disaggregation:</b> Information can be disaggregated by age and sex, including potential disadvantages such as disability, but it requires strong efforts and changes in mainstream mechanisms of data collection.

## Goal 11 Make cities and human settlements inclusive, safe, resilient and sustainable

**Target 11.3** By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries.

**Suggested Indicator: Efficient land use**

**From UN-Habitat:**

<b>Indicator 11.3.1 (Efficient land use)</b>
<b>Feasibility:</b>
<ul style="list-style-type: none"> <li>• The indicator has been collected and analyzed since 2000. Various governments (Mexico, Colombia Brazil, India, Ethiopia, etc., and most European countries) have collected data on this indicator.</li> <li>• Eurostat collects data on this indicator using other comparable techniques.</li> <li>• World Bank and Lincoln Institute collected data for 120 cities and published in the <i>Atlas of Urban Expansion</i>.</li> <li>• Currently UN-Habitat, Lincoln Institute and New York University prepare a similar study for another 200 cities.</li> <li>• UN-Habitat <i>City Prosperity Initiative</i> is collecting data on this indicator for nearly 300 cities as part of the Agency's efforts to integrate spatial analysis in the SDGs.</li> </ul>
<b>Suitability:</b>
<ul style="list-style-type: none"> <li>• Data is available for all cities and countries (UN DESA population data) and satellite images from open sources.</li> <li>• The methodology of this indicator has been extensively proved</li> <li>• This indicator is currently measured by UN-Habitat City Prosperity Initiative (The Metadata is included in the Annex 1 of this paper).</li> <li>• This indicator is not only related to the type/form of the urbanization pattern. It is also used to capture various dimensions of land use efficiency: economic (proximity of factors of production); environmental (lower per capita rates of resource use and GHG emissions); social (reduced travel distance and cost expended).</li> <li>• The indicator has a multipurpose measurement.</li> <li>• EC highlights some possible drawbacks of this indicator that can be technically addressed.</li> </ul>
<b>Relevance:</b>
<ul style="list-style-type: none"> <li>• This indicator integrates an important spatial component and is fully in line with the recommendations made by the Data Revolution initiative.</li> <li>• A defining feature of many of the world's cities is an outward expansion far beyond formal administrative boundaries, largely propelled by the use of the automobile, poor urban and regional planning and land speculation. A large proportion of cities both from developed and developing countries have high consuming suburban sprawl patterns which often extend to event farther peripheries. A global study on 120 cities shows that urban land cover has, on average, grown more than three times as much as the urban population; in some cases similar studies at national level showed a difference that was three to five times fold.</li> <li>• This indicator is connected to many other indicators of the SDGs.</li> <li>• The indicator of land-use efficiency measures, benchmarks and monitors the relationship between land consumption and population growth to enable decision-makers to track and manage urban growth at multiple scales to promote orderly urban expansion.</li> <li>• This indicator ensures that the SDGs integrate the wider dimensions of space, population and land adequately, providing the framework for the implementation of other goals such as poverty, health, education, energy, inequalities and climate change.</li> </ul>
<b>Disaggregation:</b> The indicator cannot be disaggregated.

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### Target 11.4 Strengthen efforts to protect and safeguard the world's cultural and natural heritage.

**Suggested Indicator: Share of national (or municipal) budget which is dedicated to preservation, protection and conservation of national cultural natural heritage including World Heritage sites**

#### From UNESCO:

**Definition and method of computation:** The percentage of the national (or municipal) budget provided for maintaining and preserving cultural and natural heritage. This indicator represents the share of national (or municipal) budget which is dedicated to the safeguarding, protection of national cultural natural heritage including World Heritage sites.

$$B_{Hi} = \frac{b_{h,i}}{B_i}$$

$B_{H,i}$  = Percentage of annual budget provided for maintaining cultural and natural heritage in the year  $i$   
 $b_{h,i}$  = Total amount of annual budget provided for maintaining cultural and natural heritage in the year  $i$   
 $B_i$  = Total amount of annual public budget in the year  $i$

**Rationale and interpretation:** Protecting and safeguarding the world's cultural and natural heritage require public investment at different level of governmental including at city level. This indicator would allow insight whether countries are maintaining, expanding or decreasing their efforts for safeguarding their cultural natural heritage.

**Sources and data collection:** Administrative data in particular government (or municipal) budget and expenditure data.

**Comments and limitations:** Availability of public budget in culture in general will vary between countries. Issues of compiling public and private finances could result in the underestimation of the value of total investment in culture. It is important to take into account national transfer funds among different level of governmental (regional, state, municipal) to avoid double counting. An alternative could be to assess the public expenditure in culture. However, the COFOG classification may not be detailed enough to identify only heritage.

**Gender equality issues:** None.

**Data for regional and global monitoring:** Internationally comparable data are currently not available. However, the UNESCO Institute for Statistics (UIS) in collaboration with the UNESCO WHC would develop an appropriate data collection tool. The cultural and natural heritage sector will be defined according to the 2009 UNESCO Framework for Cultural Statistics (FCS) methodology (Domain A: Cultural and Natural Heritage).

Financial resources would be required in order to implement this new data collection.

**Supplementary information:** None.

**References:** None.



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**Target 11.5** By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations.

**Suggested Indicator:** Number of deaths, missing people, injured, relocated or evacuated due to disasters per 100,000 people.

### From UNISDR:

#### Definition:

**Death:** The number of people who died during the disaster, or directly after, as a direct result of the hazardous event

**Missing:** The number of people whose whereabouts is unknown since the hazardous event. It includes people who are presumed dead although there is no physical evidence. The data on number of deaths and number of missing are mutually exclusive.

**Affected people:** People who are affected by a hazardous event.

Comment: People can be affected directly or indirectly. Affected people may experience short-term or long-term consequences to their lives, livelihoods or health and in the economic, physical, social, cultural and environmental assets.

**Directly affected:** People who have suffered injury, illness or other health effects; who were evacuated, displaced, relocated; or have suffered direct damage to their livelihoods, economic, physical, social, cultural and environmental assets.

**Indirectly affected:** People who have suffered consequences, other than or in addition to direct effects, over time due to disruption or changes in economy, critical infrastructures, basic services, commerce, work or social, health and physiological consequences.

In this indicator, given the difficulties in assessing the full range of all affected (directly and indirectly), UNISDR proposes the use of an indicator that would estimate "directly affected" as a proxy for the number of affected. This indicator, while not perfect, comes from data widely available and could be used consistently across countries and over time to measure the achievement of the Target B.

From the perspective of data availability and measurability, it is proposed to build a composite indicator which consists of "**directly affected**", or those who are

- Injured or ill,
- Evacuated,
- Relocated

and to measure the number who suffered direct damage to their livelihoods or assets,

- People whose houses were damaged or destroyed
- People who received food relief aid.

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**Injured or ill:** The number of people suffering from physical injuries, trauma or cases of disease requiring immediate medical assistance as a direct result of a hazardous event.

**Evacuated:** The number of people who temporarily moved from where they were (including their place of residence, work places, schools and hospitals) to safer locations in order to ensure their safety.

**Relocated:** The number of people who moved permanently from their homes to new sites due to hazardous event. Note: This definition excludes preventive relocation before the event.

**People whose houses were damaged or destroyed due to hazardous events:** The estimated number of inhabitants previously living in the houses (housing units) damaged or destroyed. All the inhabitants of these houses (housing units) are assumed to be affected being in their dwelling or by direct consequence of the destruction/damage to their housings (housing units). An average number of inhabitants per house (housing unit) in the country can be used to estimate the value.

**Houses destroyed:** Houses (housing units) levelled, buried, collapsed, washed away or damaged to the extent that they are no longer habitable.

**Houses damaged:** Houses (housing units) with minor damage, not structural or architectural, which may continue to be habitable, although they may require some repair or cleaning.

**People who received food relief aid:** The number of persons who received food /nutrition, by government or as humanitarian aid, during or in the aftermath of a hazardous event.

**Hazardous event:** *The occurrence of a natural or human-induced phenomenon in a particular place during a particular period of time due to the existence of a hazard.*

**Hazard:** *A potentially damaging physical event, phenomenon or human activity that may cause the loss of life or injury, property damage, social and economic disruption or environmental degradation.*

UNISDR recommends setting NO threshold for recording hazardous event in order to monitor *all* hazardous events. Small-scale but frequent hazardous events that are not registered in international disaster loss databases account for an important share of damages and losses when they are combined, and often go unnoticed by the national and international community. These events, when accumulated, are often a source of poverty in developing countries but can be effectively addressed by well-designed policies. The scope of the Sendai Framework for Disaster Risk Reduction 2015-2030 is “the risk of small-scale and large-scale, frequent and infrequent, sudden and slow-onset disasters, caused by natural or man-made hazards as well as relate environmental, technological and biological hazards and risks”.

Regarding the inclusion of biological and environmental hazards in natural hazards category and whether and how to integrate man-made hazards, UNISDR will discuss the issue with WHO and other organizations (for example, WHO would be in a better position in terms of data, knowledge and relationship with Member States and other stakeholders to monitor biological events including epidemics. However, we generally do not expect biological disasters will cause physical damages to facilities. ).

Note: Terminology will be discussed and finalized in the Open-ended Intergovernmental Working Group for Sendai Framework for Disaster Risk Reduction.

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### Method of computation:

Summation of data on related indicators from national disaster loss databases. Make the sum a relative figure by using global population data (World Bank or UN Statistics information). Relativity is important because population growth (expected to be 9 billion in 2050) may translate into increased hazard exposure of population.

The Expert Group recommends not using the indicators related with the people whose houses were damaged/destroyed in the computation. UNISDR and IRDR groups recommend using them as they can be estimated from widely available and verifiable data and reflect vulnerability and livelihood issues. Data on housing damage and destroyed is essential for economic loss, so using these indicators would not impose additional data collection burden.

Double-counting: From practical perspective, double counting of affected people is unavoidable (for example, injured and relocated) in many countries. Minimum double counting is summing “number of injured” and Number of people whose housings were damaged or destroyed. Relocated is sub-set of number of people whose housings were destroyed.

The data can be disaggregated by hazard type. When applied to proposed target 13.1 and 15.3, hydrological, meteorological and climatological and indirectly biological disasters are monitored.

### Rationale and interpretation (mainly based on TST Issue Brief 2, 5, 20 and 23-26):

Cities around the world, as well as rural populations, witness growing disaster risks. Impacts of climate change on sustainable development are observed through both slow-onset events (e.g. sea level rise, increasing temperatures, ocean acidification, glacial retreat and related impacts, salinization, land and forest degradation, loss of biodiversity and desertification) and extreme weather events. Human loss can be measured by the number of deaths, missing, injured or ill, evacuated, relocated, people whose houses were damaged/destroyed and people who received food relief aid as a direct result of the hazardous events.

Cities are some of the most vulnerable areas to natural disasters. Unplanned urban development (e.g. informal settlements, overcrowding, inadequate infrastructures) exacerbates urban vulnerability to climate change impacts and hydro-meteorological and geological hazards. Over half of all coastal areas are urbanized and 21 of the world’s 33 mega cities lie in coastal flood zones. SIDS and coastal regions are particularly affected by sea level rise, coastal flooding and erosion, and extreme events (e.g. tsunamis and storm surges) due to undermining natural protective barriers, low levels of development combined with rapid population growth in low lying coastal areas and inadequate capacity to adapt. Poor urban populations must often resort to unsustainable coping strategies and mechanisms.

Large numbers of people remain perilously close to falling into poverty, experiencing shocks that they are unable to cope with. For the poor, a shock of even a relatively short duration can have long term consequences. Several dimensions of poverty are closely related to environment, which is often affected by natural disasters. The poverty reduction agenda could include well-designed social protection scheme to help protecting the poor against sudden shocks and the development of capacities to better predict and prepare for such shocks. Better management of natural resources can themselves strengthen the resilience of the poor, by both reducing the likelihood of natural hazardous events and offering resources to help cope with them.

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Biodiversity provides ecosystem resilience and contributes to the ability to respond to unpredictable global changes and natural disasters. Healthy ecosystems act as buffers against natural hazards, providing valuable yet underutilized approaches for climate change adaptation, enhancing natural resilience and reducing the vulnerability of people, for example to floods and the effects of land degradation. These ecosystem services improve the sustainability and economic efficiency of built infrastructure, and are critical for sustainable and resilient urban areas.

This indicator will track human-related loss. The disaster loss data (particularly mortality) are significantly influenced by large-scale catastrophic event, which represent important outliers. UNISDR recommends countries to report the data by event, so complementary analysis can be done by both including and excluding such catastrophic events.

The indicator will build bridge between SDGs and the Sendai Framework for Disaster Risk Reduction because the reduction of human related loss is included in the Sendai Framework global targets and will also be monitored under the Sendai Framework Monitoring Mechanism.

**Sources and data collection:** National disaster loss database, reported to UNISDR

**Disaggregation:** by country, by event, by hazard type (e.g. disaggregation by climatological, hydrological, meteorological, geophysical, biological and extra-terrestrial for natural hazards is possible following IRDR\* classification), by death/missing/injured or ill/evacuated/relocated/people whose houses were damaged/people whose houses were destroyed/people who received food relief aid.

\*Integrated Research on Disaster Risk (2014), *Peril Classification and Hazard Glossary (IRDR DATA Publication No.1)*, Beijing: Integrated Research on Disaster Risk

Additionally, the Expert Group recommended disaggregation by age, sex, location of residence and other characteristics (e.g. disability) as relevant and possible. Aggregation of “location of residence”: ideally by sub-national administrative unit similar to municipality.

### Comments and limitations:

- ✓ This is proposal by UNISDR based on our experience and knowledge built in the period under the Hyogo Framework for Action (2005-2015). The proposed indicator was further reviewed and examined by other UN agencies including FAO, GFDRR, IOM, UNCCD, UNDP, UNESCAP, UNESCO, UNFPA, UNHCR, UNOCHA, UNOOSA, UNOPS, UNU, UNWOMEN, WHO and WMO (though not all organizations listed here provided comments for this indicator) and submitted to the IAEG process in early-July 2015, then again reviewed by the Technical Expert Group consisting of more than 60 experts from UN system, academic and research, civil sector and private sector in 27-29 July 2015 and submitted and examined by the Member States in the 1<sup>st</sup> Open-ended Intergovernmental Expert Working Group on Indicators and Terminology on Disaster Risk Reduction held in 29-30 September 2015. The suggested indicator is currently under review by the Member States and UNISDR is receiving written inputs from the Member States.
- ✓ The proposed indicators will be also used to monitor Sendai Framework global targets and therefore the detailed definitions shall be discussed and agreed in Open-ended Intergovernmental Expert Working Group on Indicators and Terminology on Disaster Risk Reduction, as outlined in Sendai Framework for Disaster Reduction 2015-2030. The Working Group is likely to finalize the discussion and submit the final report to the GA in December 2016.

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- ✓ Not every country has a comparable national disaster loss database that is consistent with the UNISDR guidelines (current coverage is 85 countries. Additional 32 countries are expected to be covered in 2015-16). Therefore, by 2020, it is expected that all countries will build/adjust the database according to the UNISDR guidelines and report the data to UNISDR.

**Gender equality issues:** Disaggregated by gender (if agreed by country in the Open-ended Intergovernmental Expert Working Group)

**Data for global and regional monitoring:** Summation of data from national disaster loss databases

**Main linkage with SDG Targets:**

*This indicator is proposed as “multi-purpose indicator”.*

### Target 1.5:

By 2030, build **the resilience of the poor and those in vulnerable situations** and reduce their **exposure and vulnerability to climate-related extreme events** and other economic, social and environmental shocks and **disasters**

### Target 11.5:

By 2030, significantly reduce **the number of deaths** and **the number of people affected** and substantially decrease the direct economic losses relative to global gross domestic product caused by **disasters**, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations

### Target 13.1:

Strengthen **resilience and adaptive capacity to climate-related hazards and natural disasters** in all countries

### Target 1.3:

Implement nationally appropriate **social protection systems and measures** for all, including floors, and by 2030 achieve substantial coverage of the poor and the vulnerable

### Target 14.2:

By 2020, sustainably manage and protect **marine and coastal ecosystems** to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans

### Target 15.3:

By 2030, combat desertification, restore degraded land and soil, including **land affected by desertification, drought and floods**, and strive to achieve a land-degradation-neutral world

### Target 3.9:

By 2030, substantially reduce the number of **deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination**

### Target 3.6:

By 2020, halve the number of **global deaths and injuries from road traffic accidents**

### Target 3.d:

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Strengthen the capacity of all countries, in particular developing countries, for **early warning, risk reduction and management of national and global health risks**

### Supplementary information:

#### Related targets in the Sendai Framework for Disaster Risk Reduction 2015-2030:

Substantially reduce global disaster **mortality** by 2030, aiming to lower average per 100,000 global mortality between 2020-2030 compared to 2005-2015.

Substantially reduce the number of **affected people** globally by 2030, aiming to lower the average global figure per 100,000 between 2020-2030 compared to 2005-2015.

#### Sendai Framework for Disaster Risk Reduction 2015-2030:

([http://www.preventionweb.net/files/43291\\_sendaiframeworkfordrren.pdf](http://www.preventionweb.net/files/43291_sendaiframeworkfordrren.pdf))

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**Target 11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management.**

**Suggested Indicator 1: Percentage of urban solid waste regularly collected and well managed (disaggregated by type of waste)**

From UN-HABITAT:

<b>Indicator:</b>	Percentage of urban solid waste regularly collected and recycled (disaggregated by E-waste and non-E-waste)
<b>Scope</b>	Used in the City Prosperity Initiative (CPI)
<b>Rationale:</b>	Recycling and reusing solid waste is a way to reduce the amount of waste to be disposed in landfills. A prosper city seeks to recycle the most part of its solid waste to increase the lifespan of its landfills and to profit solid waste as much as possible.
<b>Definition:</b>	The recycling rate is the tonnage recycled from municipal waste divided by the total municipal waste arising. Recycling includes material recycling, composting and anaerobic digestion. Municipal waste consists to a large extent of waste generated by households, but may also include similar wastes generated by small businesses and public institutions and collected by the municipality; this latter part of municipal waste may vary from municipality to municipality and from country to country, depending on the local waste management system (Eurostat, 2013)
<b>Unit [ ]</b>	%
<b>Methodology:</b>	$\text{Solid waste recycling share} = \left[ \frac{\text{volume of waste recycled}}{\text{total collected waste}} \right] * 100$
<b>Source:</b>	Local solid waste management plans and local authorities.
<b>Benchmark</b>	Min = 0% Max = 63.33% Calculated from data from 2010 to 2012 available at Eurostat (2014). $X^* = 50$ Obtained from European Parliament, Council of the European Union (2008).
<b>Standardization (S)</b>	$\text{Solid waste recycling share}^{(S)} = e^{-\frac{ \text{Solid waste recycling share} - X^* ^{k_1}}{k_2(\text{Max} - \text{Min})}} * 100$ <p>Where, <math>k_1, k_2</math> = Positive constants, that determine the speed of increase of the function for values lower than 50%.</p> $\text{Solid waste recycling share}^{(S)} = e^{-\frac{ \text{Solid waste recycling share} - 50 ^{k_1}}{k_2(63.33)}} * 100$ <p>Decision:</p> $\text{Solid waste recycling share}^{(S)} = \begin{cases} 100\%, & \text{If Solid waste recycling share} \geq 50 \\ \text{Solid waste recycling share}^{(S)}, & \text{If Solid waste recycling share} < 50 \end{cases}$
<b>Notes</b>	

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### References

#### Bibliographic references:

Eurostat (2013). Recycling rate of municipal waste (t2020\_rt120). [1]

Eurostat (2014). Recycling rate of municipal waste (t2020\_rt120). [2]

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#### URL references:

[1]:

[http://epp.eurostat.ec.europa.eu/cache/ITY\\_SDDS/EN/t2020\\_rt120\\_esmsip.htm#relatedmd1401955141433](http://epp.eurostat.ec.europa.eu/cache/ITY_SDDS/EN/t2020_rt120_esmsip.htm#relatedmd1401955141433), accessed June 11, 2014.

[2]:

[http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&plugin=1&language=en&pcode=t2020\\_rt120](http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&plugin=1&language=en&pcode=t2020_rt120), accessed June 11, 2014.

[3]: <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32008L0098>, accessed June 11, 2014.

### Suggested Indicator 2: Level of ambient particulate matter (PM 10 and PM 2.5)

**NO METADATA RECEIVED**



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**Target 11.7 By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities.**

**Suggested Indicator: The average share of the built-up areas of cities in open space in public ownership and use.**

**From UN-HABITAT:**

<b>Indicator:</b>	The average share of the built-up areas of cities in open space in public ownership and use
<b>Rationale:</b>	<p>This indicator provides information about the amount of open public areas in a city. Cities that improve and sustain the use of public space, including streets, enhance community cohesion, civic identity, and quality of life. Having access to open public spaces does not only improve the quality of life: it is also a first step toward civic empowerment and greater access to institutional and political spaces <sup>(1)</sup>.</p> <p>Having sufficient public space allows cities and regions to function efficiently and equitably <sup>(1)</sup>. Reduced amounts of public space impact negatively on quality of life, social inclusion, infrastructure development, environmental sustainable and productivity. It is documented that well designed and maintained streets and public spaces result in lower crime and violence.</p>
<i>About public space:</i>	<p>Making space for formal and informal economic activities, recovering and maintaining public spaces for a diversity of users in a positive way, and making services and opportunities available to marginalized residents, enhance social cohesion and economic security.</p> <p>Uncontrolled rapid urbanization generally creates settlement patterns with dangerously low proportions of public space. As a result, these places are unable to accommodate safe pedestrian and vehicular rights of way, land for critical infrastructure like water, sewerage and waste collection, recreational spaces, green areas and parks that contribute to social cohesion and protected ecological hotspots and corridors.</p> <p>As new cities also develop they have reduced allocations of land for public space especially streets. On average, at 15% the land allocated to streets in new planned areas is substantially less than the standard and in unplanned areas the situation is considerably worse with an average of 2% <sup>(2)</sup>. The generally accepted minimum standard for public space in higher density settlements (150 inhabitants or more per/hectare) is 45% (30% for streets and sidewalks and 15% for open public space). <sup>(3)</sup> Total city space refers to the built-up area of the city.</p> <p>The proportion of urban areas dedicated to streets and public spaces is a crucial feature of the spatial plans of cities. The road network is the integrative and dynamic factor between individuals and socioeconomic activities. It is a structuring component of geographic space and defines the socio-dynamics of an area being conditioned by the spatial pattern, which restricts the location of roads and human settlements <sup>(3)</sup>.</p> <p>Short and direct pedestrian and cycling routes require highly connected network of paths and streets around small, permeable blocks. These features are primarily important for walking and for transit station accessibility, which can be easily discouraged by detours <sup>(4)</sup>.</p> <p>A prosperous city seeks a tight network of paths and streets offering multiple routes to many destinations that also make walking and cycling trips varied and enjoyable<sup>(4)</sup>. In fact, cities that have adequate streets, public spaces and greater connectivity are more liveable and productive <sup>(2)</sup>.</p>
<i>About streets as public spaces</i>	<p>Public space is publicly owned land and available for public use. Public spaces encompass a range of environments including streets, sidewalks squares, gardens, parks, conservation areas. Each public space has its own spatial, historic, environmental, social and economic features. They can be publically or privately managed.</p> <p>The use of this indicator aims to integrate urban form and spatial analysis in the monitoring of Goal 11 of the Sustainable Development Goals.</p> <p>Spatial indicators are vital tools supporting sustainable urban and regional planning. They are valuable in the generation of spatial data that is critical for priority setting for harmonious and equitable distribution</p>

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of resources and investments in the territory. This information supports decision-making based on evidence and facilitates effective urban management and the setting of local monitoring mechanisms to assess impact in localized areas.

Area of public space as a proportion of total city space, including the land allocated to streets. The indicator is calculated integrating to metrics: a) land allocated to open public space; b) land allocated to streets.

Proportion of urban area allocated to open public spaces, including street and sidewalks.

$$\text{Proportion of Total Open Public Space} = \frac{\text{Total surface of open public space} + \text{total surface of land allocated to streets}}{\text{total surface of built up area of the urban agglomeration}}$$

% (percentage)

## Definition of public space:

The method to estimate the area of public space is based on three steps: 1) spatial analysis to delimit the built-up area of the city; 2) estimation of the total open public space and; 3) estimation of the total area allocated to streets.

1. **Spatial analysis to delimit the built-up area.** Delimit the built-up area of the urban agglomeration and calculate the total area (square kilometers).
  - 1.1 **Satellite imagery:** Use of exiting layers of satellite imagery ranging from open sources such as Google Earth and US Geological Survey/NASA imagery Landsat to more sophisticated and higher resolution land cover data sets. Images will be analyzed for the latest available year.
  - 1.2 **Delimitation of built-up area of the urban agglomeration:** The delimitation of the urban agglomeration refers to the total area occupied by the built-up area and its urbanized open space. The delimitation of the study area distinguishes urban, suburban and rural areas based on the built-up densities. This indicators includes urban (more than 50% built-up density) and suburban areas (between 50% to 10% built-up density (refer to annex 1 “Measurement of the Street Connectivity Index”).

## Objective of the indicator:

## Spatial Indicators:

## Definition of the indicator:

## Methodology:

## Formula:

## Unit [ ]

## Methodology:



Delimitation of Built-up area

2. **Open public space:** mapping and calculation of total areas of open public space within the defined urban boundaries based on the built-up area.
  - 2.1 **Definition of open public space:** An open public space is related to universal access. Open public spaces include only the following types:

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- Parks: open spaces inside a municipality that provide free air recreation and contact with nature. Their principal characteristic is the significant proportion of green area.
  - Civic parks: open spaces created by building agglomeration around an open area, which was later transformed into a representative, civic area. They are characterised by considerable nature, specifically gardens. They are good place for cultural events and passive recreation.
  - Squares: open spaces created by building agglomeration around an open area. Its main characteristics are the significant proportion of architectonic elements and interaction among buildings and the open area. Squares are usually public spaces that are relevant to the city due to their location, territorial development, or cultural importance.
  - Recreational green areas: public green areas that contribute to environmental preservation. All recreational green areas must guarantee accessibility and must be linked to urban areas. Their main functions are ornamental and passive recreation.
  - Facility public areas: open meeting spaces and recreational facilities that are part of city facilities (defined as places that are elementary to all cities; i.e., public libraries, stadium, public sports centres, etc.). These areas have the following characteristics: public property, free transit and access, and both active and passive recreation. (e.g., the public area outside a stadium).
- 2.2 Inventory of open public space. Information can be obtained from legal documents outlining publicly owned land and well defined land use plans. In some cases where this information is lacking, incomplete or outdated, open sources and community-based maps, which are increasingly recognized as a valid source of information, can be a viable alternative.
- 2.3 Computation of total area of open public space. The inventory of open public spaces is digitalized in existing maps and vectorised to allow computation of surfaces. The total of open public area is divided by the total built-up area of the city to obtain the proportion.
3. **Land allocated to streets:** calculation of the total area allocated to streets based on sampling techniques as a proportion of the total surface of the built-up area as per definition above.
- 3.1 Definition of streets. For this indicator, streets are defined as the space used by pedestrian or vehicles in order to go from one place to another in the city and also in order to interact. More and more, local population recognizes streets as public spaces and as an important ‘common’ of the city. The area of the streets include the carriageway, the median, the roundabouts, the traffic islands, the sidewalk, the cycle tracks, planting zones and storm drainage; in other words, the right of way limited by private properties and/or natural obstacles such as rivers.

In informal settlements or slum areas where sidewalks are missing, the main references for limiting the street area are the physical boundaries used to demarcate the private properties. Unpaved roads are also considered as streets.



*Delimitation of Street limit*

- 3.2 Sampling technique for the estimation of land allocated to streets. The estimation of the total area of the street is based on the following methodology:
- a. Define the boundary of the built-up area.
  - b. Generate the Halton sequence of sample points of the urban area bounding box for an average density of 10 points per Km<sup>2</sup>.
  - c. Extract the sample points that are within the urban area boundary.

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- d. Buffer the points to get sample areas (circles) with an area of 10 Ha each (0.1 Km<sup>2</sup>).
- e. For each sample area in the sequence: i) check the completeness of the street network using 'open street maps' (OSM cartography on streets) within the sample area, and complete it if necessary comparing it with the most recent satellite imagery of the urban area; ii) define and delimit streets as per definition; iii) measure the street widths on the orthophoto (i.e. Bing) and store it in the OSM data base; iv) download the OSM cartography; v) superimpose (clip) the OSM data with the sample areas; vi) calculate the land allocated to street for each sample area.
- f. Repeat the process for the following sample areas until the variations are within a certain margin (95% confidence limits).

3.3 Computation of total area of land allocated to streets. The average of the sample areas provide the total land allocated to streets.

*Delimitation of Built-up area of the urban agglomeration*



*Open Public Space Mapping*



*Land allocated to street Sample Area*



## Benchmark

Proportion of Total Open Public Space  
Min = 0 %  
Max = 45 %

Land Allocated to Street (%)  
Min = 0 %  
Max = 30%

## Standardization

Total Open Public Space (%)  
Min = 0 %  
Max = 15 %

$$\text{Proportion of Total Open Public Space}^{(s)} = 100 \left[ \frac{\text{Open Public Space} - \text{Min}}{\text{Max} - \text{Min}} \right]$$

$$\text{Proportion of Total Open Public Space}^{(s)} = 100 \left[ \frac{\text{Open Public Space}}{45} \right]$$

## Example :

City A:

Total area of the Built-up Area: 168 km<sup>2</sup>  
Area of Open Public Space: 4.52 km<sup>2</sup> (2.69%)  
Area of Land Allocated to Street: 39.45 km<sup>2</sup> (23.48%)  
Proportion of Total Open Public Space: 26.17%

$$\text{Proportion of Total Open Public Space} = \frac{4.52 \text{ km}^2 + 39.45 \text{ km}^2}{168 \text{ km}^2}$$

$$\text{Proportion of Total Open Public Space} = 26.17\%$$

Standardization:

$$\text{Proportion of Total Open Public Space}^{(s)} = 100 \left[ \frac{26.17}{45} \right]$$

$$\text{Proportion of Total Open Public Space}^{(s)} = 58.15$$

# Goal 11 Make cities and human settlements inclusive, safe, resilient and sustainable

## Limitations:

- In some cities, open sources data for satellite imagery may be of low quality or not clearly defined.
- Types of open public spaces vary by city; however, the types listed above are the most commonly accepted.
- It is unusual to obtain complete information about city streets. It is sometimes necessary to make adjustments as suggested in the methodology. This is particularly the case in slum areas. Community-based work can be a solution to this problem.

## Previous use of the indicator:

- This indicator has been widely use as part of the research project to monitor urban expansions in a global sample of cities (200 cities) developed by UN-Habitat and the Stern School of Business of New York University (2014/2015).
- The indicator is also used as part of UN-Habitat City Prosperity Initiative that is being implemented in 300 cities across the world to monitor local and global conditions of city sustainability and prosperity (2012/2015).

The indicator was used in a sample of 120 cities as part of the study “Streets as Public Spaces and Drivers of Urban Prosperity” published by UN-Habitat (2013) <http://unhabitat.org/streets-as-public-spaces-and-drivers-of-urban-prosperity>.

## Possibilities for further development:

- ✓ With sufficient data this indicator allows for sub-city analysis and for the disaggregation of the information at neighbourhood level employing Small Area Statistics Analysis.
- ✓ Based on the on-going global programme of the City Prosperity Initiative, and the use of the City Prosperity Index (CPI) the “Land Allocated to Street” measurement can be used as leading variable articulated to other two key metrics that use the same method to measure the efficiency of “Urban Form” within the dimension of infrastructure development. These two metrics are: 1) street intersection density (the number of street intersections per square kilometre of land); 2) street density (the number of kilometre of urban streets per square kilometre of land). Together these three metrics have been used to measure sustainable urban development and city prosperity in more than 200 cities.
- ✓ Moreover, based on the same initiative and the CPI further measurements of “Open Public Space” can be conducted by analysing the percentage of the population living in proximity to open public spaces (population located less than 300 meters away from an open public space and 1 km from a major open public space). This complementary measurement has a very strong spatial component.

## Recommendation:

The proposed indicator for Target 11.7 is part of the City Prosperity Index (CPI). UN-Habitat recommends that the CPI can be used as a global framework for the measurement of all targets of Goal 11 of the SDGs. With necessary adjustments, this index can identify, quantify, evaluate, monitor and report on progress made by cities and countries on Goal 11.

The adoption of this global framework has several advantages: adopt a systemic approach of the city; provide a single value of the state of the city; establish benchmarks for local and global monitoring; create baseline data and information; establish a global platform for comparability; identify priorities of sustainable urban development; provides evidence-based for policy-making and accountability; and create local/national monitoring mechanisms.

## References

- <sup>(1)</sup>. UN-Habitat (2014) *Guidelines and Metadata on the City Prosperity Initiative*, use of selected indicators, Nairobi.
- <sup>(2)</sup>. UN-Habitat (2013) *Streets as Public Spaces and Drivers of Urban Sustainability*, Nairobi.
- <sup>(3)</sup>. UN-Habitat (2013) *The relevance of street patterns and public space in urban areas*, Nairobi.
- <sup>(4)</sup>. Institute for Transportation and Development Policy (2013) *TOD Standard*, v. 2.0, New York.

## URL references

[1]: [http://epa.gov/smartgrowth/pdf/ptfd\\_primer.pdf](http://epa.gov/smartgrowth/pdf/ptfd_primer.pdf)

**Goal 11** Make cities and human settlements inclusive, safe, resilient and sustainable

**Target 11.a** Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning.

**Suggested Indicator:** Cities with more than 100,000 inhabitants that implement urban and regional development plans integrating population projections and resource needs

**NO METADATA RECEIVED**

**Goal 11** Make cities and human settlements inclusive, safe, resilient and sustainable

**Target 11.b** By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030, holistic disaster risk management at all levels.

**Suggested Indicator:** Percentage of cities implementing risk reduction and resilience policies that include vulnerable and marginalized groups.

**NO METADATA RECEIVED**

## Goal 11 Make cities and human settlements inclusive, safe, resilient and sustainable

**Target 11.c Support least developed countries, including through financial and technical assistance, in building sustainable and resilient buildings utilizing local materials.**

**Suggested Indicator: Percentage of financial support that is allocated to the construction and retrofitting of sustainable, resilient and resource-efficient buildings**

**From OECD:**

### *Definition and method of computation*

Total net [official development assistance](#) (ODA) to the construction ([purpose code](#) 32310) and urban development and management (code 43030) subsectors in the Least Developed Countries. Data expressed in US dollars at the average annual exchange rate.

### *Rationale and interpretation*

ODA is the accepted measure of international development co-operation. In this case it captures international concessional financing to least developed countries in construction and urban development.

### *Sources and data collection*

Data are compiled by the Development Assistance Committee (DAC) of the Organisation for Economic Co-operation and Development from returns submitted by its member countries and other aid providers. Data can be accessed [here](#).

### *Disaggregation*

The data are generally obtained on an activity level, and include numerous parameters. They can thus be disaggregated by provider and recipient country; by type of finance, and by type of resources provided. Some data are also available on the policy objectives targeted by individual projects, including through [climate adaptation and mitigation markers](#).

### *Comments and limitations*

The data only address international concessional flows provided by governments. Detailed, internationally comparable sectoral information on other support building and construction in developing countries is generally lacking.

### *Gender equality issues*

The data include a [“gender equality” marker](#) which identifies individual projects that have a clear gender dimension.

### *Data for global and regional monitoring*

Data are available for essentially all high-income countries, and for an increasing number of middle-income aid providers.



# Goal 11 Make cities and human settlements inclusive, safe, resilient and sustainable

## *Supplementary information*

### *References*

OECD, 2014 [Aid to Urban Climate Change Adaptation](#)

**Goal 12**      **Ensure sustainable consumption and production patterns**

**Target 12.1**      **Implement the 10-year framework of programmes on sustainable consumption and production, all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries.**

**Suggested Indicator: Number of countries with SCP National Actions Plans or SCP mainstreamed as a priority or target into national policies, poverty reduction strategies and sustainable development strategies**

**NO METADATA RECEIVED**

**Goal 12**      Ensure sustainable consumption and production patterns

**Target 12.2**      **By 2030, achieve the sustainable management and efficient use of natural resources.**

**Suggested Indicator: Material footprint (MF) and MF/capita**

**NO METADATA RECEIVED**

## Goal 12 Ensure sustainable consumption and production patterns

**Target 12.3 By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses.**

**Suggested Indicator: Global Food Loss Index (GFLI)**

**From FAO:**

### **Precise definition of the indicator**

The indicator measures the totality of losses occurring from the time at which production of an agricultural product is recorded until it reaches the final consumer as food.

While calculated on a quantity basis, it is subsequently transformed to dietary energy supplies (in kcal) per capita allowing consistent aggregation and then indexed.

The indicator will be calculated on an annual frequency broken down by country and commodity.

### **How is the indicator linked to the specific TARGET as worded in the OWG Report?**

The indicator provides evidence on most aspects of the object of the SDG target above. However, in contrast to the objective of the SDG target, it does not take into account losses occurring at the consumer level. Specifically, it provides evidence on the amount which is lost from the food *available* to private households, rather than from the food *actually consumed* by them.

Therefore, the indicator is sensitive, for example, to enhancements in supply-chain infrastructure, while it is insensitive to changes in the private households' efforts to use food more efficiently or to their equipment with refrigerators.

### **Does the indicator already exist and is it regularly reported?**

The indicator has been developed and compiled, but further testing and validation is required before public release.

The costs of measuring losses directly and regularly, for example in surveys, are prohibitive. Therefore, the indicator is primarily model-based. It will be compiled on a regular basis as part of the Food Balance Sheets in FAOSTAT.

The calculation of the indicator relies on primary data collected from government agencies in the Agricultural Production Questionnaire or harvested from official publications and other sources. The model parameters are retrieved from the World Development Indicators database of the World Bank.

The coverage with primary data is lowest in Sub-Saharan Africa, North Africa and the Middle East. For sugar crops, tree nuts and milk the data are more difficult to obtain than for other types of commodities.

The accuracy of the estimates could be improved by investments into the statistical capacities for the assessment of losses at national level, probably in the scope of the Global Strategy, as well as into work on further improvements of the model.

## Goal 12      Ensure sustainable consumption and production patterns

**Comment on the reliability, potential coverage, comparability across countries, and the possibility to compute the indicator at sub-national level.**

### Reliability

The accuracy of the indicator is difficult to assess, as the measurement error of the primary data collected from countries, which adds to the error made in the estimation by the model, cannot be quantified. Our preliminary comparison of predicted and observed losses makes us confident that our estimates are not systematically biased.

### Coverage

The indicator can be compiled annually for the 177 countries for which Food Balance Sheets are produced.

### Comparability

The indicator will be calculated on the basis of a standard definition and common methodology for each country in each year. However, the accuracy of the estimates will vary across countries as a result of differences in the availability and quality of the source data.

### Sub-national estimates

Sub-national estimates will not be available.

**Goal 12**      **Ensure sustainable consumption and production patterns**

**Target 12.4**      **By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment.**

**Suggested Indicator: Number of Parties to international multilateral environmental agreements on hazardous and other chemicals and waste that meet their commitments and obligations in transmitting information as required by each relevant agreement**

**From UNEP:** This would be measured by number of Parties that transmit information as required by each relevant agreements (e.g. national reports, national implementation plans, import responses, etc.).

**Goal 12**      Ensure sustainable consumption and production patterns

**Target 12.5**    **By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.**

**Suggested Indicator: National recycling rate, tonnes of material recycled**

**NO METADATA RECEIVED**

**Goal 12**      Ensure sustainable consumption and production patterns

**Target 12.6**      Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle.

**Suggested Indicator:** Number of companies publishing sustainability reports

**NO METADATA RECEIVED**



**Goal 12**      Ensure sustainable consumption and production patterns

**Target 12.7**      Promote public procurement practices that are sustainable, in accordance with national policies and priorities.

**Suggested Indicator: Number of countries implementing Sustainable Public Procurement policies and action plans**

**NO METADATA RECEIVED**

**Goal 12** Ensure sustainable consumption and production patterns

**Target 12.8** By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature.

**Suggested Indicator:** Number of countries reporting inclusion of sustainable development and lifestyles topics in formal education curricula

**NO METADATA RECEIVED**

**Goal 12** Ensure sustainable consumption and production patterns

**Target 12.a** Support developing countries to strengthen their scientific and technological capacity to move towards more sustainable patterns of consumption and production.

**Suggested Indicator:** Number of qualified green patent applications

**NO METADATA RECEIVED**

## Goal 12 Ensure sustainable consumption and production patterns

**Target 12.b Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products.**

**Suggested Indicator: Residual flows generated as a result of tourism direct GDP (derived from an extended version of the System of Environmental-Economic Accounting (SEEA) for tourism)**

**From UNWTO:**

### **Definition**

The indicator currently lacks a methodological framework but it is expected that it should be rooted in some form of linked tourism and environmental accounts (TSA-SEEA). (see “Comments and limitations” below)

### **Method of computation**

To be defined

### **Rationale**

The target has several dimensions. The suggested indicator focuses on the dimension: “*sustainable development impacts for sustainable tourism*”. (see “Comments and limitations” below)

### **Interpretation**

(see “Comments and limitations” below)

### **Sources and data collection**

Expected to be sourced from some form of linked SEEA-TSA accounts (see “Comments and limitations” below)

### **Disaggregation**

To be defined. It is expected that sub-national information is key. If based on and sourced from an accounting structure, information by tourism industries could be possible (as these industries’ productive activity make up Tourism Direct GDP). (see “Comments and limitations” below)

### **Comments and limitations**

While it is understood that the indicator is an attempt at presenting an indicator that could approximate for the “sustainable development impacts for sustainable tourism”, the indicator poses important challenges.

First, there is no conceptual framework that specifically caters to links between tourism and environmental accounts to base this indicator on. The framework for measuring tourism exists (*International Recommendations for Tourism Statistics 2008* and *Tourism Satellite Account: Recommended Methodological Framework 2008*) as well as the framework for environmental-economic accounts (*System of Environmental Economic Accounts 2012*), but a linking of the two is required. Even though this is something that UNWTO will embark on together with a number of countries, UNSD, and OECD and counting on the support of the UNCEEA, the production of internationally comparable data on (something that could

## Goal 12 Ensure sustainable consumption and production patterns

approximate for) “sustainable tourism” in a significant number of countries still has some years to go.

Data availability is the second biggest challenge, even if a conceptual framework gets developed. While UNWTO is aware of a number of countries that have developed pilot exercises of linking tourism and environmental accounts to produce data for indicators relating key environmental aggregates (notably energy use, GHG emissions, and their intensities) to tourism activity, this is far from being an endeavour that, presently, more than a handful of countries could provide data on, let alone structurally incorporate it into their programmes of work over the medium term.

There is the added challenge that the concept of “sustainable tourism” as stated in the target is mainly a policy construct and not defined nor part of an established or internationally conceptual/statistical framework at this point.

If this indicator is kept it is proposed that, for the time being, it be interpreted in its broadest sense to consider as residuals not only solid waste but also emissions to air and water and wastewater. This would give some flexibility to, after analysis and testing, ultimately opt for the residual(s) that can best cater to the information need for this target. An example of one such candidates could be:

- GHG emissions related to tourism: possibly defined as “GHG emissions from the tourism industries” or a more ambitious “Direct GHG emissions from (selected) tourism industries” or possibly even “Direct GHG emissions intensity for tourism in terms of terms of number of (FTE) jobs” (which would unite several dimensions relevant to the target).

If testing shows that the indicator cannot be viably produced in a significant number of countries, other possible indicators relating tourism and the environment that could be sourced from linked SEEA-TSA accounts should be considered. A possibility could be to shift the focus away from residuals and towards SEEA accounts with wider (and more detailed) data availability. A priori a possibility to be considered could be:

- Energy use related to tourism: possibly defined as “energy use in the tourism industries” or a more ambitious “Direct energy use in (selected) tourism industries” or possibly even “Direct energy use intensity for tourism in terms of terms of number of FTE jobs” (which would unite several dimensions relevant to the target).

Last but certainly not least, it could be argued that the focus of the target is on “*Develop and implement tools to monitor [sustainable development impacts for sustainable tourism ...]*”.

Indeed, the Target itself acknowledges that “*tools to monitor [sustainable development impacts for sustainable tourism]*” need to be developed. If this is considered to be the main focus, then an indicator that tracks precisely this in countries would be more appropriate:

- “Stage of implementation of linked SEEA-TSA accounts in country” or, alternatively, “Stage of implementation of TSA in country”

An advantage of such an indicator is that it could be a powerful motivator to further the necessary statistical development in countries in order to better understand also the other dimensions of the target: “*sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products*”. An indicator focusing on developing

## Goal 12      Ensure sustainable consumption and production patterns

the tools to monitor tourism in relation to sustainability also matches better the incipient stage of statistical development in this area (both conceptually and regarding implementation in countries).

### **Supplementary information and references**

*System of Environmental Economic Accounts 2012 (SEEA 2012)*

*Tourism Satellite Account: Recommended Methodological Framework (TSA: RMF 2008)*

### **Responsible entities**

World Tourism Organization (UNWTO)

## Goal 13 Take urgent action to combat climate change and its impacts

### Target 13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries.

**Suggested Indicator: Number of deaths, missing people, injured, relocated or evacuated due to disasters per 100,000 people.**

**From UNISDR:**

**Definition:**

**Death:** The number of people who died during the disaster, or directly after, as a direct result of the hazardous event

**Missing:** The number of people whose whereabouts is unknown since the hazardous event. It includes people who are presumed dead although there is no physical evidence. The data on number of deaths and number of missing are mutually exclusive.

**Affected people:** People who are affected by a hazardous event.

Comment: People can be affected directly or indirectly. Affected people may experience short-term or long-term consequences to their lives, livelihoods or health and in the economic, physical, social, cultural and environmental assets.

**Directly affected:** People who have suffered injury, illness or other health effects; who were evacuated, displaced, relocated; or have suffered direct damage to their livelihoods, economic, physical, social, cultural and environmental assets.

**Indirectly affected:** People who have suffered consequences, other than or in addition to direct effects, over time due to disruption or changes in economy, critical infrastructures, basic services, commerce, work or social, health and physiological consequences.

In this indicator, given the difficulties in assessing the full range of all affected (directly and indirectly), UNISDR proposes the use of an indicator that would estimate "directly affected" as a proxy for the number of affected. This indicator, while not perfect, comes from data widely available and could be used consistently across countries and over time to measure the achievement of the Target B.

From the perspective of data availability and measurability, it is proposed to build a composite indicator which consists of "**directly affected**", or those who are

- Injured or ill,
- Evacuated,
- Relocated

and to measure the number who suffered direct damage to their livelihoods or assets,

- People whose houses were damaged or destroyed
- People who received food relief aid.

**Injured or ill:** The number of people suffering from physical injuries, trauma or cases of disease requiring immediate medical assistance as a direct result of a hazardous event.

## Goal 13 Take urgent action to combat climate change and its impacts

**Evacuated:** The number of people who temporarily moved from where they were (including their place of residence, work places, schools and hospitals) to safer locations in order to ensure their safety.

**Relocated:** The number of people who moved permanently from their homes to new sites due to hazardous event. Note: This definition excludes preventive relocation before the event.

**People whose houses were damaged or destroyed due to hazardous events:** The estimated number of inhabitants previously living in the houses (housing units) damaged or destroyed. All the inhabitants of these houses (housing units) are assumed to be affected being in their dwelling or by direct consequence of the destruction/damage to their housings (housing units). An average number of inhabitants per house (housing unit) in the country can be used to estimate the value.

**Houses destroyed:** Houses (housing units) levelled, buried, collapsed, washed away or damaged to the extent that they are no longer habitable.

**Houses damaged:** Houses (housing units) with minor damage, not structural or architectural, which may continue to be habitable, although they may require some repair or cleaning.

**People who received food relief aid:** The number of persons who received food /nutrition, by government or as humanitarian aid, during or in the aftermath of a hazardous event.

**Hazardous event:** The occurrence of a natural or human-induced phenomenon in a particular place during a particular period of time due to the existence of a hazard.

**Hazard:** A potentially damaging physical event, phenomenon or human activity that may cause the loss of life or injury, property damage, social and economic disruption or environmental degradation.

UNISDR recommends setting NO threshold for recording hazardous event in order to monitor *all* hazardous events. Small-scale but frequent hazardous events that are not registered in international disaster loss databases account for an important share of damages and losses when they are combined, and often go unnoticed by the national and international community. These events, when accumulated, are often a source of poverty in developing countries but can be effectively addressed by well-designed policies. The scope of the Sendai Framework for Disaster Risk Reduction 2015-2030 is “the risk of small-scale and large-scale, frequent and infrequent, sudden and slow-onset disasters, caused by natural or man-made hazards as well as relate environmental, technological and biological hazards and risks”.

Regarding the inclusion of biological and environmental hazards in natural hazards category and whether and how to integrate man-made hazards, UNISDR will discuss the issue with WHO and other organizations (for example, WHO would be in a better position in terms of data, knowledge and relationship with Member States and other stakeholders to monitor biological events including epidemics. However, we generally do not expect biological disasters will cause physical damages to facilities. ).

Note: Terminology will be discussed and finalized in the Open-ended Intergovernmental Working Group for Sendai Framework for Disaster Risk Reduction.

**Method of computation:**



## Goal 13 Take urgent action to combat climate change and its impacts

Summation of data on related indicators from national disaster loss databases. Make the sum a relative figure by using global population data (World Bank or UN Statistics information). Relativity is important because population growth (expected to be 9 billion in 2050) may translate into increased hazard exposure of population.

The Expert Group recommends not using the indicators related with the people whose houses were damaged/destroyed in the computation. UNISDR and IRDR groups recommend using them as they can be estimated from widely available and verifiable data and reflect vulnerability and livelihood issues. Data on housing damage and destroyed is essential for economic loss, so using these indicators would not impose additional data collection burden.

Double-counting: From practical perspective, double counting of affected people is unavoidable (for example, injured and relocated) in many countries. Minimum double counting is summing “number of injured” and Number of people whose housings were damaged or destroyed. Relocated is sub-set of number of people whose housings were destroyed.

The data can be disaggregated by hazard type. When applied to proposed target 13.1 and 15.3, hydrological, meteorological and climatological and indirectly biological disasters are monitored.

**Rationale and interpretation** (mainly based on TST Issue Brief 2, 5, 20 and 23-26):

Cities around the world, as well as rural populations, witness growing disaster risks. Impacts of climate change on sustainable development are observed through both slow-onset events (e.g. sea level rise, increasing temperatures, ocean acidification, glacial retreat and related impacts, salinization, land and forest degradation, loss of biodiversity and desertification) and extreme weather events. Human loss can be measured by the number of deaths, missing, injured or ill, evacuated, relocated, people whose houses were damaged/destroyed and people who received food relief aid as a direct result of the hazardous events.

Cities are some of the most vulnerable areas to natural disasters. Unplanned urban development (e.g. informal settlements, overcrowding, inadequate infrastructures) exacerbates urban vulnerability to climate change impacts and hydro-meteorological and geological hazards. Over half of all coastal areas are urbanized and 21 of the world’s 33 mega cities lie in coastal flood zones. SIDS and coastal regions are particularly affected by sea level rise, coastal flooding and erosion, and extreme events (e.g. tsunamis and storm surges) due to undermining natural protective barriers, low levels of development combined with rapid population growth in low lying coastal areas and inadequate capacity to adapt. Poor urban populations must often resort to unsustainable coping strategies and mechanisms.

Large numbers of people remain perilously close to falling into poverty, experiencing shocks that they are unable to cope with. For the poor, a shock of even a relatively short duration can have long term consequences. Several dimensions of poverty are closely related to environment, which is often affected by natural disasters. The poverty reduction agenda could include well-designed social protection scheme to help protecting the poor against sudden shocks and the development of capacities to better predict and prepare for such shocks. Better management of natural resources can themselves strengthen the resilience of the poor, by both reducing the likelihood of natural hazardous events and offering resources to help cope with them.

Biodiversity provides ecosystem resilience and contributes to the ability to respond to unpredictable global changes and natural disasters. Healthy ecosystems act as buffers against natural hazards, providing valuable yet underutilized approaches for climate change adaptation, enhancing natural

## Goal 13 Take urgent action to combat climate change and its impacts

resilience and reducing the vulnerability of people, for example to floods and the effects of land degradation. These ecosystem services improve the sustainability and economic efficiency of built infrastructure, and are critical for sustainable and resilient urban areas.

This indicator will track human-related loss. The disaster loss data (particularly mortality) are significantly influenced by large-scale catastrophic event, which represent important outliers. UNISDR recommends countries to report the data by event, so complementary analysis can be done by both including and excluding such catastrophic events.

The indicator will build bridge between SDGs and the Sendai Framework for Disaster Risk Reduction because the reduction of human related loss is included in the Sendai Framework global targets and will also be monitored under the Sendai Framework Monitoring Mechanism.

**Sources and data collection:** National disaster loss database, reported to UNISDR

**Disaggregation:** by country, by event, by hazard type (e.g. disaggregation by climatological, hydrological, meteorological, geophysical, biological and extra-terrestrial for natural hazards is possible following IRDR\* classification), by death/missing/injured or ill/evacuated/relocated/people whose houses were damaged/people whose houses were destroyed/people who received food relief aid.

\*Integrated Research on Disaster Risk (2014), *Peril Classification and Hazard Glossary (IRDR DATA Publication No.1)*, Beijing: Integrated Research on Disaster Risk

Additionally, the Expert Group recommended disaggregation by age, sex, location of residence and other characteristics (e.g. disability) as relevant and possible. Aggregation of “location of residence”: ideally by sub-national administrative unit similar to municipality.

### Comments and limitations:

- ✓ This is proposal by UNISDR based on our experience and knowledge built in the period under the Hyogo Framework for Action (2005-2015). The proposed indicator was further reviewed and examined by other UN agencies including FAO, GFDRR, IOM, UNCCD, UNDP, UNESCAP, UNESCO, UNFPA, UNHCR, UNOCHA, UNOOSA, UNOPS, UNU, UNWOMEN, WHO and WMO (though not all organizations listed here provided comments for this indicator) and submitted to the IAEG process in early-July 2015, then again reviewed by the Technical Expert Group consisting of more than 60 experts from UN system, academic and research, civil sector and private sector in 27-29 July 2015 and submitted and examined by the Member States in the 1<sup>st</sup> Open-ended Intergovernmental Expert Working Group on Indicators and Terminology on Disaster Risk Reduction held in 29-30 September 2015. The suggested indicator is currently under review by the Member States and UNISDR is receiving written inputs from the Member States.
- ✓ The proposed indicators will be also used to monitor Sendai Framework global targets and therefore the detailed definitions shall be discussed and agreed in Open-ended Intergovernmental Expert Working Group on Indicators and Terminology on Disaster Risk Reduction, as outlined in Sendai Framework for Disaster Reduction 2015-2030. The Working Group is likely to finalize the discussion and submit the final report to the GA in December 2016.
- ✓ Not every country has a comparable national disaster loss database that is consistent with the UNISDR guidelines (current coverage is 85 countries. Additional 32 countries are expected to be covered in 2015-16). Therefore, by 2020, it is expected that all countries will build/adjust the database according to the UNISDR guidelines and report the data to UNISDR.

## Goal 13 Take urgent action to combat climate change and its impacts

**Gender equality issues:** Disaggregated by gender (if agreed by country in the Open-ended Intergovernmental Expert Working Group)

**Data for global and regional monitoring:** Summation of data from national disaster loss databases

**Main linkage with SDG Targets:**

*This indicator is proposed as “multi-purpose indicator”.*

**Target 1.5:**

By 2030, build **the resilience of the poor and those in vulnerable situations** and reduce their **exposure and vulnerability to climate-related extreme events** and other economic, social and environmental shocks and **disasters**

**Target 11.5:**

By 2030, significantly reduce **the number of deaths** and **the number of people affected** and substantially decrease the direct economic losses relative to global gross domestic product caused by **disasters**, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations

**Target 13.1:**

Strengthen **resilience and adaptive capacity to climate-related hazards and natural disasters** in all countries

**Target 1.3:**

Implement nationally appropriate **social protection systems and measures** for all, including floors, and by 2030 achieve substantial coverage of the poor and the vulnerable

**Target 14.2:**

By 2020, sustainably manage and protect **marine and coastal ecosystems** to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans

**Target 15.3:**

By 2030, combat desertification, restore degraded land and soil, including **land affected by desertification, drought and floods**, and strive to achieve a land-degradation-neutral world

**Target 3.9:**

By 2030, substantially reduce the number of **deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination**

**Target 3.6:**

By 2020, halve the number of **global deaths and injuries from road traffic accidents**

**Target 3.d:**

Strengthen the capacity of all countries, in particular developing countries, for **early warning, risk reduction and management of national and global health risks**

**Supplementary information:**

## Goal 13 Take urgent action to combat climate change and its impacts

### **Related targets in the Sendai Framework for Disaster Risk Reduction 2015-2030:**

Substantially reduce global disaster **mortality** by 2030, aiming to lower average per 100,000 global mortality between 2020-2030 compared to 2005-2015.

Substantially reduce the number of **affected people** globally by 2030, aiming to lower the average global figure per 100,000 between 2020-2030 compared to 2005-2015.

### **Sendai Framework for Disaster Risk Reduction 2015-2030:**

([http://www.preventionweb.net/files/43291\\_sendaiframeworkfordrren.pdf](http://www.preventionweb.net/files/43291_sendaiframeworkfordrren.pdf))

**Goal 13** Take urgent action to combat climate change and its impacts

**Target 13.2** Integrate climate change measures into national policies, strategies and planning.

**Suggested Indicator:** Number of countries that have formally communicated the establishment of integrated low-carbon, climate-resilient, disaster risk reduction development strategies (e.g. a national adaptation plan process, national policies and measures to promote transition to environmentally-friendly substances and technologies).

**NO METADATA RECEIVED**

**UNFCCC:** so far, there is no formal established process to communicate these policies. The Paris Agreement might provide space to create such a communication and, if so, metadata could be extracted from these communications.

**Goal 13** Take urgent action to combat climate change and its impacts

**Target 13.3** Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.

**Suggested Indicator:** Number of countries that have integrated mitigation, adaptation, impact reduction and early warning into primary, secondary and tertiary curricula

**NO METADATA RECEIVED**

**Goal 13** Take urgent action to combat climate change and its impacts

**Target 13.a** Implement the commitment undertaken by developed-country parties to the United Nations Framework Convention on Climate Change to a goal of mobilizing jointly \$100 billion annually by 2020 from all sources to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation and fully operationalize the Green Climate Fund through its capitalization as soon as possible.

**Suggested Indicator:** Mobilized amount of USD per year starting in 2020 accountable towards the USD 100 billion commitment

**NO METADATA RECEIVED**

**UNFCCC:** Data to be obtained from the mobilization resources from the Green Climate Fund, once it is fully operational.

## Goal 13 Take urgent action to combat climate change and its impacts

**Target 13.b Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries, including focusing on women, youth and local and marginalized communities.**

**Suggested Indicator: Number of LDCs that are receiving specialized support for mechanisms for raising capacities for effective climate change related planning and management, including focusing on women, youth, local and marginalized communities**

### From WMO:

1. **Definition and method of computation:** # of LDCs that are receiving specialized support for raising capacities for effective climate change related planning and management, including focusing on women, youth, local and marginalized communities
2. **Rationale and interpretation:** As the effects of climate change are becoming more evident and acute, the need for effective climate services is greater than ever before. Climate services underpin climate action and achieving SDGs. Nevertheless, the GFCS High level Task Force had identified 70 countries that do not yet have sufficient capacities to develop and use climate services. This is a major focus of the GFCS.  

This indicator contributes and supports the achievement of several targets such as 1.5, 2.1, 6.1, 6.4, 6.5, 7.1, 9.1, 11.3, 11.5, 12.8, 13.1, 13.2, 14.2, 15.3.
3. **Sources and data collection:** GFCS has developed a web-based platform to allow Member countries and Partners to report and designate activities currently being implemented related to climate services, including activities for raising capacities of LDCs for effective climate change planning and management. To access the platform, Members and Partners were requested to nominate a focal point who would receive the credentials to upload the information on the platform. So far more than 45 focal points were designated by Member countries and Partners. These focal points are providing data that is being used to populate a data base of projects that is being displayed on the GFCS website.
4. **Data for global and regional monitoring:**
  - i. Number of LDCs receiving support for raising capacities of LDCs for effective climate change planning and management
  - ii. Project information (focus country, timeframe, objectives, description, benefits, activities, deliverables, sectors, partners etc)
5. **References:**  
<http://www.wmo.int/gfcs/>  
<http://www.wmo.int/gfcs/projects-map>  
[http://library.wmo.int/pmb\\_ged/wmo\\_1065\\_en.pdf](http://library.wmo.int/pmb_ged/wmo_1065_en.pdf)



**Goal 14** Conserve and sustainably use the oceans, seas and marine resources for sustainable development

**Target 14.1** By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution.

**Suggested Indicator:** Nitrogen use efficiency composite indicator

**NO METADATA RECEIVED**

**Goal 14** Conserve and sustainably use the oceans, seas and marine resources for sustainable development

**Target 14.2** By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans.

**Suggested Indicator:** % of coastal and marine development (to be defined) with formulated or implemented ICM/MSP plans (that are harmonized where applicable), based on an ecosystem approach, that builds resilient human communities and ecosystems and provides for equitable benefit sharing and decent work

**NO METADATA RECEIVED**

**Goal 14** Conserve and sustainably use the oceans, seas and marine resources for sustainable development

**Target 14.3** Minimize and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels

**Suggested Indicator:** Average marine acidity (pH) measured at agreed suite of representative sampling stations

**NO METADATA RECEIVED**

## Goal 14 Conserve and sustainably use the oceans, seas and marine resources for sustainable development

**Target 14.4 By 2020, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans, in order to restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristics.**

**Suggested Indicator: Proportion of fish stocks within biologically sustainable level**

**From FAO:**

### **1. Precise definition of the indicator**

The indicator we propose is the “proportion of fish stocks within biologically sustainable levels”, not limits<sup>30</sup>. It is therefore slightly different from the indicator 7.4 currently included in the Millennium Development Goals<sup>31</sup>. The FAO Committee on Fisheries has requested changes (see the 2012 and 2014 Reports of the 30th and 31st Sessions of the Committee on Fisheries<sup>32</sup>) in the description of the status of the stocks based on sustainability to ensure clarify and reduce misunderstandings by the general public.

The concept of “within biologically sustainable levels” means that abundance of the fish stock is at or higher than the level that can produce the maximum sustainable yield.

We estimated 584 fish stocks around world, representing 70% of global landings. Each stock was estimated using the method described in FAO Technical Paper 569<sup>33</sup>. If the stock has abundance below the level that can produce maximum sustainable yield, it was counted as overfished. The indicator measures the % of the assessed stocks are within biologically sustainable levels.

### **2. How is the indicator linked to the specific TARGET as worded in the OWG Report?**

The indicator is measuring directly the biological sustainability of fish production, therefore it is monitoring well target 14.4 according to which fisheries and aquaculture resources are to be conserved and used sustainably to contribute to food security.

Indeed, when a stock is overfished (i.e., abundance dropping below the sustainable level), its productivity will be reduced. As such, the biodiversity and the functioning of the fishery ecosystem will be impaired. In addition, this will have a negative impact on food supply.

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<sup>30</sup> As opposed to the language used in the Aichi Targets of the Convention on Biological Diversity (CBD).

<sup>31</sup> See: <http://mdgs.un.org/unsd/mi/wiki/7-4-Proportion-of-fish-stocks-within-safe-biological-limits.ashx>.

<sup>32</sup> Report of the 30th Session of the Committee on Fisheries (2012), paragraph 17: The Committee expressed concern regarding the way in which fish stock status was often reported particularly the negative notion given by reporting of a high percentage of stocks being fully- or overexploited. In order to ensure accurate interpretation by the general public and avoid the risk of overemphasizing a negative perspective, the Committee recommended the FAO Secretariat consider a simpler classification of stock status, based on sustainability of their exploitation. Report of the 31st Session of the Committee on Fisheries (2014), paragraph 9: The Committee welcomed the new categorization of the status of marine stocks, as requested by the 30th Session of COFI. Most Members were encouraged by the results in SOFIA 2014.

<sup>33</sup> <http://www.fao.org/docrep/015/i2389e/i2389e.pdf>

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### 3. Does the indicator already exist and is it regularly reported?

Yes, FAO has maintained and reported this indicator since 1974.

The global fish stock assessment program has been carried out by the Fishery Department and has been incorporated into its regular program activities. The assessment is usually done every 2 or 3 years.

### 4. Comment on the reliability, potential coverage, comparability across countries, and the possibility to compute the indicator at sub-national level.

#### Reliability

This is probably the most quoted and used indicator on fisheries (e.g. the Global Biodiversity Outlook<sup>34</sup>, reports from the Millennium Development Goal process, etc.) and the most widely accepted indicator at the global level. This because it was the earliest indicator established and it uses the most comprehensive approach in comparison with other recently emerged indicators and methodologies.

#### Coverage

It is global, covering about 57% of the global catch. But it is not conducted by country. There are no current plans to do this by country because 1) fish migrates across areas beyond national jurisdictions, and 2) we don't want to get into political problems. But, there would be some hope to attempt this if funds are made available.

#### Comparability across countries

The assessment is not at country level, so not comparable among countries.

#### Sub-national estimates

No such estimates currently exist.

### 5. Is there already a baseline value for 2015?

There are a number of targets have been proposed for this indicator. For instance, the World Summit on Sustainable Development proposed reaching 100% by 2015, while the Convention on Biological Diversity (CBD) Aichi proposed the 100 percent target by 2020.

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<sup>34</sup> Secretariat of the Convention on Biological Diversity (2014) Global Biodiversity Outlook 4. Montreal, 155 pgs.

## Goal 14 Conserve and sustainably use the oceans, seas and marine resources for sustainable development

**Target 14.5 By 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information.**

**Suggested Indicator: Coverage of protected areas**

**From UNEP:**

Rather than coverage, indicator 14.5.2 should probably measure status of implementation of management plans etc and/or their effectiveness.

**From IUCN:**

### **Definition and method of computation**

#### **Definition**

The percentage of marine sites contributing significantly to the global persistence of biodiversity that are wholly covered by designated protected areas. It is a thematic disaggregation of the multi-purpose indicator for protected area coverage of important sites.

#### **Concepts**

Protected areas, as defined by the International Union for Conservation of Nature (IUCN), are clearly defined geographical spaces, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values. Importantly, a variety of specific management objectives are recognised within this definition, spanning conservation, restoration, and sustainable use:

- Category Ia: Strict nature reserve
- Category Ib: Wilderness area
- Category II: National park
- Category III: Natural monument or feature
- Category IV: Habitat/species management area
- Category V: Protected landscape/seascape
- Category VI: Protected area with sustainable use of natural resources

The status "designated" is attributed to a protected area when the corresponding authority, according to national legislation or common practice (e.g., by means of an executive decree or the like), officially endorses a document of designation. The designation must be made for the purpose of biodiversity conservation, not de facto protection arising because of some other activity (e.g., military).

Sites contributing significantly to the global persistence of biodiversity are identified following globally standard criteria applied at national levels. Two variants of these standard criteria have been applied in all countries to date. The first is for the identification of Important Bird & Biodiversity Areas (IBAs), that is, sites contributing significantly to the global persistence of biodiversity, identified using data on birds, of which >12,000 sites in total have been identified from all of the world's countries. The second is for the identification of Alliance for Zero Extinction sites (AZEs), that is, sites holding effectively the entire population of at least one species assessed as Critically Endangered or Endangered on The IUCN Red List of Threatened Species. In total, 587 AZE sites have been identified for 920 species of

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mammals, birds, amphibians, reptiles, conifers, and reef-building corals. A global standard for the identification of key biodiversity areas (KBAs) unifying these approaches along with other mechanisms for identification of important sites for other species and ecosystems is in the final stages of development and anticipated to be in place by the end of 2015. Marine sites are defined as those identified for marine species or ecosystems, as documented in the IUCN Red List Habitats Classification Scheme.

### Method of computation

The indicator is computed by dividing the total number of KBAs wholly covered by protected areas by the total number of KBAs in each country, and multiplying by 100. “Wholly protected” is defined as >98% coverage to allow for resolution and digitisation errors in the underlying spatial datasets.

### Rationale and interpretation

The safeguard of important sites is vital for stemming the decline in biodiversity. The establishment of protected areas is an important mechanism for achieving this aim, and this indicator serves as a means of measuring progress toward the conservation, restoration and sustainable use of marine ecosystems and their services, in line with obligations under international agreements. Importantly, it is not restricted to any single marine ecosystem type, and so faithfully reflects the intent of SDG target 14.2.

Levels of access to protected areas vary among the protected area management categories. Some areas, such as scientific reserves, are maintained in their natural state and closed to any other use. Others are used for recreation or tourism, or even open for the sustainable extraction of natural resources.

In addition to protecting biodiversity, protected areas have become places of high social and economic value: supporting local livelihoods; protecting watersheds from erosion; harbouring an untold wealth of genetic resources; supporting thriving recreation and tourism industries; providing for science, research and education; and forming a basis for cultural and other non-material values.

This indicator adds meaningful information to, complements and builds from traditionally reported simple statistics of territorial area covered by protected areas, computed by dividing the total protected area within a country by the total territorial area of the country and multiplying by 100. Such percentage area coverage statistics do not recognise the extreme variation of biodiversity importance over space, and so risk generating perverse outcomes through the protection of areas which are large at the expense of those which require protection.

### Sources and data collection

Protected area data are compiled by ministries of environment and other ministries responsible for the designation and maintenance of protected areas. They are compiled globally into the World Database on Protected Areas (WDPA) by the UNEP World Conservation Monitoring Centre (UNEP-WCMC). They are disseminated through the Protected Planet knowledge product <http://www.protectedplanet.net/>, which is jointly managed by UNEP-WCMC and IUCN and its World Commission on Protected Areas (WCPA).

KBAs are identified at national scales through multi-stakeholder processes. Data on IBAs are managed by BirdLife International, and are available online at <http://www.birdlife.org/datazone/site/search>. Data on AZEs are managed by the Alliance for

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Zero Extinction, and are available online at <http://www.zeroextinction.org/>. Both datasets, along with the WDPA, are also disseminated through the Integrated Biodiversity Assessment Tool for Research and Conservation Planning, available online at <https://www.ibat-alliance.org/ibat-conservation/login>.

### Disaggregation

Given that data for the global indicator are compiled at national levels, it is straightforward to disaggregate to national and regional levels, or conversely to aggregate to the global level. The indicator can also be reported in combination across marine (and terrestrial and freshwater) systems, or disaggregated among them. However, protected areas, IBAs, and AZEs can encompass terrestrial, freshwater, and marine systems simultaneously, and so determining the results is not simply additive. Finally, it can be disaggregated according to different protected area management categories (categories I–VI) to reflect differing specific management objectives of protected areas.

In addition to the aggregation of the coverage of protected areas across terrestrial and freshwater systems as an indicator towards SDG 15.1, other disaggregations of coverage of protected areas of particular relevance as indicators towards SDG targets include:

SDG 6.6	Coverage of protected areas (freshwater).
SDG 14.2	Coverage of protected areas (marine).
SDG 15.4	Coverage of protected areas (mountain).

Protected area coverage data can be combined with other data sources to yield further, complementary, indicators. For example, protected area overlay with ecoregional maps can be used to provide information on protected area coverage of different broad biogeographical regions. Protected area coverage of the distributions of different groups of species (e.g., mammals, birds, amphibians) can similarly provide indicators of trends in coverage of biodiversity at the species level. Protected area coverage can be combined with the IUCN Red List Index to generate indicators of the impacts of protected areas in reducing biodiversity loss. Finally, indicators derived from protected area overlay can also inform sustainable urban development; for example, the overlay of protected areas onto urban maps could provide an indicator of public space as a proportion of overall city space.

### Comments and limitations

The indicator does not measure the effectiveness of protected areas in reducing biodiversity loss, which ultimately depends on a range of management and enforcement factors not covered by the indicator. A number of initiatives are underway to address this limitation. Most notably, numerous mechanisms have been developed for assessment of protected area management effectiveness, which can be synthesised into an indicator of management effectiveness. This is used by the Biodiversity Indicators Partnership as a complementary indicator of progress towards Aichi Biodiversity Target 11 (<http://www.bipindicators.net/pamanagement>). More recently, approaches to “green listing” have started to be developed, to incorporate both management effectiveness and the outcomes of protected areas, and these are likely to become progressively important as they are tested and applied more broadly.

Data and knowledge gaps can arise due to difficulties in determining whether a site conforms to the IUCN definition of a protected area, and some protected areas are not assigned management categories. Moreover, “other effective area-based conservation measures”, as specified by Aichi Biodiversity Target 11 of the Strategic Plan for Biodiversity 2011–2020, recognise that some sites beyond the formal protected area network, while not



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managed primarily for nature conservation, may nevertheless be managed in ways which are consistent with the persistence of the biodiversity for which they are important. However, standard approaches to documentation of “other effective area-based conservation measures” are so far still in their infancy. As these are consolidated, “other effective area-based conservation measures” will be included into the WDPA and thus this indicator accordingly.

Regarding important sites, the biggest limitation is that site identification to date has focused on specific subsets of biodiversity, for example birds (for IBAs) and highly threatened species (for AZEs). While IBAs have been documented to be good surrogates for biodiversity more generally, the unification of standards for identification of important sites across different levels of biodiversity (genes, species, ecosystems) and different taxonomic groups remains a high priority. This umbrella standard for identification of key biodiversity areas is anticipated to be finalised by the end of 2015, building strongly from existing approaches.

Dates of establishment are not recorded for some protected areas in some countries, generating uncertainty around changing protected area coverage over time. This is reflected in the indicator by assigning dates of establishment for undated sites by selecting dates at random from those for other protected areas in the same country, repeating this 1,000 times, and plotting the 95% confidence intervals around mean protected area coverage accordingly.

### Gender equity issues

There are no direct gender equity issues associated with the indicator for coverage of important sites for biodiversity by protected areas. However, it is essential to recognise that women play a central role in the conservation, management and use of biodiversity. In many rural areas of developing countries, women’s daily tasks are often tied closely to biodiversity. They are often responsible for gathering edible wild plants (fruits, leaves and roots of native plants) to feed their families as a supplement to agricultural grains, especially during unfavourable situations such as famine, conflicts and epidemics. Women often also gather medicinal plants, firewood and other bush products for medicine, fuel, house-building, paint and even manure and pesticide. Women’s knowledge of biodiversity is immense and broad, because their communities’ well-being depends on it, and preservation of this knowledge is crucial for maintaining biodiversity. Yet, their contribution is often overlooked. They are typically “invisible” partners from grassroots to policy level. There is therefore an urgent need to consider gender issues in development efforts, to promote true partnership and ensure the sustainable conservation and use of biodiversity.

### Data for global and regional monitoring

UNEP-WCMC is the agency in charge of calculating and reporting global and regional figures for this indicator, working with BirdLife International and IUCN to combine data on protected areas with those for sites of importance for biodiversity. UNEP-WCMC aggregates the global and regional figures on protected areas from the national figures that are calculated from the WDPA and disseminated through Protected Planet. The WDPA and Protected Planet are jointly managed by UNEP-WCMC and IUCN WCPA.

UNEP-WCMC produces the UN List of Protected Areas every 5-10 years, based on information provided by national ministries/agencies. In the intervening period between compilations of UN Lists, UNEP-WCMC works closely with national ministries/agencies and NGOs responsible for the designation and maintenance of protected areas, continually updating the WDPA as new data become available.

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Quality control criteria are applied to ensure consistency and comparability of the data in the WDPA. New data are validated at UNEP-WCMC through a number of tools and translated into the standard data structure of the WDPA. Discrepancies between the data in the WDPA and new data are resolved in communication with data providers. Processed data are fully integrated into the published WDPA.

The WDPA is held within a Geographic Information System (GIS) that stores information about protected areas such as their name, size, type, date of establishment, geographic location (point) and/or boundary (polygon).

Protected area coverage is calculated using all the protected areas recorded in WDPA whose location and extent is known. Protected areas without digital boundaries are excluded from the indicator.

IBAs are places of international significance for the conservation of biodiversity, identified using data for birds. IBAs are identified using a standardised set of data-driven criteria and thresholds, relating to threatened, restricted-range, biome-restricted and congregatory species. IBAs are delimited so that, as far as possible, they: (a) are different in character, habitat or ornithological importance from surrounding areas; (b) provide the requirements of the trigger species (i.e., those for which the site qualifies) while present, alone or in combination with networks of other sites; and (c) are or can be managed in some way for conservation.

AZEs are sites meeting three criteria: endangerment (supporting at least one Endangered or Critically Endangered species, as listed on the IUCN Red List); irreplaceability (holding the sole or overwhelmingly significant ( $\geq 95\%$ ) known population of the target species, for at least one life history segment); and discreteness (having a definable boundary within which the character of habitats, biological communities, and/or management issues have more in common with each other than they do with those in adjacent areas). Hence AZEs represent locations at which species extinctions are imminent unless appropriately safeguarded (i.e. protected or managed sustainably in ways consistent with the persistence of populations of target species).

The IBA and AZE site networks are, by definition, areas of particular importance for biodiversity as referred to in Aichi Biodiversity Target 11, and represent the only networks of such sites that have been identified systematically worldwide. Hence, they represent important areas to consider designating as formal protected areas.

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**Goal 14** Conserve and sustainably use the oceans, seas and marine resources for sustainable development

**Target 14.6** By 2020, prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing, eliminate subsidies that contribute to illegal, unreported and unregulated fishing and refrain from introducing new such subsidies, recognizing that appropriate and effective special and differential treatment for developing and least developed countries should be an integral part of the World Trade Organization fisheries subsidies negotiation.

**Suggested Indicator:** Dollar value of negative fishery subsidies against 2015 baseline

**NO METADATA RECEIVED**

**Goal 14** Conserve and sustainably use the oceans, seas and marine resources for sustainable development

**Target 14.7** By 2030, increase the economic benefits to Small Island developing States and least developed countries from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism.

**Suggested Indicator:** Fisheries as a % of GDP

**NO METADATA RECEIVED**

**Goal 14** Conserve and sustainably use the oceans, seas and marine resources for sustainable development

**Target 14.a** Increase scientific knowledge, develop research capacity and transfer marine technology, taking into account the Intergovernmental Oceanographic Commission Criteria and Guidelines on the Transfer of Marine Technology, in order to improve ocean health and to enhance the contribution of marine biodiversity to the development of developing countries, in particular small island developing States and least developed countries.

**Suggested Indicator:** Budget allocation to research in the field of sustainable marine technology as a percentage of all research in field of marine technology

**NO METADATA RECEIVED**

## Goal 14 Conserve and sustainably use the oceans, seas and marine resources for sustainable development

### Target 14.b Provide access for small-scale artisanal fishers to marine resources and markets

**Suggested Indicator: Percentage of catches that are subject to a catch documentation scheme or similar traceability system as a percentage of the total catches that are less than x tons and traded in major markets.**

**From FAO:**

#### **1. What is the *precise* definition of the indicator?**

This indicator is formulated as *Percentage of catches that are subject to a catch documentation scheme or similar traceability system as a percentage of the total catches that are less than x tons and traded in major markets*: This indicator measures the “access to markets” aspect of the target by using the % of the catch that is subject to some form of a catch document scheme (or similar traceability system) traded in major markets.

#### **2. How is the indicator linked to the specific TARGET as worded in the OWG Report?**

It is assumed this level of catch is associated with small scale artisanal fisheries since catches of less than x tons are characteristic of such fisheries and that this catch is traceable and legally caught, and changes in the % will reflect changes in access to markets by small scale artisanal fisheries. In terms of the development agenda, fishers are more likely to have improved incomes when they can access major markets either directly or indirectly, and this access to major markets is increasingly dependent on being able to document that the fish were caught legally and/or sustainably. A catch documentation scheme (or similar), and especially one that follows the developing guidelines, will provide the means to track the changes in access to markets.

#### **3. Does the indicator already exist and is it regularly reported?**

The indicator does not exist, but the information does exist for some countries where such catch documentation schemes already exist, which is primarily the case for developed countries. However, FAO is leading the development of guidelines for such schemes and it is anticipated that the guidelines will be discussed and possibly endorsed in 2016 (at COFI). There is sufficient interest in CDS to begin to discuss/develop a globally agreed indicator for products traded through major markets. A catch documentation scheme will provide the framework on which to build and manage the indicator.

The feasibility of the indicator will primarily be determined by countries and regions that put in place a CDS, and if instituted the cost of data collection will be a part of the CDS, and will operate on a continuing basis. The information in a CDS is collected along the value chain and to precisely calculate the indicator, the country where distribution of the product ends will be the collector of the information since they will have the point of origin and destination and will be able to determine the total volume of product landed and the volume of product landed that is subject to a CDS for catch less than X tons.

The EU and selected other countries are collecting such information and are interested in the CDS guidelines and their application by other countries that do not require CDSs.



## Goal 14 Conserve and sustainably use the oceans, seas and marine resources for sustainable development

### **4. Comment on the reliability, potential coverage, comparability across countries, and the possibility to compute the indicator at sub-national level.**

The information collected from major markets should be reliable since these markets are more than likely to have systems in place to audit and to assess the reliability of the information they are receiving with shipments. The coverage has the potential to be quite widespread since fish are a highly traded commodity, with almost all countries engaged in trading some form of fish product. If the CDS guidelines are used by the various schemes, the indicator should be comparable across countries. There is potential for the indicator to be aggregated or disaggregated and deconstructed.

### **5. Is there already a baseline value for 2015?**

Setting a global target for 2030 is possible but for a credible value, a baseline needs to be established. A differentiated target set by countries is perhaps the most meaningful approach.

**Goal 14** Conserve and sustainably use the oceans, seas and marine resources for sustainable development

**Target 14.c** Enhance the conservation and sustainable use of oceans and their resources by implementing law as reflected in UNCLOS, which provides the legal framework for the conservation and sustainable use of oceans and their resources, as recalled in paragraph 158 of The Future We Want.

**Suggested Indicator: Number of countries implementing either legally or programmatically the provisions set out in regional seas protocols and ratification and implementation of the ILO Maritime and Fisheries Conventions**

**From ILO:**

**Definition and method of computation**

This indicator conveys the number of countries that have ratified the ILO Maritime Labour Convention of 2006. ILO conventions are legally binding international treaties drawn up by the ILO's constituents (governments, employers and workers) and setting out basic principles and rights at work. The ILO Maritime Labour Convention (MLC) is a single, coherent instrument embodying as far as possible all up-to-date standards of existing international maritime labour conventions and recommendations, as well as the fundamental principles to be found in other international labour conventions.

**Rationale and interpretation**

This comprehensive convention sets out in one place seafarers' rights to decent conditions of work on almost every aspect of their working and living conditions including, among others, minimum age, employment agreements, hours of work or rest, payment of wages, paid annual leave, repatriation at the end of contract, on-board medical care, the use of licensed private recruitment and placement services, accommodation, food and catering, health and safety protection and accident prevention and seafarers' complaint handling. It represents an essential step toward ensuring fair competition and a level-playing field for quality owners of ships flying the flags of ratifying countries. Given that these international legal measures are aimed at improving working and living conditions for seafarers, the most globalized of the world's workers, the number of countries that have ratified the ILO Maritime Labour Convention gives an indication of the situation of maritime workers around the world.

**Comments and limitations**

The ILO Maritime Labour Convention is considered the "fourth pillar" of the international regulatory regime for quality shipping, complementing the key conventions of the International Maritime Organization (IMO) dealing with safety and security of ships and protection of the marine environment. Thus, the ratifications of all these conventions should be analyzed together. Moreover, the number of conventions ratified does not convey any information on their actual application or on the respect in practice of international labour standards in the national context.

**Gender equality issues**

The ILO recognizes gender equality not only as a basic human right, but also as intrinsic to the global aim of decent work for all. The ILO mandate on gender equality is stated in

## Goal 14 Conserve and sustainably use the oceans, seas and marine resources for sustainable development

numerous resolutions of the International Labour Conference, as well as relevant International Labour Conventions (including the ILO Maritime Labour Convention).

### **Data for global and regional monitoring**

The ILO has information on all conventions ratified and not ratified by each country, and on the global number of countries that ratified each convention, including the Maritime Labour Convention. Such information can be found in NORMLEX, the ILO Information System on International Labour Standards.

### **Supplementary information and references**

For further details, refer to the ILO database on the ratification and implementation of the Maritime Labour Convention of 2006, available at <http://www.ilo.org/global/standards/maritime-labour-convention/database-ratification-implementation/lang--en/index.htm>

### **Responsible entities**

ILO.

### **Current data availability**

The ILO has information on all ILO member states (185), of which 66 ratified the Maritime Labour Convention of 2006.

**Goal 15** Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

**Target 15.1** By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements.

**Suggested Indicator: Forest area as a percentage of total land area**

**From FAO:**

**Precise definition of the indicator**

The indicator is already included among the indicators for the Millennium Development Goals (MDG) (indicator 7.1 “Proportion of land covered by forest”)<sup>35</sup>. In order to provide a precise definition of the indicator, it is crucial to provide a definition of “Forest” and “Total Land Area”. According to the FAO definitions, **Forest** is defined as “land spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of more than 10 percent, or trees able to reach these thresholds *in situ*. It does not include land that is predominantly under agricultural or urban land use”. More specifically:

- Forest is determined both by the presence of trees and the absence of other predominant land uses. The trees should be able to reach a minimum height of 5 meters.
- It includes areas with young trees that have not yet reached but which are expected to reach a canopy cover of at least 10 percent and tree height of 5 meters or more. It also includes areas that are temporarily unstocked due to clear-cutting as part of a forest management practice or natural disasters, and which are expected to be regenerated within 5 years. Local conditions may, in exceptional cases, justify that a longer time frame is used.
- It includes forest roads, firebreaks and other small open areas; forest in national parks, nature reserves and other protected areas such as those of specific environmental, scientific, historical, cultural or spiritual interest.
- It includes windbreaks, shelterbelts and corridors of trees with an area of more than 0.5 hectares and width of more than 20 meters.
- It includes abandoned shifting cultivation land with a regeneration of trees that have, or are expected to reach, a canopy cover of at least 10 percent and tree height of at least 5 meters.
- It includes areas with mangroves in tidal zones, regardless whether this area is classified as land area or not.
- It includes rubberwood, cork oak and Christmas tree plantations.
- It includes areas with bamboo and palms provided that land use, height and canopy cover criteria are met.

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<sup>35</sup> See: <http://mdgs.un.org/unsd/mi/wiki/7-1-Proportion-of-land-area-covered-by-forest.ashx>

## Goal 15 Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

- It excludes tree stands in agricultural production systems, such as fruit tree plantations, oil palm plantations, olive orchards and agroforestry systems when crops are grown under tree cover. Note: Some agroforestry systems such as the “Taungya” system where crops are grown only during the first years of the forest rotation should be classified as forest.

**Total land area** is the total surface area of a country less the area covered by inland waters, like major rivers and lakes.

### **How is the indicator linked to the specific TARGET as worded in the OWG Report?**

Forests fulfil a number of functions that are vital for humanity, including the provision of goods (wood and non-wood forest products) and services such as habitat for biodiversity, carbon sequestration, coastal protection and soil and water conservation.

The indicator provides a measure of the relative extent of forest in a country. The availability of accurate data on a country's forest area is a key element for forest policy and planning within the context of sustainable development. Changes in forest area reflect the demand for land for other uses and may help identify unsustainable practices in the forestry and agricultural sector.

Forest area as percentage of total land area may be used as a rough proxy for the extent to which the forests in a country are being conserved or restored, but it is only partly a measure for the extent to which they are sustainably managed.

This indicator is primarily proposed for Target 15.1. However, it is also related to Target 6.6.

### **Does the indicator already exist and is it regularly reported?**

Yes, the indicator already exists. FAO reports the data to UNSTATS. Further information can be found at: <http://mdgs.un.org/unsd/mdg/Metadata.aspx> (metadata needs updating).

### **Comment on the reliability, potential coverage, comparability across countries, and the possibility to compute the indicator at sub-national level.**

#### Reliability

It is not possible to determine a statistical margin of error of the estimates. The accuracy varies across countries depending on available information.

When reporting countries are asked to assign a Tier level 1, 2 or 3 indicating the level of detail of data sources used for reporting (where Tier 3 is regarded as the highest level of detail). Typically, Tier 3 estimates are recent data (i.e., less than 10 years ago) from National Forest Inventories (NFIs) or remote sensing, with ground validation or programme for repeated compatible NFIs. Tier 2 are older estimates (i.e., more than 10 years) from NFIs or full cover mapping/remote sensing. Core is any other data sources including expert estimates.

#### Coverage

FAO carries out global forest resources assessments at 5 year intervals, the results of the FRA 2015 will be released in September 2015 and next assessment will most likely be in 2020. Given the relative low

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accuracy of the reported data and the slow change, it is not advisable to report these data more frequently (i.e., annual reporting does not provide any added value).

### Comparability across countries

The national figures in the global assessments are reported by the countries themselves following standardized format, definitions and reporting years, ensuring that data is comparable across countries and regions.

Further, the reporting format ensures that countries provide the full reference for original data sources as well as national definitions and terminology. Separate sections in the reporting format (country reports) deal with the analysis of data (including any assumptions made and the methods used for estimates and projections to the common reporting years).

### Sub-national estimates

Currently it is not possible to compute the indicator at sub-national level.

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**Target 15.2** By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally.

**Suggested Indicator: Forest cover under sustainable forest management**

**From FAO:**

**What is the *precise* definition of the indicator?**

This indicator provides a measure of forest area potentially under Sustainable Forest Management (SFM). It is defined as:

The area of permanent forest use as modified by the presence of: A) Policies and legislation supporting SFM; B) A national stakeholder platform for input to forest policy; C) National forest inventory data; D) National forest reporting; E) Forest management plans that include soil and water conservation, high conservation value forest and social engagement, and; F) Stakeholder involvement in operational planning, operations and review.

The unit of measure is the number of hectares covered by these attributes.

**How is the indicator linked to the specific TARGET as worded in the OWG report and copied above?**

"15.2 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and increase afforestation and reforestation by [x] per cent globally."

The proposed indicator supports the concept that sustainable forest management includes government commitments (e.g. permanent forest land use, policies and legislation), data-driven decision making, planning and stakeholder involvement. The indicator applies to all forest area as defined in the Global Forest Resources Assessment (FRA). An increase in the area reported through this indicator demonstrates increased commitment to permanent, sustainable management of forest resources including stakeholder inputs at national and operational scales.

**Does the indicator already exist and is it regularly reported?**

Yes, FAO maintains this index based on country reporting beginning with the Global Forest Resources Assessment (FRA) 2015. Data is collected globally every 5 years with reporting anticipated in 2015, 2020, 2025 and 2030. <http://www.fao.org/forestry/fra/83059/en/>

**Comment on the reliability, potential coverage, comparability across countries, and the possibility to compute the indicator at sub-national level.**

A quality descriptor is associated with the forest area, forest management planning and operational stakeholder involvement components of the index. Coverage is aggregated to the country level in the

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country reports. In 2015 some 155 countries reported for most of the elements in the index that add to a total of 2.200 M ha (55% global forest area). A common definition is used for each element so comparability across countries is good. Countries have not been asked for sub-national breakdown of the elements except for policies and legislation that support SFM. These data are requested at National and Sub-National (regional, provincial/state, local) scales. The indicator relates to international, independently verifiable forest certification in that forest management plans and stakeholder involvement at the operational scale are present in both the SFM Index and in forest certification standards. Certification is therefore not included in the SFM Index because doing so would result in a type of double counting that is technically very difficult to avoid.

### **Is there already a baseline value for 2015?**

A numerical global target could be set for this indicator and a reasonable value would be in the range of 50% increase in the area reported. This would be a global increase of about 500 million ha potentially covered by SFM due to the length of the period (15 years) as well as to an expected increase in the number of reporting countries. A relative target is proposed as a percentage increase. A specific target by country is recommended based on forest covered by the SFM Index as a proportion of total forest area. This would recognize the reality that countries are starting at different levels of preparedness for SFM.



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**Target 15.3** By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world.

**Suggested Indicator: Trends in land degradation**

**From UNCCD and FAO:**

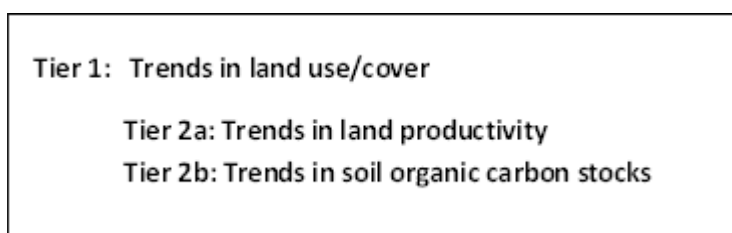
### **Definition and method of computation**

#### **Definition**

The indicator “Trends in land degradation” shows the trends in degrading, stable, or improving land at the global, regional and national level. These trends are determined in reference to a baseline defined by the current spatial extent of degrading, stable, and improving land.

The measurement unit of the indicator is the spatial area (ha, km<sup>2</sup>) or proportion (%) of land that is degrading, stable, and improving per reference land unit (e.g., national, sub-national, land use/cover type). The minimum spatial reporting unit is 100 ha or 1 km<sup>2</sup>.

Using a tiered approach, the derivation of the indicator “Trends in land degradation” is based on the synoptic utilization of trends in land use/cover (Tier 1), trends in land productivity (Tier 2a), and trends in soil organic carbon stocks (Tier 2b), all of which are available through numerous, widely-used global data sources.



#### **Concept**

The UNCCD defines land degradation as the “reduction or loss of the biological or economic productivity and complexity of rainfed cropland, irrigated cropland, or range, pasture, forest and woodlands resulting from land uses or from a process or combination of processes arising from human activities” (UNCCD,1994).

Land degradation neutrality (LDN) is defined by the Intergovernmental Working Group (IWG) of the UNCCD as “a state whereby the amount and quality of land resources, necessary to support ecosystem functions and services and enhance food security, remains stable or increases within specified temporal and spatial scales and ecosystems” (IWG, 2015).

It is widely acknowledged that there is no single indicator which could unambiguously reflect the multiple pathways of land degradation which is driven by the complex human-ecosystem

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interactions involved with land use (Gibbs and Salmon, 2015). Since 2008, the Parties to UNCCD have been working on an indicator framework to measure progress towards the objectives of the Convention (UNCCD, 2013a).

At the 11<sup>th</sup> Conference of the Parties, an indicator framework composed of six indicators was adopted (UNCCD, 2013b), including the three indicators proposed here to derive the indicator “trends in land degradation”. These indicators capture those biophysical dynamics which best characterize the complex process of land degradation given the availability of internationally-recognized data sources and methodologies.

### Method of computation

The baseline (ten year average, 2000-2010) and subsequent trends in degrading, stable, or improving land are computed by the synoptic utilization of the following metrics:

- **Tier 1: Trends in Land Use/Cover.** This indicator is expressed in ha or km<sup>2</sup> or proportion of total land cover type and measure transitions from, *inter alia*, (1) natural and semi-natural land cover types (e.g., forest, shrubs, grasslands, sparsely vegetated areas) to agricultural land and artificial surfaces (e.g., urban, infrastructure, recreation), (2) agricultural land to artificial surfaces, and (3) agricultural land and artificial surfaces to natural and semi-natural land cover type.
- **Tier 2a: Trends in Land Productivity** (disaggregated by land use/cover type). These trends are calculated from long-term time series of remotely-sensed data on net primary productivity (NPP) at 1 km<sup>2</sup> spatial resolution and at 10 day intervals. An overview on the state-of-the-art methodologies is given by Yengoh et. al., 2014; Cherlet et al. 2014; Quang Bao Le et al., 2014.
- **Tier 2b: Trends in Soil Organic Carbon (SOC) Stocks** (disaggregated by land use/cover type). Baseline data on SOC are derived from version 1.1 of the Harmonized World Soil Database (HWSD) (FAO/IIASA/ISRIC/ISS- CAS/JRC 2009) and are expressed in tons per ha to a depth of 1m at a nominal spatial resolution of 1km (Scharlemann et al. 2009). The FAO’s Global Soil Partnership (GSP) is currently elaborating options for global measurements that would allow for the establishment of spatially distributed trends in SOC, estimated as a stock and expressed as mass (g C per ha) or content (% or g C/100 g of soil) for a reference depth.

### Rationale and interpretation

The indicator “Trends in land degradation” emphasizes the pivotal role of NPP among a wider range of services provided by land. NPP is the basis of food production, regulates water, energy, and nutrient flows in land ecosystems, sequesters carbon dioxide from the atmosphere and generally provides habitat for diverse species (MA, 2005; Safriel, 2007; Vogt et al., 2011). While the apparent loss of NPP is often associated with land degradation, it does not necessarily indicate land degradation (e.g., less intensive agriculture may decrease yields in the short-term, but improve

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environmental quality in the long-term), neither does an increase in NPP always indicate land improvement (e.g., overuse of fertilizers, shrub encroachment in natural grasslands).

In order to account for the variability of impacts from human-environment interactions, trends in land productivity are disaggregated by land use/cover type. Because changes in land use/cover often refer to ecosystem exploitation (Nachtergaele and Petri, 2008) and are conditioned by anthropogenic factors that define the social and ecological contexts for interpreting causalities from statistical results, broad land-use classes have been recommended for stratifying causal analyses and interpretations of land degradation (Vlek et al., 2010; Sommer et al., 2011; Vu et al., 2014).

While proxies for NPP, such as the Normalized Difference Vegetation Index (NDVI), only account for the quantity of standing biomass on the land, SOC is intrinsically connected to soil quality and organic content thus providing information on other ecosystem services, such as soil fertility maintenance and water flow regulation. SOC is one of the most important constituents of the soil due to its capacity to affect plant growth and is most informative when disaggregated by land use/cover.

The practical application of the indicator at national level is illustrated in the annex to this note, where an example of the outcomes of the LDN project is also documented.

### Sources and data collection

#### Tier 1: Trends in Land Use/Cover

There are numerous global data sets and on-going initiatives that provide harmonized global land use and land cover change data. See:

IPCC, 2006 (Annex 3A.1) [http://www.ipcc-nggip.iges.or.jp/public/gpplulucf/gpplulucf\\_files/Chp3/Anx\\_3A\\_1\\_Data\\_Tables.pdf](http://www.ipcc-nggip.iges.or.jp/public/gpplulucf/gpplulucf_files/Chp3/Anx_3A_1_Data_Tables.pdf)

European Space Agency's Climate Change Initiative Land Cover (CCI-LC) <http://www.esa-landcover-cci.org/>

FAO's Global Land Cover SHARE (GLC-SHARE) [http://www.glcn.org/databases/lc\\_glcshare\\_en.jsp](http://www.glcn.org/databases/lc_glcshare_en.jsp)

For one example of a regional product, see:

Europe Corine Land Cover: <http://www.eea.europa.eu/data-and-maps/data/corine-land-cover>

#### Tier 2a: Trends in Land Productivity

The main sources for determining land productivity are remote sensing data sets comprised of NDVI and other vegetation indices/variables. These are derived from different platforms and sensors covering time series from 1982 to the present, taken at weekly to monthly intervals and at spatial sampling sizes between 250 m and 8 km pixels. There are several on-going initiatives to analyze these time series in order to derive trends in land productivity (Yengoh et. al., 2014). For data sources and methodologies, see:

NASA <http://gcmd.gsfc.nasa.gov/index.html>

ESA <http://land.copernicus.eu/global/themes/Vegetation>

JRC <http://wad.jrc.ec.europa.eu/>

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### **Tier 2b: Trends in Soil Organic Carbon (SOC) Stocks**

Global estimates of SOC stocks have been produced in the past to support the calculation of soil carbon fluxes under scenarios of land use/cover change and climatic conditions (IPCC, 2006), but very few global estimates are presented as spatial data. For global spatial layers on soil parameters, the most recent and complete data set is contained in the Harmonized World Soil Database (HWSD). See: [http://eusoils.jrc.ec.europa.eu/ESDB\\_Archive/octop/Global.html](http://eusoils.jrc.ec.europa.eu/ESDB_Archive/octop/Global.html)).

Available spatial data sets are model-derived and do not currently provide trends. However, global information on land use/cover change could be used to derive coarse estimates of trends in SOC stocks using the IPCC methodology (IPCC, 2006). At regional levels (e.g., Africa, Australia, Europe), initiatives exist that aim to establish methodologies and protocols for regional scale SOC measurement. These initiatives could produce regular up-dates of spatially disaggregated SOC data for wide areas, especially of agricultural land (Aynekulu et al., 2011; Lugato et al., 2014). See also: <http://www.worldagroforestry.org/downloads/Publications/PDFS/TM11192.pdf>

<http://eusoils.jrc.ec.europa.eu/library/Themes/SOC/LUCASSOC/>

### **Disaggregation**

In addition to land use/cover, the indicator “Trends in land degradation” could be further spatially disaggregated to sub-national administrative and management-relevant landscape units, such as watersheds or bio-cultural regions. Moreover, the output of indicator 2.4.1 (Percentage of agricultural area under sustainable agricultural practices) and 15.2.1 (Forest cover under sustainable forest management) constitute relevant complementary information for the interpretation of land degradation at sub-national scale.

### **Comments and limitations**

While there is no single indicator which could unambiguously track “Trends in land degradation”, global monitoring efforts are possible by considering a few metrics in combination, given that they are measurable, compatible and faithful in capturing trends that are globally comparable. The metrics proposed here meet these criteria and have already been adopted by the UNCCD Conference of the Parties and will be used by the Parties to set nationally voluntary LDN targets and report on progress towards achieving these targets.

Since national and sub-national data is not systematically collected on a routine, harmonized and comparable basis, particularly in low-income countries, the monitoring of “Trends in land degradation” will rely on remote sensing global data sets for the foreseeable future. The use of these data sets will ensure harmonization and comparability. It will limit the burden of data collection efforts and put a greater emphasis on data quality improvement and interpretation. When possible, countries should validate default global data with national data with the aim of integrating top-down and bottom-up approaches.

It is important to recognize that this indicator does not comprehensively address all quantitative and qualitative aspects of land degradation. Thus, complementary indicators at national and sub-national scales could assist in monitoring issues relevant to specific national contexts within broader

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monitoring and evaluation frameworks. Indicators reported under other SDG targets (e.g., metrics on socio-economic and governance variables) could also contribute to the enhancement of the indicator “trends in land degradation”.

The use of remotely sensed long-term time series for deriving trends in land productivity has repeatedly raised concerns of comparability due to the apparently diverging results of various products. Issues to be clarified here relate to agreement on the length of reference time series, the method of aggregating and interpreting observed vegetation indices to derive annual productivity proxies, and approaches to evaluate time series from different sensors. Following recent workshops organized by GEF STAP in 2014 and 2015, an agreement between relevant organizations, including NASA, ESA and the EC Joint Research Centre, has been reached to jointly address these issues.

At the current time, this indicator is unsuited to annual derivation due to the 5 year sampling interval for trends in land use/cover. However, projections or extrapolations could be applied for annual reporting if required.

### Gender equality issues

The indicator “Trends in land degradation” is not suitable for disaggregation by gender.

### Data for global and regional monitoring

The United Nations Convention to Combat Desertification (UNCCD) compiles data for this indicator “trends in land degradation” with the assistance of its international partner organizations. With decision 22/COP.11 of the Conference of the Parties (COP) to the UNCCD, the Convention has established a monitoring and evaluation approach for land degradation consisting of: (i) a set of six progress indicators (including land use/cover, land productivity and soil organic carbon); (ii) a conceptual framework that allows the integration of indicators; and (iii) indicators sourcing and management mechanisms.

This monitoring and evaluation approach will be used by UNCCD country Parties to set voluntary LDN targets and report on progress towards achieving these targets. The UNCCD secretariat is requested to provide countries with national estimates for each indicator based on globally available data sources. Country Parties, in turn, are invited to validate these national estimates when implementing the LDN target and in the context of their National Action Programmes (NAPs). Furthermore, progress towards achieving LDN targets will be assessed by the governing bodies of the Convention, in particular the Committee for the Review of Implementation of the Convention (CRIC), against data and information contained in national reports. The CRIC reviews information on progress indicators every four years.

The UNCCD secretariat started testing this approach since May 2014 within the LDN Project currently being implemented by 16 country Parties worldwide (see Annex 1). Data and information on the progress indicators are being compiled in cooperation with the JRC and the indicators tested against their relevance, methodological soundness, measurability and ease of understanding and communication.

### Supplementary information

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FAO, IFAD and UNEP have proposed mutually supportive and relevant indicators, namely "Percentage of agricultural area under sustainable agricultural practices" for target 2.4, and "Forest cover under sustainable forest management" for target 15.2. We note that both of these indicators complement and enrich the suggested indicator for target 15.3, namely "Trends in land degradation", both at the first and second tier level as proposed and will help to provide a more comprehensive monitoring and evaluation framework for these targets (using current technology and data and that makes use of advances in technology and data in coming years).

During the next months, coordination among UNCCD, FAO, UNEP, and the other agencies involved such as EC will be put in place, in collaboration with voluntary pilot countries, in order to formulate/develop the most appropriate metrics and interpretation guidance for the proposed indicators. Furthermore, the suggested indicator "Trends in land degradation" is compatible with the System of Environmental-Economic Accounting/ Experimental Ecosystem Accounting (SEEA EEA) which can provide the statistical framework for measuring land degradation as being developed by the UNSD.

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# Goal 15 Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

## Annex 1

### Country example for operationalizing the indicator “Trends in land degradation”

#### 1. Introduction

The UNCCD secretariat is currently facilitating the Land Degradation Neutrality (LDN) project which is being implemented by 16 country Parties worldwide.<sup>36</sup> The objective of this pilot project is to assist participating countries in translating the LDN target into national voluntary targets and testing the indicator “Trends in land degradation” being proposed for the SDG global indicator framework.

Data for this indicator have been compiled in cooperation with the European Commission’s Joint Research Center (JRC) and provided to all participating countries for validation in numerical, vector and raster formats; however the data included in this Annex has not yet been validated at country level. While other datasets could be equally applicable in deriving this indicator, the following country examples utilize the data sets which are currently being used in the context of the LDN project, including the following land use/cover categories. These categories have been selected because they are implementable, complete (in that all land areas in a country may be classified by these categories without duplication) and aligned with the 6 land use categories recommended by IPCC for the purpose of estimating anthropogenic emissions and removals from land use, land-use change and forestry (IPCC, 2006).

**Table 1: Land categories**

Value	Categories	Short description	ESA CCI-LC classes (codes)
1	<b>Forests</b>	Geographical areas dominated by <b>natural tree plants</b> with a cover of 15% or more.  This class also includes: - mosaic tree and shrub (>50%) / herbaceous cover - seasonally or permanently flooded with fresh water	Tree broadleaved evergreen, Tree broadleaved deciduous, Tree needle leaved evergreen, Tree needle leaved deciduous, Tree mixed leaf type, Mosaic tree, shrub / HC, Tree flooded, fresh water (50, 60, 61, 62, 70, 71, 72, 80, 81, 82, 90, 100, 160)
2	<b>Shrubs, grasslands and sparsely vegetated areas</b>	Geographical areas dominated by: <b>natural shrubs</b> ; or <b>natural herbaceous plants</b> ; or <b>sparse natural vegetation</b> with a cover of 15% or less; This class also include: - mosaic natural vegetation (>50%) / crops - mosaic herbaceous cover (>50%) / tree and shrub	Mosaic vegetation / cropland, Mosaic HC / tree, shrub, Scrublands, Grassland, Lichens and mosses, Sparse vegetation (40,110, 120, 121, 122, 130, 140, 150, 152, 153)
3	<b>Cropland</b>	Geographical areas dominated by: <b>herbaceous crops</b> ; or <b>woody crops</b> ; or <b>mixed herbaceous and woody crops</b> ; This class also include: - mosaic crops (50%) / natural vegetation	Cropland rain fed, Cropland irrigated / post-flooding, Mosaic cropland / vegetation (10, 11, 12, 20, 30)
4	<b>Wetlands and water bodies</b>	Geographical areas dominated by: <b>shrub or herbaceous vegetation, aquatic or regularly flooded</b> ; or <b>mangroves or water bodies</b>	Tree flooded, saline water, Shrub or herbaceous flooded, Water bodies (170,180,210)

<sup>36</sup> Algeria, Armenia, Belarus, Bhutan, Chad, Chile, Costa Rica, Ethiopia, Grenada, Indonesia, Italy, Myanmar, Namibia, Panama, Senegal and Turkey



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5	<b>Artificial areas</b>	Geographical areas dominated by <b>artificial surfaces</b> , including urban and associated areas (e.g. urban parks), transport infrastructures, industrial areas, burnt areas, waste deposits, extraction sites.	Urban areas (190)
6	<b>Bare land and other areas</b>	Geographical areas dominated by: <b>bare areas or snow and glaciers</b>	Bare areas, Permanent snow and ice (200, 201, 202, 220)

For the LDN project, the ESA's Climate Change Initiative Land Cover dataset (CCI-LC) has been used as default source of land cover data, for which three epochs are available: 2000, 2005 and 2010. The 2000 and 2010 epochs were used to analyze land use changes, focusing on the six broad land categories listed above.

The JRC's Land Productivity Dynamics (LPD) dataset has been used as default option for the LDN project. The LPD data set has been derived from a 15-year time series (1998 to 2012) of global NDVI observations composited in 10-day intervals at a spatial resolution of 1 km. The data set includes 5 classes of land productivity trends over the above-mentioned time period, which provides a qualitative combined measure of the intensity and persistence of negative or positive changes in over the observed period.

**Table 2: Classes of productivity**

Value	Description
1	Declining productivity
2	Early signs of decline
3	Stable, but stressed
4	Stable, not stressed
5	Increasing productivity

In addition the spatial extend and distribution of the LPD classes have been disaggregated by the 6 LUC classes described before and have been made available for each country as numerical values of the area (ha or sq km) of LPD class under the respective Land Cover classes mapped by the ESA data in 2000 and 2010, as well as in relation to areas which have been subject to land cover change.

For the Soil Organic Carbon (SOC), the amended Harmonized World Soil Database (HWSD) has been used as default data, in order to take into account the differences in soils while estimating the overall SOC stock, for the different land cover classes. The value of SOC provided in the data set is a continuous variable ranging from 0 (bare soil in arid zones) to 1050 tons (wetlands/peatlands in highlands and cold climate) per hectare.

Numerical estimates of all metrics have been compiled by the LDN Project, and provided to the pilot countries in excel tables to facilitate the identification of critical processes and setting tentative LDN targets, along a four-step approach:

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<b>Step 1: identifying negative trends</b>	<b>Identify, map and quantify the negative trends indicating signs and risks of land degradation.</b>
<b>Step 2: identifying land management options</b>	Identify land management options that can stop or reverse the identified negative trends and therefore lead to the expected LDN situation in a voluntary assumed time frame as an integral part of the NAP. The management options proposed by the IWG are: (a) prevent, avoid or minimize land degradation; and (b) rehabilitate or restore degraded land.
<b>Step 3: reviewing the national action programme</b>	Review, when it exists, the national action programme to ascertain if it encompasses the necessary legal, financial, scientific and administrative frameworks and land management options to efficiently and timely stop or reverse the identified negative trends.
<b>Step 4: setting LDN national voluntary targets</b>	Set targets for achieving land degradation neutrality (expressed in relation to measurable indicators) in terms of time and resources needed for the implementation of the identified management and policy options.

LUCs have been considered especially for identifying critical transitions from semi-natural land cover classes (Forest, shrubs, grasslands and sparsely vegetated areas) to cropland and to artificial surfaces, from cropland to artificial surfaces, as well as from cropland to semi-natural land cover types. LPD data helped in locating the areas that show signs of land productivity decline and stress, as they can be interpreted as advanced or early signs of land degradation (paying particular attention in all land cover classes to the areas classified with the codes 1 to 3).

This methodology is being applied to all LDN pilot counties. As an example, the preliminary outcomes for Namibia are reported in the following section.

### 2. Country example: Namibia

#### Presentation of national basic data using the LDN indicators framework

Land-Use Category	Land area (2000)	Land area (2010)	Net change in area (2000-2010)	Net land productivity change (sq km, 2000-2010)					Soil organic carbon (2010)
	sq km	sq km	sq km	Declining	Early stage of declining	Stable but stressed	Stable not stressed	Increasing	ton/ha
Forest land	1.575,20	1.561.40	-13,80	61,10	353,20	21,20	1.072,00	53,90	17,40
Shrubs, grasslands and sparsely vegetated areas	665.162,10	665.167.50	5,40	40.995,30	103.964,70	3190,60	480.142,10	18.857,60	13.92
Cropland	40.199,50	40.207.90	8,40	434,00	1.421,60	91,40	32.829,40	5.391,50	13.81
Wetlands and water bodies	7.242,70	7.242.70	0,00	481,80	69,30	182,90	5.459,30	243,20	15,99
Artificial areas	443,00	443.00	0,00	47,50	26,60	0,00	324,80	6,40	12,49
Bare land and other areas	113.141,90	113.141.90	0,00	2.796,80	2.376,30	229,20	26.788,30	9,10	10,00
Balancing term	0,00	0,00	0,00						
<b>Total</b>	<b>827.764,40</b>	<b>827.764,40</b>	<b>0,00</b>						

#### Tier 1: Trends in land cover/use

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Information source: ESA CCI Land Cover data 2000 and 2010, spatial resolution 300 m (<http://www.esa-landcover-cci.org/>)

80.35% of Namibia's land surface is covered by shrub and grass savannah which is subject to significant degradation due to overgrazing and/or shrub encroachment. Only 4.86% of Namibia's land surface is used as cropland and 0.19% is forested. Crop and forest lands are primarily concentrated in the northeastern parts of the country. Namibia has only ephemeral surface water and seasonal wetlands (e.g., Etosha pan) which account for 0.87% of the land surface. The western and southern desert areas of the Namib and Kalahari cover 13.67%. According to ESA CCI Land Cover, there has been hardly any land cover change between the 6 classes from 2000 and 2010, with only a loss of 13.80 km<sup>2</sup> of forest reported.

Value	Description
1	Forests
2	Shrubs, grasslands and sparsely vegetated areas
3	Cropland
4	Wetlands and water bodies
5	Artificial areas
6	Bare land and other areas



### Tier 2a: Trends in land productivity

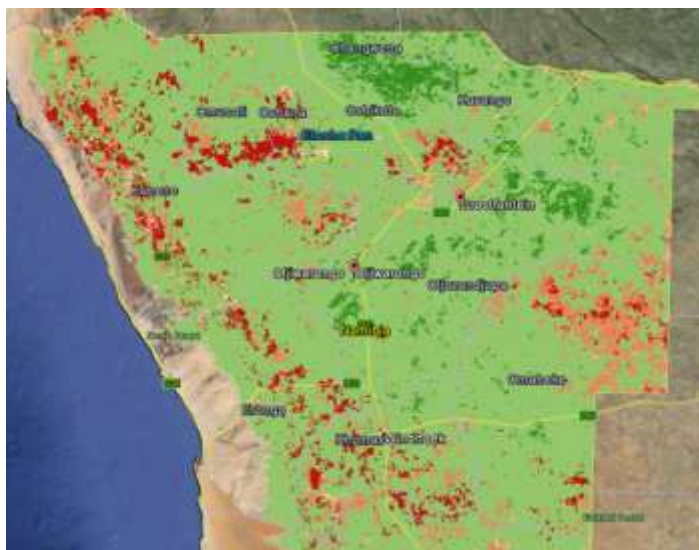
Information source: land productivity dynamics derived from SPOT VEGETATION (VGT) time series 1998 to 2013, spatial resolution 1 km (Cherlet et. al. 2014, Cherlet et. al.2013) [http://wad.jrc.ec.europa.eu/data/EPreports/LPDinEU\\_final\\_no-numbers.pdf](http://wad.jrc.ec.europa.eu/data/EPreports/LPDinEU_final_no-numbers.pdf)

The 5 classes show trends in land productivity over 15 years derived from VGT NDVI (1998 to 2013). 66.03% of Namibia's land surface shows stable land productivity (values 3 and 4) over the period while 2.97% exhibits increasing productivity (value 5). 18.93% of Namibia's land surface shows signs of declining land productivity (values 1 and 2). The remaining 12.07% are desert areas where the productivity level remains below detectable limits. The spatial distribution of areas showing increasing and decreasing trends in land productivity reflect to some extent the aridity gradient with increasing aridity from the northeast to the west and southwest. The disaggregation of trends in land productivity by land use/cover reveals a more differentiated picture. 27.65% of forest land shows declining productivity while only 3.44% shows signs of increased productivity. As rangeland use is the major source of rural income and livelihood, 22.27% of shrub and grasslands show signs of decreasing productivity and represents 94.53% of all declining areas. In turn, only 4.83% of the croplands show signs of declining productivity while increasing productivity trends are observed on 13.41% of the croplands.

Value	Description

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1	Declining productivity
2	Early signs of decline
3	Stable, but stressed
4	Stable, not stressed
5	Increasing productivity

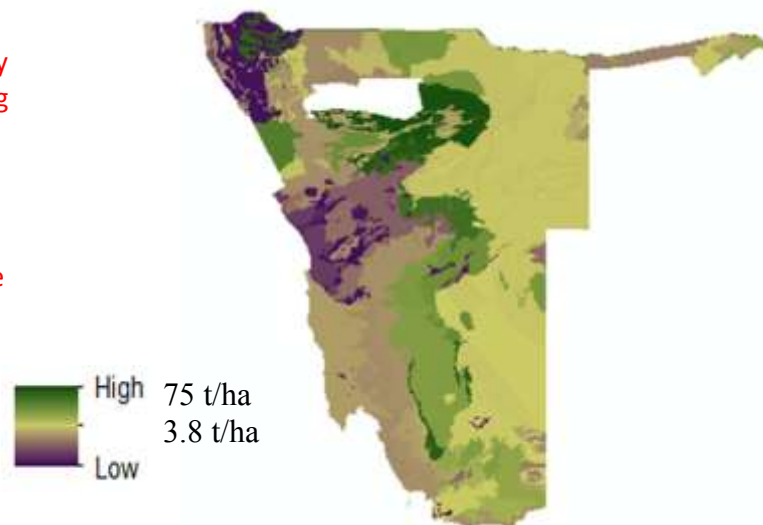


**Tier 2b: Trends in soil organic carbon (SOC)**

Information source: Datasets derived from Harmonized World Soil Database, spatial resolution 1 km (FAO/IIASA/ISRIC/ISS-CAS/JRC, 2009)

[http://eusoils.jrc.ec.europa.eu/ESDB\\_Archive/octop/Global.html](http://eusoils.jrc.ec.europa.eu/ESDB_Archive/octop/Global.html)

Currently no global information on spatially distributed SOC trends at country level is available; nevertheless the existing global datasets can be used in the definition of a common baseline of the soil/land's capacity to provide carbon sequestration which is expected to become more regularly up-dated with the expected increasing amount of SOC data collection.



**Namibia: tentative LDN target setting**

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Negative trends	Area (sq km)	Corrective measures	LDN target		Investments required (M USD)
			Area (sq km)	Time (year)	
Conversion of forests into shrubs, grasslands and sparsely vegetated areas (12) with declining productivity (1)	5,3	Reforestation with local species	-5,3	2030	4.8
Conversion of forests into cropland (13) with early signs of declining productivity (2) or stable and not stressed (4)	8,5	Reforestation with local species	-8,5	2040	7.7
Forest (11) showing early signs of decline (2) and having a declining productivity (1)	414,30	Avoiding further decline of forest through economic incentives (Rehabilitation)	-414,30	2030	124
Shrubs, grasslands and sparsely vegetated areas (22) showing early signs of decline (2)	104.013,50	SLM practices to avoid overgrazing	-104.013,00	2040	728
		SLM practices to avoid soil erosion			
		Consider enforcing compensation			
Cropland (33) showing declining productivity (1) and early signs of decline (2)	14.849,00	Use agroforestry practices to improve cropland productivity	-14.849,00	2035	1,039
Shrubs, grasslands and sparsely vegetated areas (22) increasing productivity (5)	18.880,20	Introduce financial viable alternative options for the prevention of bush encroachment	-18,880,20	2040	47
				<b>TOTAL</b>	<b>1939.2</b>

- Reforest and increase the productivity of 13.8 km<sup>2</sup> (1380 ha) forests that has been converted into croplands or shrubs, grasslands and sparse vegetation by 2040
- Improve the productivity of the 414,3 km<sup>2</sup> (41 430 ha) forest area currently showing early signs of decline and having declining productivity by 2030
- Improve the productivity of 104 013 km<sup>2</sup> (10,4 M ha) of shrubs, grasslands and sparsely vegetated areas currently showing signs of declining productivity by 2040
- Improve the productivity of 14 849 km<sup>2</sup> (1.5 M ha) of cropland currently showing signs of declining productivity by 2035
- Reduce the bush encroachment on 18 880 km<sup>2</sup> (1,9 M ha) area showing signs of increasing bush encroachment by 2040
- Maintain the current soil organic carbon levels beyond 2040: Forests at 17 t/ha; Shrubs, grasslands, sparsely vegetated land, Cropland at 14 t/ha; Wetlands at 16 t/ha

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**Target 15.4** By 2030, ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development

**Suggested Indicator 1: Coverage of protected areas**

From IUCN:

## **Definition and method of computation**

### **Definition**

The percentage of sites contributing significantly to the global persistence of biodiversity that are wholly covered by designated protected areas.

### **Concepts**

Protected areas, as defined by the International Union for Conservation of Nature (IUCN), are clearly defined geographical spaces, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values. Importantly, a variety of specific management objectives are recognised within this definition, spanning conservation, restoration, and sustainable use:

- Category Ia: Strict nature reserve
- Category Ib: Wilderness area
- Category II: National park
- Category III: Natural monument or feature
- Category IV: Habitat/species management area
- Category V: Protected landscape/seascape
- Category VI: Protected area with sustainable use of natural resources

The status "designated" is attributed to a protected area when the corresponding authority, according to national legislation or common practice (e.g., by means of an executive decree or the like), officially endorses a document of designation. The designation must be made for the purpose of biodiversity conservation, not de facto protection arising because of some other activity (e.g., military).

Sites contributing significantly to the global persistence of biodiversity are identified following globally standard criteria applied at national levels. Two variants of these standard criteria have been applied in all countries to date. The first is for the identification of Important Bird & Biodiversity Areas (IBAs), that is, sites contributing significantly to the global persistence of biodiversity, identified using data on birds, of which >12,000 sites in total have been identified from all of the world's countries. The second is for the identification of Alliance for Zero Extinction sites (AZE), that is, sites holding effectively the entire population of at least one species assessed as Critically Endangered or Endangered on The IUCN Red List of Threatened Species. In total, 587 AZE sites have been identified for 920 species of mammals, birds, amphibians, reptiles, conifers, and reef-building corals. A global standard for the identification of key biodiversity areas (KBAs) unifying these approaches along with

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other mechanisms for identification of important sites for other species and ecosystems is in the final stages of development and anticipated to be in place by the end of 2015.

### Method of computation

The indicator is computed by dividing the total number of KBAs wholly covered by protected areas by the total number of KBAs in each country, and multiplying by 100. “Wholly protected” is defined as >98% coverage to allow for resolution and digitisation errors in the underlying spatial datasets.

### Rationale and interpretation

The safeguard of important sites is vital for stemming the decline in biodiversity. The establishment of protected areas is an important mechanism for achieving this aim, and this indicator serves as a means of measuring progress toward the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements. Importantly, while it can be disaggregated to report on any given single ecosystem of interest (e.g., forests), it is not restricted to any single ecosystem type, and so faithfully reflects the intent of SDG target 15.1.

Levels of access to protected areas vary among the protected area management categories. Some areas, such as scientific reserves, are maintained in their natural state and closed to any other use. Others are used for recreation or tourism, or even open for the sustainable extraction of natural resources.

In addition to protecting biodiversity, protected areas have become places of high social and economic value: supporting local livelihoods; protecting watersheds from erosion; harbouring an untold wealth of genetic resources; supporting thriving recreation and tourism industries; providing for science, research and education; and forming a basis for cultural and other non-material values.

This indicator adds meaningful information to, complements and builds from traditionally reported simple statistics of territorial area covered by protected areas, computed by dividing the total protected area within a country by the total territorial area of the country and multiplying by 100. Such percentage area coverage statistics do not recognise the extreme variation of biodiversity importance over space, and so risk generating perverse outcomes through the protection of areas which are large at the expense of those which require protection.

### Sources and data collection

Protected area data are compiled by ministries of environment and other ministries responsible for the designation and maintenance of protected areas. They are compiled globally into the World Database on Protected Areas (WDPA) by the UNEP World Conservation Monitoring Centre (UNEP-WCMC). They are disseminated through the Protected Planet knowledge product <http://www.protectedplanet.net/>, which is jointly managed by UNEP-WCMC and IUCN and its World Commission on Protected Areas (WCPA).

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KBAs are identified at national scales through multi-stakeholder processes. Data on IBAs are managed by BirdLife International, and are available online at <http://www.birdlife.org/datazone/site/search>. Data on AZEs are managed by the Alliance for Zero Extinction, and are available online at <http://www.zeroextinction.org/>. Both datasets, along with the WDPA, are also disseminated through the Integrated Biodiversity Assessment Tool for Research and Conservation Planning, available online at <https://www.ibat-alliance.org/ibat-conservation/login>.

### Disaggregation

Given that data for the global indicator are compiled at national levels, it is straightforward to disaggregate to national and regional levels, or conversely to aggregate to the global level. The indicator can also be reported in combination across terrestrial and freshwater (and indeed marine) systems, or disaggregated among them. However, protected areas, IBAs, and AZEs can encompass terrestrial, freshwater, and marine systems simultaneously, and so determining the results is not simply additive. Finally, it can be disaggregated according to different protected area management categories (categories I–VI) to reflect differing specific management objectives of protected areas.

In addition to the aggregation of the coverage of protected areas across terrestrial and freshwater systems as an indicator towards SDG 15.1, other disaggregations of coverage of protected areas of particular relevance as indicators towards SDG targets include:

SDG 6.6	Coverage of protected areas (freshwater).
SDG 14.2	Coverage of protected areas (marine).
SDG 14.5	Coverage of protected areas (marine).
SDG 15.4	Coverage of protected areas (mountain).

Protected area coverage data can be combined with other data sources to yield further, complementary, indicators. For example, protected area overlay with ecoregional maps can be used to provide information on protected area coverage of different broad biogeographical regions. Protected area coverage of the distributions of different groups of species (e.g., mammals, birds, amphibians) can similarly provide indicators of trends in coverage of biodiversity at the species level. Protected area coverage can be combined with the IUCN Red List Index to generate indicators of the impacts of protected areas in reducing biodiversity loss. Finally, indicators derived from protected area overlay can also inform sustainable urban development; for example, the overlay of protected areas onto urban maps could provide an indicator of public space as a proportion of overall city space.

### Comments and limitations

The indicator does not measure the effectiveness of protected areas in reducing biodiversity loss, which ultimately depends on a range of management and enforcement factors not covered by the indicator. A number of initiatives are underway to address this limitation. Most notably, numerous mechanisms have been developed for assessment of protected area management effectiveness, which can be synthesised into an indicator of management effectiveness. This is used by the Biodiversity Indicators Partnership as a complementary indicator of progress towards Aichi Biodiversity Target 11 (<http://www.bipindicators.net/pamanagement>). More recently, approaches to “green listing” have started to be developed, to incorporate both management effectiveness and the



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outcomes of protected areas, and these are likely to become progressively important as they are tested and applied more broadly.

Data and knowledge gaps can arise due to difficulties in determining whether a site conforms to the IUCN definition of a protected area, and some protected areas are not assigned management categories. Moreover, “other effective area-based conservation measures”, as specified by Aichi Biodiversity Target 11 of the Strategic Plan for Biodiversity 2011–2020, recognise that some sites beyond the formal protected area network, while not managed primarily for nature conservation, may nevertheless be managed in ways which are consistent with the persistence of the biodiversity for which they are important. However, standard approaches to documentation of “other effective area-based conservation measures” are so far still in their infancy. As these are consolidated, “other effective area-based conservation measures” will be included into the WDPA and thus this indicator accordingly.

Regarding important sites, the biggest limitation is that site identification to date has focused on specific subsets of biodiversity, for example birds (for IBAs) and highly threatened species (for AZEs). While IBAs have been documented to be good surrogates for biodiversity more generally, the unification of standards for identification of important sites across different levels of biodiversity (genes, species, ecosystems) and different taxonomic groups remains a high priority. This umbrella standard for identification of key biodiversity areas is anticipated to be finalised by the end of 2015, building strongly from existing approaches.

Dates of establishment are not recorded for some protected areas in some countries, generating uncertainty around changing protected area coverage over time. This is reflected in the indicator by assigning dates of establishment for undated sites by selecting dates at random from those for other protected areas in the same country, repeating this 1,000 times, and plotting the 95% confidence intervals around mean protected area coverage accordingly.

### **Gender equity issues**

There are no direct gender equity issues associated with the indicator for coverage of important sites for biodiversity by protected areas. However, it is essential to recognise that women play a central role in the conservation, management and use of biodiversity. In many rural areas of developing countries, women’s daily tasks are often tied closely to biodiversity. They are often responsible for gathering edible wild plants (fruits, leaves and roots of native plants) to feed their families as a supplement to agricultural grains, especially during unfavourable situations such as famine, conflicts and epidemics. Women often also gather medicinal plants, firewood and other bush products for medicine, fuel, house-building, paint and even manure and pesticide. Women’s knowledge of biodiversity is immense and broad, because their communities’ well-being depends on it, and preservation of this knowledge is crucial for maintaining biodiversity. Yet, their contribution is often overlooked. They are typically “invisible” partners from grassroots to policy level. There is therefore an urgent need to consider gender issues in development efforts, to promote true partnership and ensure the sustainable conservation and use of biodiversity.

### **Data for global and regional monitoring**

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UNEP-WCMC is the agency in charge of calculating and reporting global and regional figures for this indicator, working with BirdLife International and IUCN to combine data on protected areas with those for sites of importance for biodiversity. UNEP-WCMC aggregates the global and regional figures on protected areas from the national figures that are calculated from the WDPA and disseminated through Protected Planet. The WDPA and Protected Planet are jointly managed by UNEP-WCMC and IUCN WCPA.

UNEP-WCMC produces the UN List of Protected Areas every 5-10 years, based on information provided by national ministries/agencies. In the intervening period between compilations of UN Lists, UNEP-WCMC works closely with national ministries/agencies and NGOs responsible for the designation and maintenance of protected areas, continually updating the WDPA as new data become available.

Quality control criteria are applied to ensure consistency and comparability of the data in the WDPA. New data are validated at UNEP-WCMC through a number of tools and translated into the standard data structure of the WDPA. Discrepancies between the data in the WDPA and new data are resolved in communication with data providers. Processed data are fully integrated into the published WDPA.

The WDPA is held within a Geographic Information System (GIS) that stores information about protected areas such as their name, size, type, date of establishment, geographic location (point) and/or boundary (polygon).

Protected area coverage is calculated using all the protected areas recorded in WDPA whose location and extent is known. Protected areas without digital boundaries are excluded from the indicator.

IBAs are places of international significance for the conservation of biodiversity, identified using data for birds. IBAs are identified using a standardised set of data-driven criteria and thresholds, relating to threatened, restricted-range, biome-restricted and congregatory species. IBAs are delimited so that, as far as possible, they: (a) are different in character, habitat or ornithological importance from surrounding areas; (b) provide the requirements of the trigger species (i.e., those for which the site qualifies) while present, alone or in combination with networks of other sites; and (c) are or can be managed in some way for conservation.

AZEs are sites meeting three criteria: endangerment (supporting at least one Endangered or Critically Endangered species, as listed on the IUCN Red List); irreplaceability (holding the sole or overwhelmingly significant ( $\geq 95\%$ ) known population of the target species, for at least one life history segment); and discreteness (having a definable boundary within which the character of habitats, biological communities, and/or management issues have more in common with each other than they do with those in adjacent areas). Hence AZEs represent locations at which species extinctions are imminent unless appropriately safeguarded (i.e. protected or managed sustainably in ways consistent with the persistence of populations of target species).

The IBA and AZE site networks are, by definition, areas of particular importance for biodiversity as referred to in Aichi Biodiversity Target 11, and represent the only networks of such sites that have been identified systematically worldwide. Hence, they represent important areas to consider designating as formal protected areas.

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### **Suggested Indicator 2: Mountain Green Cover Index**

#### **From FAO:**

##### **Precise definition of the indicator**

The Green Cover Index is designed to measure the changes of the green vegetation in mountain areas (i.e., forest, shrubs and trees).

##### **How is the indicator linked to the specific TARGET as worded in the OWG Report?**

The scientific mountain community recognizes the existence of a direct correlation between the green coverage of mountain areas and their state of health, and – as a consequence – their capacity of fulfilling their ecosystem roles. Therefore, monitoring the mountain vegetation change over time provides an adequate measure of the status of conservation of mountain ecosystems.

In particular, the “Mountain Green Cover Index” can provide information on the forest and woody cover. Its reduction will be generally linked to forest exploitation, timber extraction, fuel-wood collection, and fire. Its increase will be due to vegetation growth possibly linked to reforestation or afforestation programmes.

The proposed Index will provide a meaningful proxy for assessing the progress of all three mountain targets (i.e., 6.6.; 15.1; and 15.4). If an order of relevance is needed, this is our proposed ranking:

- a) 15.4
- b) 15.1
- c) 6.6

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We assign priority to 15.4 because this is solely “pure” mountain indicator.

### **Does the indicator already exist and is it regularly reported?**

This indicator does not exist yet but it can be developed using the existing dataset Global Land Cover (GLC) SHARE maintained by FAO’s NRL Division.

The data set GLC SHARE developed by FAO’s NRL Division will be used as basis for the computation of the indicator, jointly with the definition of mountain areas as provided by UNEP-WCMC

Produced in 2000 by UNEP-WCMC, the first map of the world’s mountains defined them according to altitude, slope and local elevation range<sup>37</sup>:

Class 1:	Elevation > 4,500 metres
Class 2:	Elevation 3,500–4,500 metres
Class 3:	Elevation 2,500–3,500 metres
Class 4:	Elevation 1,500–2,500 metres and slope > 2
Class 5:	Elevation 1,000–1,500 metres and slope > 5 or local elevation range (LER <sup>(*)</sup> 7 kilometre radius) > 300 metres
Class 6:	Elevation 300–1,000 metres and local elevation range (7 kilometre radius) > 300 metres outside 23N—19S

As a first step and in order to define the baseline, the exercise will initially provide an overview of the current vegetation cover in mountain areas (based on GLC-SHARE 2014), and will include maps and area calculations of the current amount of woody vegetation (trees/shrubs) cover for each country, region and at global level and also by mountain class layer.

In five years’ time, a comparison will be undertaken between GLC-SHARE 2014 and that of 2019 from which a trend will be extrapolated.

This five-year monitoring cycle is subject to the release of the GLC-SHARE data compiled by FAO’s Land and Water Division (NRL); the monitoring and analysis will be under the responsibility of the Forest Conservation and Management Division and in particular of the Mountain Partnership Secretariat.

### **Comment on the reliability, potential coverage, comparability across countries, and the possibility to compute the indicator at sub-national level.**

The index derives most of the information from GLC-SHARE, so their reliability and potential coverage are highly interrelated.

GLC-SHARE (v. 1.0): “The Global Land Cover-SHARE (GLC-SHARE) is a new land cover database at the global level created by FAO’s Land and Water Division in partnership and with

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<sup>37</sup> Local elevation range parameter is obtained with a radius of interest around each grid cell: the maximum and minimum elevations within a particular neighborhood are calculated, as well as their difference. The pixel is classified as mountain area if the LER is > 300 on a 7 km radius.

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contribution from various partners and institutions. It provides a set of eleven major thematic land cover layers resulting from a combination of “best available” high resolution national, regional and/or sub-national land cover databases. The database is produced with a resolution of 30 arc-second<sup>2</sup> (~1sqkm). The GLC-SHARE 2012 Beta-Release 1.0 is published by FAO in 2014. Complete free and open access to the data and metadata products are available at FAO GeoNetwork ([www.fao.org/geonetwork](http://www.fao.org/geonetwork)).”

Thanks to the way GLC-SHARE is structured, the Mountain Green Cover Index has a global coverage and it is possible to compute the indicator at the global, regional, national and sub-national level. In addition, the indicator allows for an analysis across the different mountain elevation classes.

Comparability across countries is technically feasible, but it is not necessarily the most interesting statistics that the index can provide.

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**Target 15.5** Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity, and, by 2020, protect and prevent the extinction of threatened species.

**Suggested Indicator: Red List Index**

From IUCN:

## Definition and method of computation

### Definition

The Red List Index is a multi-purpose indicator which measures the aggregate change in extinction risk across groups of species. It is based on the number of species in each category of extinction risk on The IUCN Red List of Threatened Species. This indicator is expressed as an index ranging from 0 to 1.

### Concepts

Threatened species are those listed on The IUCN Red List of Threatened Species in the categories Vulnerable, Endangered, or Critically Endangered (i.e., species that are facing a high, very high, or extremely high risk of extinction in the wild in the medium-term future). Changes over time in the proportion of species threatened with extinction are largely driven by improvements in knowledge and changing taxonomy. The IUCN Red List Index (RLI) therefore accounts for such changes to yield a more informative indicator than the simple proportion of threatened species. It measures change in aggregate extinction risk across groups of species over time, resulting from genuine improvements or deteriorations in the status of individual species. It can be calculated for any representative set of species that have been assessed for The IUCN Red List of Threatened Species at least twice.

### Method of computation

The IUCN RLI is calculated at a point in time by first multiplying the number of species in each Red List Category by a weight (ranging from 1 for 'Near Threatened' to 5 for 'Extinct' and 'Extinct in the Wild') and summing these values. This is then divided by a maximum threat score which is the total number of species multiplied by the weight assigned to the 'Extinct' category. This final value is subtracted from 1 to give the IUCN RLI value.

Mathematically this calculation is expressed as:

$$RLI_t = 1 - \frac{\sum_s W_{c(t,s)}}{W_{EX} \cdot N}$$

Where  $W_{c(t,s)}$  is the weight for category ( $c$ ) at time ( $t$ ) for species ( $s$ ) (the weight for 'Critically Endangered' = 4, 'Endangered' = 3, 'Vulnerable' = 2, 'Near Threatened' = 1, 'Least Concern' = 0. 'Critically Endangered' species tagged as 'Possibly Extinct' or 'Possibly Extinct in the Wild' are assigned a weight of 5);  $W_{EX}$  = 5, the weight assigned to 'Extinct' or 'Extinct in the Wild' species; and  $N$  is the total number of assessed species, excluding those assessed as



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Data Deficient in the current time period, and those considered to be 'Extinct' in the year the set of species was first assessed.

The formula requires that:

- Exactly the same set of species is included in all time periods, and
- The only Red List Category changes are those resulting from genuine improvement or deterioration in status (i.e., excluding changes resulting from improved knowledge or taxonomic revisions), and
- Data Deficient species be excluded.

In many cases, species lists will change slightly from one assessment to the next (e.g., owing to taxonomic revisions). The conditions can therefore be met by retrospectively adjusting earlier Red List categorizations using current information and taxonomy. This is achieved by assuming that the current Red List Categories for the taxa have applied since the set of species was first assessed for the Red List, unless there is information to the contrary that genuine status changes have occurred. Such information is often contextual (e.g., relating to the known history of habitat loss within the range of the species). If there is insufficient information available for a newly added species, it is not incorporated into the IUCN RLI until it is assessed for a second time, at which point earlier assessments are retrospectively corrected by extrapolating recent trends in population, range, habitat and threats, supported by additional information. To avoid spurious results from biased selection of species, RLIs are typically calculated only for taxonomic groups in which all species worldwide have been assessed for the Red List, or for samples of species that have been systematically or randomly selected.

### Rationale and interpretation

The world's species are impacted by a number of threatening processes, including habitat destruction and degradation, overexploitation, invasive alien species, human disturbance, pollution and climate change. This indicator can be used to assess overall changes in the extinction risk of groups of species as a result of these threats and the extent to which threats are being mitigated.

The IUCN RLI value ranges from 1 (all species are categorized as 'Least Concern') to 0 (all species are categorized as 'Extinct'). An intermediate value indicates how far the set of species has moved overall towards extinction. Thus, the IUCN RLI allows comparisons between sets of species in both their overall level of extinction risk (i.e., how threatened they are on average), and in the rate at which this risk changes over time. A downward trend in the IUCN RLI over time means that the expected rate of future species extinctions is worsening (i.e., the rate of biodiversity loss is increasing). An upward trend means that the expected rate of species extinctions is abating (i.e., the rate of biodiversity loss is decreasing), and a horizontal line means that the expected rate of species extinctions is remaining the same, although in each of these cases it does not mean that biodiversity loss has stopped. An upward IUCN RLI trend would indicate that the SDG Target 15.5 of reducing the degradation of natural habitats and protecting threatened species is on track towards halting the loss of biodiversity and thus preventing the extinction of threatened species by 2020. An IUCN RLI value of 1 would indicate that biodiversity loss has been halted.

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The name “Red List Index” should not be taken to imply that the indicator is produced as a composite indicator of a number of disparate metrics, in the same way that, e.g., the Multidimensional Poverty Index is compiled. Rather, the RLI is an indicator of trends in species’ extinction risk, as measured using the IUCN Red List Categories and Criteria, and is compiled from data on changes over time in the Red List Category for each species, excluding any changes driven by improved knowledge or revised taxonomy.

### Sources and data collection

National agencies producing IUCN RLI data include non-governmental organisations (NGOs), government, and academic institutions working jointly and separately. Data are gathered from published and unpublished sources, species experts, scientists, and conservationists through correspondence, workshops, and electronic fora. Data are submitted by national agencies to IUCN, or are gathered through initiatives of the IUCN Red List Partnership, which includes: BirdLife International; Botanic Gardens Conservation International; Conservation International; Microsoft; NatureServe; Royal Botanic Gardens, Kew; Sapienza University of Rome; Texas A&M University; Wildscreen; and Zoological Society of London.

Most countries of the world have initiated programmes to assess the status of their species using IUCN Red List Categories and Criteria. These countries will be able to implement the IUCN RLI based on national extinction risk, once they have carried out at least two national Red Lists using the IUCN system in a consistent way. An increasing number of countries have now completed national RLIs for a range of taxa.

### Disaggregation

This indicator can be disaggregated by ecosystems, habitats, countries and other political and geographic divisions, taxonomic subsets (e.g., families), suites of species relevant to particular international treaties or legislation, by species that are exposed to particular threatening processes or that deliver particular ecosystem services, or by biological or life-history traits. In each case, information can be obtained from The IUCN Red List of Threatened Species to determine which species are relevant to particular subsets (e.g. which occur in particular ecosystems, habitats, and geographic areas of interest).

Trends for disaggregated RLIs are typically calculated by excluding genuine status changes (Red List category changes) that were driven by processes operating outside the ecosystem/habitat/country.

Disaggregations of particular relevance as indicators towards SDG targets include:

- SDG 2.4 Red List Index (species used for food and medicine); a disaggregation of the IUCN RLI used by the Biodiversity Indicators Partnership as an indicator towards Aichi Target 14 <http://www.bipindicators.net/foodandmedicine>.
- SDG 2.5 Red List Index (wild relatives and local breeds); the assessment of wild relatives and local breeds of domesticated animals and plants would allow the derivation of this indicator as a disaggregation of the IUCN RLI modifying that used by the Biodiversity Indicators Partnership as an indicator towards Aichi Target 13 [www.bipindicators.net/domesticatedanimals](http://www.bipindicators.net/domesticatedanimals).

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- SDG 12.2 Red List Index (impacts of utilisation); a disaggregation of the IUCN RLI used by the Biodiversity Indicators Partnership as an indicator towards Aichi Target 4 [www.bipindicators.net/redlistindexforbirdsmammalsandamphibians](http://www.bipindicators.net/redlistindexforbirdsmammalsandamphibians). This currently indicates trends in extinction risk resulting from biological resource use, derived by excluding all Red List Category changes other than those driven by unsustainable utilisation or from successful efforts to reduce or manage utilisation sustainably.
- SDG 12.4 Red List Index (impacts of pollution); a disaggregation of the IUCN RLI derived by excluding all Red List Category changes other than those driven by the negative impacts of pollution or from successful efforts to reduce these.
- SDG 13.1 Red List Index (impacts of climate change); a disaggregation of the IUCN RLI derived by excluding all Red List Category changes other than those driven by the negative impacts of climate change and severe weather or from successful adaptation interventions.
- SDG 14.1 Red List Index (impacts of pollution on marine species); a disaggregation of the IUCN RLI for marine species, derived by excluding all Red List Category changes other than those driven by the negative impacts of pollution or from successful efforts to reduce these.
- SDG 14.2 Red List Index (marine species); a disaggregation of the IUCN RLI for marine species.
- SDG 14.3 Red List Index (reef-building coral species); a disaggregation of the IUCN RLI for reef-building coral species. As and when comprehensive or sampled Red List assessments have been completed for coral reef fishes, molluscs, or other taxa, these could also be incorporated into this indicator.
- SDG 14.4 Red List Index (impacts of utilisation on marine species); a disaggregation of the IUCN RLI for marine species of the indicator used by the Biodiversity Indicators Partnership as an indicator towards Aichi Target 4 [www.bipindicators.net/redlistindexforbirdsmammalsandamphibians](http://www.bipindicators.net/redlistindexforbirdsmammalsandamphibians), derived by excluding all Red List Category changes other than those driven by unsustainable utilisation or from successful efforts to reduce or manage utilisation sustainably.
- SDG 15.1 Red List Index (terrestrial & freshwater species); a disaggregation of the IUCN RLI for terrestrial & freshwater species.
- SDG 15.2 Red List Index (forest-specialist species); a disaggregation of the IUCN RLI for forest-specialist species.
- SDG 15.4 Red List Index (mountain species); a disaggregation of the IUCN RLI for mountain species.
- SDG 15.7 Red List Index (impacts of utilisation); a disaggregation of the IUCN RLI used by the Biodiversity Indicators Partnership as an indicator towards Aichi Target 4 [www.bipindicators.net/redlistindexforbirdsmammalsandamphibians](http://www.bipindicators.net/redlistindexforbirdsmammalsandamphibians), derived by excluding all Red List Category changes other than those driven by unsustainable utilisation or from successful efforts to reduce or manage utilisation sustainably.
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### Comments and limitations

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(b) Delays in knowledge about a species becoming available for assessment. Such delays apply to a small (and diminishing) proportion of status changes, and can be overcome in the IUCN RLI through back-casting.

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**Goal 15** Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

**Target 15.6** Ensure fair and equitable sharing of the benefits arising from the utilization of genetic resources and promote appropriate access to such resources.

**Suggested Indicator:** Number of countries that have adopted legislative, administrative and policy frameworks for the implementation of the Nagoya Protocol

**NO METADATA RECEIVED**

**Goal 15** Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

**Target 15.7** Take urgent action to end poaching and trafficking of protected species of flora and fauna and address both demand and supply of illegal wildlife products.

**Suggested Indicator 1: Red List Index for species in trade**

From IUCN:

## Definition and method of computation

### Definition

The Red List Index (impacts of utilisation) is an indicator which measures the aggregate change in extinction risk driven by unsustainable utilisation or from successful efforts to reduce or manage utilisation sustainably. It is based on the number of species in each category of extinction risk on The IUCN Red List of Threatened Species. This indicator is expressed as an index ranging from 0 to 1. It is a thematic disaggregation of the Red List Index, a multi-purpose indicator.

### Concepts

Threatened species are those listed on The IUCN Red List of Threatened Species in the categories Vulnerable, Endangered, or Critically Endangered (i.e., species that are facing a high, very high, or extremely high risk of extinction in the wild in the medium-term future). Changes over time in the proportion of species threatened with extinction are largely driven by improvements in knowledge and changing taxonomy. The IUCN Red List Index (RLI) therefore accounts for such changes to yield a more informative indicator than the simple proportion of threatened species. It measures change in aggregate extinction risk across groups of species over time, resulting from genuine improvements or deteriorations in the status of individual species. It can be calculated for any representative set of species that have been assessed for The IUCN Red List of Threatened Species at least twice.

### Method of computation

The IUCN RLI is calculated at a point in time by first multiplying the number of species in each Red List Category by a weight (ranging from 1 for 'Near Threatened' to 5 for 'Extinct' and 'Extinct in the Wild') and summing these values. This is then divided by a maximum threat score which is the total number of species multiplied by the weight assigned to the 'Extinct' category. This final value is subtracted from 1 to give the IUCN RLI value.

Mathematically this calculation is expressed as:

$$RLI_t = 1 - \frac{\sum_s W_{c(t,s)}}{W_{EX} \cdot N}$$

Where  $W_{c(t,s)}$  is the weight for category (c) at time (t) for species (s) (the weight for 'Critically Endangered' = 4, 'Endangered' = 3, 'Vulnerable' = 2, 'Near Threatened' = 1, 'Least Concern' = 0. 'Critically Endangered' species tagged as 'Possibly Extinct' or 'Possibly Extinct in the Wild' are assigned a weight of 5);  $W_{EX} = 5$ , the weight assigned to 'Extinct' or 'Extinct in the

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Wild' species; and  $N$  is the total number of assessed species, excluding those assessed as Data Deficient in the current time period, and those considered to be 'Extinct' in the year the set of species was first assessed.

The formula requires that:

- Exactly the same set of species is included in all time periods, and
- The only Red List Category changes are those resulting from genuine improvement or deterioration in status (i.e., excluding changes resulting from improved knowledge or taxonomic revisions), and
- Data Deficient species be excluded.

In many cases, species lists will change slightly from one assessment to the next (e.g., owing to taxonomic revisions). The conditions can therefore be met by retrospectively adjusting earlier Red List categorizations using current information and taxonomy. This is achieved by assuming that the current Red List Categories for the taxa have applied since the set of species was first assessed for the Red List, unless there is information to the contrary that genuine status changes have occurred. Such information is often contextual (e.g., relating to the known history of habitat loss within the range of the species). If there is insufficient information available for a newly added species, it is not incorporated into the IUCN RLI until it is assessed for a second time, at which point earlier assessments are retrospectively corrected by extrapolating recent trends in population, range, habitat and threats, supported by additional information. To avoid spurious results from biased selection of species, RLIs are typically calculated only for taxonomic groups in which all species worldwide have been assessed for the Red List, or for samples of species that have been systematically or randomly selected.

The Red List Index (impacts of utilisation) is derived by excluding all Red List Category changes other than those driven by unsustainable utilisation or from successful efforts to reduce or manage utilisation sustainably.

### Rationale and interpretation

The world's species are impacted by a number of threatening processes, including habitat destruction and degradation, overexploitation, invasive alien species, human disturbance, pollution and climate change. This indicator can be used to assess overall changes in the extinction risk of groups of species as a result of these threats and the extent to which threats are being mitigated.

The IUCN RLI value ranges from 1 (all species are categorized as 'Least Concern') to 0 (all species are categorized as 'Extinct'). An intermediate value indicates how far the set of species has moved overall towards extinction. Thus, the IUCN RLI allows comparisons between sets of species in both their overall level of extinction risk (i.e., how threatened they are on average), and in the rate at which this risk changes over time. A downward trend in the IUCN RLI over time means that the expected rate of future species extinctions is worsening (i.e., the rate of biodiversity loss is increasing). An upward trend means that the expected rate of species extinctions is abating (i.e., the rate of biodiversity loss is decreasing), and a horizontal line means that the expected rate of species extinctions is remaining the same, although in each of these cases it does not mean that biodiversity loss

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has stopped. An upward IUCN RLI trend would indicate that the SDG Target 15.5 of reducing the degradation of natural habitats and protecting threatened species is on track towards halting the loss of biodiversity and thus preventing the extinction of threatened species by 2020. An IUCN RLI value of 1 would indicate that biodiversity loss has been halted.

The name “Red List Index” should not be taken to imply that the indicator is produced as a composite indicator of a number of disparate metrics, in the same way that, e.g., the Multidimensional Poverty Index is compiled. Rather, the RLI is an indicator of trends in species’ extinction risk, as measured using the IUCN Red List Categories and Criteria, and is compiled from data on changes over time in the Red List Category for each species, excluding any changes driven by improved knowledge or revised taxonomy.

### Sources and data collection

National agencies producing IUCN RLI data include non-governmental organisations (NGOs), government, and academic institutions working jointly and separately. Data are gathered from published and unpublished sources, species experts, scientists, and conservationists through correspondence, workshops, and electronic fora. Data are submitted by national agencies to IUCN, or are gathered through initiatives of the IUCN Red List Partnership, which includes: BirdLife International; Botanic Gardens Conservation International; Conservation International; Microsoft; NatureServe; Royal Botanic Gardens, Kew; Sapienza University of Rome; Texas A&M University; Wildscreen; and Zoological Society of London.

Most countries of the world have initiated programmes to assess the status of their species using IUCN Red List Categories and Criteria. These countries will be able to implement the IUCN RLI based on national extinction risk, once they have carried out at least two national Red Lists using the IUCN system in a consistent way. An increasing number of countries have now completed national RLIs for a range of taxa.

### Disaggregation

The Red List Index is a multi-purpose indicator which, in addition to its proposed role as an indicator towards SDG 15.5 directly can also be disaggregated by ecosystems, habitats, countries and other political and geographic divisions, taxonomic subsets (e.g., families), suites of species relevant to particular international treaties or legislation, by species that are exposed to particular threatening processes or that deliver particular ecosystem services, or by biological or life-history traits. In each case, information can be obtained from The IUCN Red List of Threatened Species to determine which species are relevant to particular subsets (e.g. which occur in particular ecosystems, habitats, and geographic areas of interest).

Trends for disaggregated RLIs are typically calculated by excluding genuine status changes (Red List category changes) that were driven by processes operating outside the ecosystem/habitat/country.

Other disaggregations of particular relevance as indicators towards SDG targets include:

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- SDG 2.4 Red List Index (species used for food and medicine); a disaggregation of the IUCN RLI used by the Biodiversity Indicators Partnership as an indicator towards Aichi Target 14 <http://www.bipindicators.net/foodandmedicine>.
- SDG 2.5 Red List Index (wild relatives and local breeds); the assessment of wild relatives and local breeds of domesticated animals and plants would allow the derivation of this indicator as a disaggregation of the IUCN RLI modifying that used by the Biodiversity Indicators Partnership as an indicator towards Aichi Target 13 [www.bipindicators.net/domesticatedanimals](http://www.bipindicators.net/domesticatedanimals).
- SDG 12.2 Red List Index (impacts of utilisation); a disaggregation of the IUCN RLI used by the Biodiversity Indicators Partnership as an indicator towards Aichi Target 4 [www.bipindicators.net/redlistindexforbirdsmammalsandamphibians](http://www.bipindicators.net/redlistindexforbirdsmammalsandamphibians). This currently indicates trends in extinction risk resulting from biological resource use, derived by excluding all Red List Category changes other than those driven by unsustainable utilisation or from successful efforts to reduce or manage utilisation sustainably.
- SDG 12.4 Red List Index (impacts of pollution); a disaggregation of the IUCN RLI derived by excluding all Red List Category changes other than those driven by the negative impacts of pollution or from successful efforts to reduce these.
- SDG 13.1 Red List Index (impacts of climate change); a disaggregation of the IUCN RLI derived by excluding all Red List Category changes other than those driven by the negative impacts of climate change and severe weather or from successful adaptation interventions.
- SDG 14.1 Red List Index (impacts of pollution on marine species); a disaggregation of the IUCN RLI for marine species, derived by excluding all Red List Category changes other than those driven by the negative impacts of pollution or from successful efforts to reduce these.
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- SDG 14.3 Red List Index (reef-building coral species); a disaggregation of the IUCN RLI for reef-building coral species. As and when comprehensive or sampled Red List assessments have been completed for coral reef fishes, molluscs, or other taxa, these could also be incorporated into this indicator.
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- SDG 15.1 Red List Index (terrestrial & freshwater species); a disaggregation of the IUCN RLI for terrestrial & freshwater species.
- SDG 15.2 Red List Index (forest-specialist species); a disaggregation of the IUCN RLI for forest-specialist species.
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The global IUCN Red List is updated annually. IUCN RLIs for any sets of species that have been comprehensively reassessed in that year are usually released alongside the update of the IUCN Red List. Data stored and managed in the IUCN Red List database (IUCN's Species Information Service, SIS) are made freely available for non-commercial use through the IUCN Red List website.

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### **Suggested Indicator 2: Proportion of detected trade in wildlife and wildlife products that is illegal** **From UNODC:**

#### *Definition and method of computation*

**Definition:** The proportion of detected trade in wildlife and wildlife products that is illegal is defined as the proportion of the total value of CITES-listed wildlife seizures to the total value of CITES wild-sourced export permits issued. The different wildlife products traded and seized are compared and aggregated by applying a value index.

#### **Concepts:**

The indicator is valid for protected species of flora and fauna which are legally traded and included in the Appendices of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).<sup>38</sup> With the exception of wild-sourced Appendix I species, most CITES-listed wildlife can be legally traded in accordance with the Convention.

“Poaching” would be defined as the illegal taking of wildlife for the purposes of international trade. An indicator of the poaching is attempted illegal exports as a share of total exports. The indicator measures the law enforcement effort to combat illegal trafficking of protected species of flora and fauna, with seizures representing law enforcement action. Since trends in seizures are meaningless without some indication of trends in supply and demand, export permits issued (required under CITES) are used as an indicator of legal market supply and demand.

The general content and maximum validity period of an “export permit”, required to export CITES-listed wildlife by every Member State, are provided in Article VI of CITES. In Annex 1 to Resolution Conf. 12.3 (Rev. CoP16) on *Permits and certificates*, the Conference of the Parties to the Convention agreed on the specific information that should be included in an export permit.<sup>39</sup>

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<sup>38</sup> The Species+ web site contains information on all species that are listed in the Appendices of CITES and CMS, as well as other CMS Family listings and species included in the Annexes to the EU Wildlife Trade Regulations: <http://www.speciesplus.net/about>

<sup>39</sup> Annex 1 to Resolution Conf. 12.3 (Rev. CoP16) lists the information to be included in a CITES export permit (and other CITES permits and certificates): 1. The full name and the logo of the Convention, the complete name and address of the Management Authority issuing

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A “seizure” is the act of forcibly taking possession of wildlife or wildlife products by national law enforcement authorities. Seizures occur when law enforcement authorities have suspicion that the wildlife or wildlife product they encounter is obtained or trafficked illegally. Depending on where, when and why national law enforcement authorities seize wildlife and wildlife products, the information about the seized items corresponds more or less to the variables defined by CITES in the export permit. A minimum prerequisite of a seizure report is naming the species (or lowest taxonomic level possible) of the seized specimen. Also the quantity of specimens and the unit of measure are ideally included, as well as the description of the product that is seized.

The weight and number of products seized cannot be used as an indicator of poaching, because it is meaningless to compare or add the different wildlife products. To amalgamate seizures of disparate wildlife products, a value must be placed on them. This is done by UNODC using declared import and export price data for legal and illegal wildlife products provided by Member States. Since data from a limited number of countries are available, these prices do not represent a black market value, but rather provide a basis for comparison between species and products and are used to create a value index.

### Method of computation

$$PIT = \frac{\textit{index value of total seizures}}{\textit{index value of total export permits issued}}$$

### Value Index

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the permit, a control number, the complete names and addresses of the exporter and importer, the date of issue and the date of expiry, the name of the signatory and his handwritten signature, the embossed seal or ink stamp of the Management Authority, a statement that the permit, if it covers live animals, is only valid if the transport conditions comply with the CITES Guidelines for Transport of Live Animals or, in case of air transport, with the IATA Live Animals Regulations, the registration number of the operation, attributed by the Secretariat, when the permit involves specimens of a species included in Appendix I that originate from an operation practising breeding in captivity for commercial purposes (Article VII, paragraph 4, of the Convention), and the name of the operation when it is not the exporter. 2. The scientific name of the species to which the specimen belongs and a description of the specimens including the numbers of the marks appearing on the specimens if they are marked or if a Resolution of the Conference of the Parties prescribes marking. 3. The appendix in which the species or subspecies or population is listed, the source of the specimen and the quantity of specimens and, if appropriate, the unit of measure used. 4. The actual quantity of specimens exported, certified by the stamp or seal and signature of the authority that carried out the inspection at the time of the exportation. A separate permit or certificate shall be required for each consignment of specimens.

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For the purpose of its global wildlife seizures database, UNODC has created a value index. The declared value data provided in the CITES annual reports for the years 2006-2013 were used. Both import and export price data were included in the analysis. Price per taxon per year (2006-2013) was corrected for inflation by using a conversion factor to express prices as estimates of US dollars in 2013.

The median value for each genus/term/unit combination was used as the estimated value of each seizure matching the genus/term/unit combination. Also family/term/unit, class/term/unit and order/term/unit combinations were calculated.

Genus and higher taxonomic levels were used rather than species level so that median prices would be based on a higher number of records, thus providing a more robust price estimate. Furthermore, calculations done at the genus level provided value data for a higher proportion of seizure records.

To estimate the monetary value of the illegal trade in CITES-listed species, the median price value for each taxon/term/unit combination was used for a corresponding individual seizure. Median price values were subsequently calculated for 5000 taxon/term/unit combinations.

### *Rationale and interpretation*

Assume that one year, six lizard-skin wallets are detected crossing a certain border point. That year, three had the proper paper work, and so were legal, and three did not, and so were indicative of poaching. The PIT score would be .50. The next year eight wallets were detected: four wallets were seized and four wallets were legally imported. This indicates that the share of the imports that were illegal has remained constant (PIT score .50), while supply and demand have increased by 25%, indicating a likely increase in poaching and trafficking.

If, on the other hand, only four wallets crossed the border the second year, two legal and two illegal, this indicates that supply and demand have declined by 33% while the share of illegally trafficked products remained the same (PIT .50), indicating a decline in poaching and trafficking.

Or, if the second year six wallets were detected and four of these were seized as illegal (PIT .66), then this would also indicate an increase in poaching and trafficking, as supply and demand had remained constant and the share of illegal products had increased.

### *Sources and data collection*

- 1) The required details on the legal trade in protected wildlife and wildlife products are derived from export permits issued. The records of this legal trade are submitted annually by States Parties to the CITES Secretariat and are maintained in the CITES Trade Database, which is managed by the UNEP-World Conservation Monitoring Centre in Cambridge, United Kingdom, under contract with the CITES Secretariat. All CITES Parties (n=180) are required to submit data annually on the export and import permits they issue – if Parties fail to submit such annual reports for three

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consecutive years, they are potentially subject to a CITES Standing Committee recommendation to suspend all trade in specimens of CITES-listed species, pursuant to Resolution Conf. 11.17 (Rev. CoP16) of the Conference of the Parties..

- 2) Records of seizures of protected wildlife and wildlife products are being collected by the CITES Secretariat and the World Customs Organization. Many of these seizure records have now been included in a global wildlife seizures database developed and managed by the United Nations Office on Drugs and Crime under the International Consortium on Combating Wildlife Crime partnership. Through 2014, CITES Parties have been invited to submit individual seizure data in their biennial reports on implementation of the Convention, or through a special reporting format for 2013, but the format for reporting future seizures is currently under revision. WCO Members are also invited to share seizure data as part of the Customs Enforcement Network, and many of them do so. The global wildlife seizure database developed by UNODC contains over 125,000 seizures at present, and UNODC is continually updating these records through partners.
- 3) Declared values for imported wildlife products are collected by national governments and are maintained in the global wildlife database by UNODC.

### *Disaggregation*

This indicator can be disaggregated by Kingdom/Phylum/Class/Order/Family/Genus/Species. This would be useful if there is an interest to only consider certain groups, for example mammals or birds. Disaggregation by units or products would also be possible.

### *Comments and limitations*

Not all CITES Parties or WCO member countries submit seizure data, and some do not submit comprehensive seizure data. It may be necessary to tailor a sample of countries to compare with the legal export data. The seizure submission process is currently in flux and is presently voluntary - an affirmative mandate to collect these data would be helpful.

Since a single indicator is sought for poaching and trafficking across a wide range of species, this indicator will necessarily encompass a wide range of trends among disparate species. If the indicator is disaggregated for specific species, it cannot be applied if there is no legal commercial trade which is the case for wild-sourced Appendix I species (for example elephants). It is possible to supplement this with direct poaching indicators for some of the best studied species, such as the CITES Monitoring the Illegal Killing of Elephants (MIKE) programme.<sup>40</sup>

### *Gender equality issues*

Male members of several species are more likely to be poached and trafficked.

### *Data for global and regional monitoring*

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<sup>40</sup> For more information please refer to [http://www.cites.org/eng/prog/mike\\_etis.php](http://www.cites.org/eng/prog/mike_etis.php)

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Regional datasets may be more robust. Submission of seizure data within the EU is nearly universal.<sup>41</sup> Prospects exist for recruiting data through regional Wildlife Enforcement Networks, such as ASEAN-WEN.

### *Supplementary information*

UNODC is currently compiling seizure data and comparing it to legal trade data, and will continue to do so.<sup>42</sup>

### *References*

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<sup>41</sup> The EU-TWIX database has been developed to assist national law enforcement agencies, including CITES Management Authorities and prosecutors, in their task of detecting, analyzing, monitoring and addressing illegal activities related to trade in fauna and flora covered by the EU Wildlife Trade Regulations. The main section of the database is designed to become a central source of seizures and offences data reported by all 28 EU Member States. <http://www.eutwix.org/>

<sup>42</sup> UNODC, Assessing the markets and dynamics of the illegal trade in wildlife. Toward a global wildlife crime monitoring mechanism, March 2015

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**Target 15.8** By 2020, introduce measures to prevent the introduction and significantly reduce the impact of invasive alien species on land and water ecosystems and control or eradicate the priority species.

**Suggested Indicator: Adoption of national legislation relevant to the prevention or control of invasive alien species**

**From UNEP:**

**International use of the indicator**

This indicator is utilized by the Convention on Biological Diversity for assessing progress towards Aichi Biodiversity Target 9 of the Strategic Plan for Biodiversity 2011-2020:

*By 2020, invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.*

**Indicator Partner**



**IUCN SSC Invasive Species Specialist Group**



**Monash University**

**Concordia**



**University**



**BirdLife International**

*What is the Adoption of National Legislation Relevant to the Prevention of Control of Invasive Alien Species indicator?*

This indicator measures the management response globally, by tracking invasive alien species legislation for control and prevention at national and international levels. The more countries with Invasive Alien Species (IAS) and Biosecurity related legislation, the greater the global

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commitment to controlling the threat to biodiversity from IAS. The larger the number of IAS-relevant international policies, and the greater the level of national commitment to these, the greater the global commitment to controlling IAS. The more international agreements a country is party to the more strongly committed the country is to controlling IAS.

### Sampling methodology and data selection

Data for this indicator were produced as follows: any national legislation relevant to controlling invasive alien species was identified for each of the 191 Parties to the CBD. Legislation was considered relevant to the prevention of alien species introductions or to control of invasive alien species if it applied to multiple taxonomic groups and was not exclusively intended to protect agriculture. If two separate sets of legislation within a country covered plants and animals, the date of the more recent legislation was used.

### Rationale and interpretation

The projection of the current trend of adoption of national policies on invasive alien species projects a non-significant increase by 2020, with a slowing of the rate of increase in the proportion of countries adopting such legislation. The adoption of national and international policies on invasive alien species may be a first step to combatting the spread of invasive alien species.

### Strengths

- This indicator covers 191 countries worldwide.

### Caveats

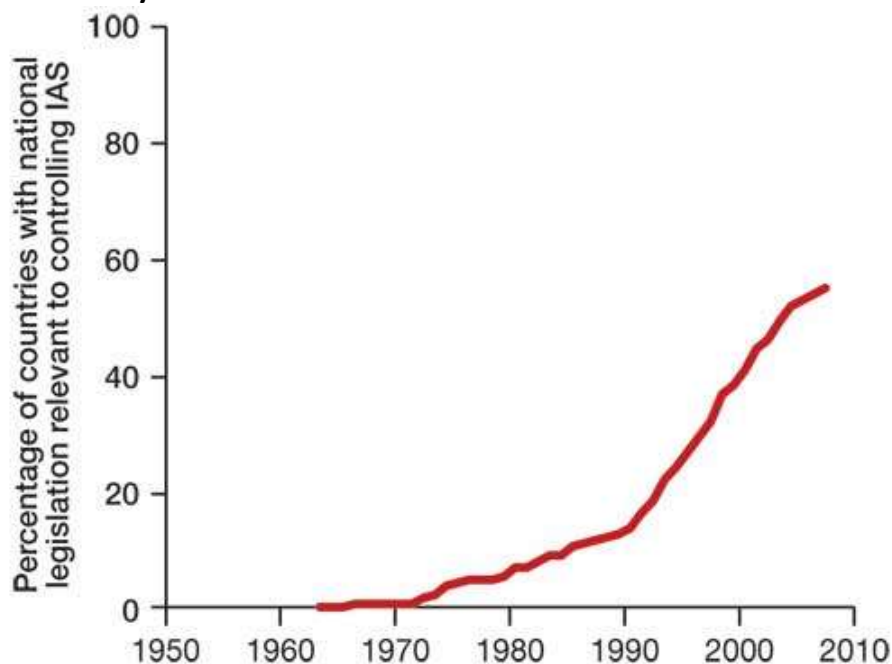
- The adoption of legislation does not necessarily indicate the existence of regulations or policy to implement the legislation or how successful such implementation has been on the ground. There still remains a need for further indicator development to make this link clearer.
- Legislation does not necessarily capture all efforts against invasive alien species that are happening at the national level.

### Current storyline

55% of countries that are Party to the CBD have overarching national legislation to prevent, control and/or limit the spread and impact of invasive alien species.



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### **Adoption of national legislation relevant to the prevention or control of invasive alien species.**

Source: McGeoch *et al.* (2010) Global indicators of alien species invasion: threats, biodiversity impacts and responses. *Diversity and Distributions*, **16**, 95-108.

This indicator measures the adoption of national legislation relevant to the prevention or control of invasive alien species. The global trend in policy response has been positive for the few last decades and, since the publication of GB03, the adoption of policies against invasive alien species has significantly increased.

As reported in 2010, 55% of the countries signatories to the CBD have enacted invasive alien species relevant national legislation, and most CBD parties were signatory to at least one of ten other multilateral agreements that cover IAS in some form. Among these countries 8% are signatory to all 10 international agreements (McGeoch *et al.* 2010). For example, the Council of Europe has been developing and adopting codes of conduct addressing some key pathways (e.g. horticulture, botanic gardens, zoos, hunting, or fishing) of invasive alien species. Moreover, once the European regulation on invasive alien species is fully adopted, it will have major implications for neighbouring countries, but also at a world scale, as the European institution is a major partner for global trade.

[Producing this indicator nationally...](#)

All countries (191 in 2010) party to the Convention on Biological Diversity (CBD) were included in this calculation. Ten multinational environment related agreements were used to quantify trends in the adoption of IAS related policy. National legislation related to the prevention, management and control of IAS was recorded including year of enactment, type of legislation (prevention, management etc.) and the data analysed to calculate the indicator.

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Use at the national level...

As reported in 2010, 55% of the countries signatories to the CBD have enacted invasive alien species relevant national legislation, and most CBD parties were signatory to at least one of ten other multilateral agreements that cover IAS in some form. Among these countries 8% are signatory to all 10 international agreements (McGeoch et al. 2010). For example, the Council of Europe has been developing and adopting codes of conduct addressing some key pathways (e.g. horticulture, botanic gardens, zoos, hunting, or fishing) of invasive alien species. Moreover, once the European regulation on invasive alien species is fully adopted, it will have major implications for neighbouring countries, but also on a global scale, as the European institution is a major partner for global trade.

Future developments...

This indicator was first calculated in 2010 and there has been no update since. Plans are to update this baseline, enhance it and make it available for global, regional and national use.

Further resources

For further information on *Adoption of national legislation relevant to the prevention or control of invasive alien species indicator* visit <http://www.bipindicators.net/iaslegislationadoption>

McGeoch, M.A., Butchart, S.H.M., Spear, D., Marais, E., Kleynhans, E.J., Symes, A., Chanson, J. and Hoffmann, M. Diversity and Distributions 16, 95-108

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**Target 15.9** By 2020, integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts.

**Suggested Indicator:** Number of national development plans and processes integrating biodiversity and ecosystem services values

**NO METADATA RECEIVED**

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**Target 15.a** Mobilize and significantly increase financial resources from all sources to conserve and sustainable use biodiversity and ecosystems.

**Suggested Indicator: Official development assistance in support of the CBD**

**From OECD:**

*Definition and method of computation*

Total [official development assistance](#) (ODA) commitments tagged with the [biodiversity marker](#), which is part of the OECD's [Rio Marker system](#). Data expressed in US dollars at the average annual exchange rate.

*Rationale and interpretation*

ODA is the accepted measure of international development co-operation. In this case it captures development finance in support of biodiversity in developing countries.

Biodiversity-related development finance captures the extent to which biodiversity considerations have been mainstreamed and integrated into international development co-operation. Activities are identified as targeting biodiversity considerations as a “principal” objective, where the activity would not have been funded but for that objective; and as targeting biodiversity considerations as a “significant” objective, reflecting other prime objectives but where activities have been formulated or adjusted to help meet the relevant environmental concerns.

The Rio marker statistics are descriptive rather than strictly quantitative. They allow for an approximate quantification of financial flows targeting the objectives of the Rio conventions. As such, these statistics may not be identical to the figures presented by Parties in their reporting to the CBD, where reporting is often based on, but may not be directly comparable to Rio marker data. In particular different methodologies are applied by parties to account only for a certain share of finance targeting biodiversity marked as a “significant” objective. These shares range across parties from 0-100% and there is no common reporting standard and limited information on parties' interpretations.

*Sources and data collection*

Data are compiled by the Development Assistance Committee (DAC) of the Organisation for Economic Co-operation and Development from returns submitted by its member countries and other aid providers. Data are available [here](#).

*Disaggregation*

The data are generally obtained on an activity level, and include numerous parameters. They can thus be disaggregated by provider and recipient country; by type of finance, and by type of resources provided.

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### *Comments and limitations*

The data only cover official concessional support from donor countries. Marker data are generally more complete at commitment stage than at disbursement stage, but disbursement data are improving.

### *Gender equality issues*

OECD/DAC data also include among others a [“gender equality” marker](#) which identifies individual projects that have a clear gender dimension. The same project can attract more than one marker.

### *Data for global and regional monitoring*

Data are available for essentially all high-income countries, and for an increasing number of middle-income aid providers.

### *Supplementary information*

See [Biodiversity-related development finance](#).

### *References*

OECD, 2015 [Biodiversity: OECD DAC External Development Finance Statistics](#)

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**Target 15.b** Mobilize significant resources from all sources and at all levels to finance sustainable forest management and provide adequate incentives to developing countries to advance such management, including for conservation and reforestation

**Suggested Indicator:** Forestry official development assistance and forestry FDI

**From OECD:**

*Definition and method of computation*

Total [official development assistance](#) (ODA) commitments to the forestry sector ([purpose code](#) 312). Data expressed in US dollars at the average annual exchange rate.

*Rationale and interpretation*

ODA is the accepted measure of international development co-operation. In this case it captures aid in support of forestry projects and programmes in developing countries.

*Sources and data collection*

Data are compiled by the Development Assistance Committee (DAC) of the Organisation for Economic Co-operation and Development from returns submitted by its member countries and other aid providers. Data are available [here](#).

*Disaggregation*

The data are generally obtained on an activity level, and include numerous parameters. They can thus be disaggregated by provider and recipient country; by type of finance, and by type of resources provided.

*Comments and limitations*

The data only cover official concessional support from donor countries.

*Gender equality issues*

OECD/DAC data also include among others a [“gender equality” marker](#) which identifies individual projects that have a clear gender dimension.

*Data for global and regional monitoring*

Data are available for essentially all high-income countries, and for an increasing number of middle-income aid providers.

*Supplementary information*

See [Measuring aid to forestry](#).

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*References*

OECD, 2015 [Aid to the Agriculture, Forestry, Fishing and Rural Development sectors](#)

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**Target 15.c** Enhance global support for efforts to combat poaching and trafficking of protected species, including by increasing the capacity of local communities to pursue sustainable livelihood opportunities.

**Suggested Indicator:** Proportion of detected trade in wildlife and wildlife products that is illegal

**NO METADATA RECEIVED**



**Goal 16 Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels**

**Target 16.1 Significantly reduce all forms of violence and related death rates everywhere.**

**Suggested Indicator 1: Number of victims of intentional homicide by age, sex, mechanism and where possible type of perpetrator, per 100,000 population**

**From UNODC:**

<b>Definition and method of computation</b>	Intentional homicide is defined as the unlawful death inflicted upon a person with the intent to cause death or serious injury (Source: International Classification of Crime for Statistical Purposes, ICCS 2015); the rate is defined as the total count of victims of intentional homicide divided by the total resident population, expressed per 100,000 population.
<b>Rationale and interpretation</b>	<p>This indicator is widely used at national and international level to measure the most extreme form of violent crime and it also provides a direct indication of lack of security. Security from violence is a pre-requisite for individuals to enjoy a safe and active life and for societies and economies to develop freely. Intentional homicides occur in all countries of the world and this indicator has a global applicability. Monitoring intentional homicides is necessary to better assess their causes, drivers and consequences and, in the longer term, to develop effective preventive measures. If data are properly disaggregated (as suggested in the ICCS), the indicator can identify the different type of violence associated with homicide: inter-personal (including partner and family-related violence), crime (including organized crime and other forms of criminal activities) and political (including terrorism, hate crime).</p> <p>The interpretation of this indicator is straightforward also for non-specialised users.</p>
<b>Sources and data collection</b>	<p>Two separate sources exist at country level: a) criminal justice system; b) public health/civil registration. UNODC collects and publishes data from criminal justice systems through its long-lasting annual data collection mandated by the UN General Assembly (UN Crime Trends Survey, UN-CTS); WHO collects and publishes data produced by public health/civil registration.</p> <p>UNODC and WHO are working together to harmonize data and procedures to produce joint UNODC-WHO homicide estimates at country, regional and global level.</p> <p>Considering data collected by both UNODC and WHO, national data on homicide are available for 174 countries (at least one data point between 2009-2013) . Time series data on homicide suitable for monitoring are available for 141 countries (at least 3 data points, the most recent between 2011-2013).</p> <p>When national data on homicide are not available, estimates are produced by WHO.</p>
<b>Disaggregation</b>	Recommended disaggregations for this indicator are:

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	<ul style="list-style-type: none"> <li>• sex and age of the victim and the perpetrator</li> <li>• relationship between victim and perpetrator(intimate partner, other family member, acquaintance, etc.)</li> <li>• means of perpetration (firearm, blunt object, etc.)</li> <li>• situational context/motivation (organized crime, intimate partner violence, etc.)</li> </ul>
<b>Comments and limitations</b>	<p>The ICCS provides important clarifications on the definition of intentional homicide. In particular, it states that the following killings are included in the count of homicide:</p> <ul style="list-style-type: none"> <li>• Murder</li> <li>• Honour killing</li> <li>• Serious assault leading to death</li> <li>• Death as a result of terrorist activities</li> <li>• Dowry-related killings</li> <li>• Femicide</li> <li>• Infanticide</li> <li>• Voluntary manslaughter</li> <li>• Extrajudicial killings</li> <li>• Killings caused by excessive force by law enforcement/state officials</li> </ul> <p>Furthermore, the ICCS provides indications on how to distinguish between intentional homicides, killings directly related to war/conflict and other killings that amount to war crimes.</p> <p>The fact that homicide data are typically produced by two separate and independent sources at national level (criminal justice and public health) represents a specific asset of this indicator, as the comparison of the two sources is a tool to assess accuracy of national data. Usually, for countries where data from both sources exist, a good level of matching between the sources is recorded (<i>see UNODC Global Study on Homicide, 2013</i>).</p> <p>Data on homicides produced by public health authorities are guided by the International classification of diseases (ICD-10), which is very similar to the definition of intentional homicide provided by the ICCS.</p>
<b>Gender equality issues</b>	<p>When data are properly disaggregated, intentional homicide can be used to quantify gender-based killings, a relevant indicator to monitor violence against women. Currently, 68 countries have reported homicide data disaggregated by type of perpetrator to UNODC (at least one data point after 2009).</p>
<b>Data for global and regional monitoring</b>	<p>At international level, data on intentional homicides are routinely collected and disseminated by the United Nations Office on Drugs and Crime (UNODC) and the World Health Organization. UNODC partners with regional organizations in the collection and dissemination of homicide data, respectively with Eurostat in Europe and with the Organisation of American States in the Americas.</p>
<b>Supplementary information</b>	<p>At global level, intentional homicide is the most prevalent type of violent death. In 2012, the ratio between victims of conflict/war and victims of intentional homicide varied between one to five to one to ten (uncertainty due to variability of estimates of deaths related to war/conflict produced respectively by WHO and Uppsala Conflict Data Program).</p> <p>Non-intentional homicide is another crime that can provide information</p>

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	on violence prevalence. Though, it mostly refers to cases of killings due to negligent behaviours rather than to intentional violence. For nine countries where data are available to UNODC, 95% of all non-intentional homicide are due to vehicular homicide, so the concept of non-intentional homicide is not relevant for monitoring the target.
<b>References</b>	UNODC homicide database, Global Study on Homicide 2011; UNODC, Global Study on Homicide 2013; WHO-UNDP-UNODC, Global Status Report on Violence Prevention 2014); UNODC, International Classification of Crime for Statistical Purposes, 2015

### From Goal 16 TST Working Group: Definition and method of computation

This indicator is a composite indicator constructed by collecting two numbers, deaths from intentional homicides and deaths from conflict to measure “peace” with respect to target 1 – “Significantly reduce all forms of violence and related deaths everywhere.” The rates of intentional homicide and conflict-related deaths should be reported separately, as combining them into one single indicator would risk conflating two distinct phenomena with differing root causes as well as varying levels of precision in measurement. Still, they are useful complements to each other as, by construction, they are exclusive and non-overlapping (ie. By design, their conjunction does not double count violent deaths).

**Intentional homicide** is defined as the unlawful death inflicted upon a person with the intent of cause death or serious injury (Source: International Classification of Crime for Statistical Purposes (ICCS), 2015). ICCS recommends that intentional homicides include:

- Murder
- Honour killing
- Serious assault leading to death
- Death as a result of terrorist activities
- Dowry-related killings
- Femicide
- Infanticide
- Voluntary manslaughter
- Extrajudicial killings
- Killings caused by excessive force by law enforcement/state officials

**Conflict-related deaths** refer to those deaths caused by warring parties, including, but not limited to, those caused by traditional battlefield fighting and bombardments (battle-related deaths<sup>43</sup>). The term conflict-related death is broader than the term “battle-related death” as it includes killings that amount to war

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<sup>43</sup> Battle-related deaths are deaths in battle-related conflicts between warring parties in the conflict dyad (two conflict units that are parties to a conflict). Typically, battle-related deaths occur in warfare involving the armed forces of the warring parties. This includes traditional battlefield fighting, guerrilla activities, and all kinds of bombardments of military units, cities, and villages, etc. The targets are usually the military itself and its installations or state institutions and state representatives, but there is often substantial collateral damage in the form of civilians being killed in crossfire, in indiscriminate bombings, etc. All deaths--military as well as civilian--incurred in such situations, are counted as battle-related deaths (Uppsala Conflict Data Program definition).

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crimes, such as targeting of civilians or of military 'hors combat', killings associated with a conflict (but not accompanied by a battle between warring parties) such as one-sided killings, pogroms and genocides. Following the ICCS definition (see homicides at left) death as a result of terrorist activities would be included in intentional homicides. For both intentional homicides and conflict-related deaths, rates are defined as the total count in deaths in a calendar year, respectively, divided by the total resident population for the year, expressed per 100,000 population. The denominator (100,000 population) has been adopted globally by law enforcement as the standard for comparable measurement.

### Rationale and interpretation

As described above, this composite indicator is comprised of two forms of violent deaths. Intentional homicides occur in all countries of the world and have global applicability, while conflict-related deaths occur in countries with ongoing conflicts/wars. Peace is a much broader concept than violent deaths, however, it is difficult to measure many aspects of peace

### Sources and data collection

Sources for both components of the composite indicator vary, largely because intentional homicides are considered in the purview of law enforcement, whereas conflict-related deaths are typically a matter of state.

On **intentional homicide**, two separate sources exist at country level: a) criminal justice system; b) public health/civil registration. UNODC collects and publishes data from criminal justice systems through its annual data collection (UN Crime Trends Survey, UN-CTS); WHO collects

(threats and the fear of violence, insecurity, and other forms of violence, including damages to persons and property). Deaths due to violence are universally and easily understood, are frequently monitored and are comparable with only minor discrepancies in interpretation, largely due to the finality of death.

Monitoring **intentional homicides** is necessary to better assess their causes and consequences and, in the longer term, to develop effective prevention measures. It is based on statistical data routinely produced by law enforcement authorities and/or public health institutions, with a high degree of international comparability.

**Conflict-related deaths** measure the direct impact of conflicts on populations in terms of losses of life. Whilst the global risk of violent death in armed conflict is generally lower than the global risk of death due to homicide, armed conflict can have deeper effects, destroying lives, livelihoods and substantial human costs, particularly in protracted internal conflict situations (see the Global Burden of Armed Violence, 2012, 2015).

and publishes data produced by public health/civil registration.<sup>44</sup>

Homicide data can be produced by two separate and independent sources and this can

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<sup>44</sup> UNODC and WHO are working together to harmonize data and procedures to produce joint UNODC-WHO homicide estimates at country, regional and global level.

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be used to assess accuracy of national data. Usually, for countries where data from both sources exist, a good level of matching between the sources is recorded (see UNODC Global Study on Homicide, 2013).

Considering data collected by both UNODC and WHO, national data on homicide are available for 174 countries (at least one data point after 2009). Time series data on homicide suitable for monitoring are available for 141 countries (at least 3 data points, the most recent for 2011 or later). When national data on homicide are not available, estimates are produced by WHO.

Research projects like the Homicide Monitor (Igarape Institute) and the Global Burden of Armed Violence (Geneva Declaration) collect and report global data on intentional homicides.

In general, no national data sources exist on **conflict-related deaths**, for a number of reasons. Often, normal registration systems are heavily affected by the presence of conflict. Additionally, actors on both sides of a conflict may have incentives for misreporting, deflating or inflating casualties. Estimates of conflict-related deaths, often displaying wide variations, are produced at international level: conflict death databases include the IISS Armed Conflict Database, the Armed Conflict Location and Event Database, the Correlates of War Project, the UCDP Battle-Related Deaths Dataset, and WHO estimates of deaths by cause. Data from these sources, though they may vary on estimates, exist for all major (>1000 battle deaths) and minor (>25 battle deaths per year) conflicts since 1945 (see UCDP). The Global Burden of Armed Violence (Geneva Declaration) compares and collects conflict-related deaths from multiple sources.

Additionally, at the local and regional level, observatories and other civil society initiatives provide data on conflict incidence and deaths. Ushahidi and CEWARN are two examples, though many more exist.

These initiatives can be, *but need not be*, the only way to monitor conflict-related deaths. They have proven working methodologies, that could be adopted by regional, international, multilateral, national or other actors.

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### Disaggregation

On *intentional homicide*, possible disaggregations include:

- sex and age of victim and perpetrator
- relationship between victim and perpetrator (intimate partner, other family member, acquaintance, etc.)
- means of perpetration (firearm, blunt object, etc.)
- situational context/motivation (organized crime, intimate partner violence, etc.)
- by region
- by population group
- by displacement and statelessness status.

On *conflict-related-deaths*, possible disaggregations include:

- sex and age of victim
- population group of victim
- by location
- sex and age of perpetrator (where possible)
- means of death (firearm, explosive device, artillery/heavy weaponry, UAV, etc.)
- civilian versus military status of victim

### Gender equality issues

When properly disaggregated, both forms of violence can be used to quantify gender-based killings (as intentional homicides and as conflict-related deaths), a relevant indicator to monitor violence against women. Currently, 68 countries have reported intentional homicide data disaggregated by type of perpetrator to UNODC (at least one data point after 2009). Both of the composite indicators can inform on targets associated with Global Goal 5.

### Comments, Considerations and limitations

Measuring deaths and their attribution is not easy, but it can be done.<sup>45</sup>

ICCS provides guidance on how to distinguish between intentional homicides, killings directly related to war/conflict and other killings that amount to war crimes. Data on homicides produced by public health authorities are guided by the International classification of diseases (ICD-10), which is very similar to the definition of intentional homicide provided by the ICCS.

Non-intentional homicide is another crime that can provide information on violence prevalence. Though, it mostly refers to cases of killings due to negligent behaviours rather than to intentional violence. For nine countries where data are available, 95% of all non-intentional homicide are due to vehicular homicide.

### Suggested Indicator 2: Conflict-related deaths per 100,000 people (disaggregated by age, sex and cause)

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<sup>45</sup> [http://www.theguardian.com/global-development-professionals-network/2015/sep/08/from-syria-to-sudan-how-do-you-count-the-dead?CMP=share\\_btn\\_fb](http://www.theguardian.com/global-development-professionals-network/2015/sep/08/from-syria-to-sudan-how-do-you-count-the-dead?CMP=share_btn_fb)

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### From TST Goal 16 Working Group and OHCHR:

<b>Indicator 16.1.1</b>	<b>Number of intentional homicide and conflict-related deaths per 100,000 people</b>
<b>Goal and target addressed</b>	Goal 16 Target 16.1
<b>Definition and method of computation</b>	Intentional homicide is defined as the unlawful death inflicted upon a person with the intent of cause death or serious injury (Source: International Classification of Crime for Statistical Purposes, 2015). In a narrow sense, conflict-related deaths refer to those deaths caused by warring parties directly related to combat, such as traditional battlefield fighting and bombardments. In a broader sense, conflict-related deaths also include killings that amount to war crimes, such as targeting of civilians or of military 'hors combat'. The rates are defined as the total count of intentional homicides and conflict-related deaths, respectively, divided by the total resident population, expressed per 100,000 population.
<b>Rationale and interpretation</b>	<p>These indicators refer to two forms of violent deaths (intentional homicide and conflict-related deaths). Intentional homicides occur in all countries of the world and have global applicability, while conflict-related deaths occur in countries afflicted by wars.</p> <p>The rates of intentional homicide and conflict-related deaths should be kept separate, as combining them into one single indicator would risk collating two distinct phenomena and unequal sources of data. In particular, the quality of data on conflict-related deaths is inevitably affected by the difficulties of producing accurate statistics in situations of armed conflict.</p> <p>Monitoring intentional homicides is necessary to better assess their causes and consequences and, in the longer term, to develop effective prevention measures. It is based on statistical data routinely produced by law enforcement authorities and/or public health institutions, with a high degree of international comparability.</p> <p>Conflict-related deaths measure the direct impact of conflicts on populations in terms of losses of life. Whilst the global risk of violent death in armed conflict is generally lower than the global risk of homicidal violence, in affected countries armed conflict destroys lives and exerts substantial human costs, particularly in protracted internal conflict situations.</p>
<b>Sources and data collection</b>	<p>On intentional homicide, two separate sources exist at country level: a) criminal justice system; b) public health/civil registration. UNODC collects and publishes data from criminal justice systems through its annual data collection (UN Crime Trends Survey, UN-CTS); WHO collects and publishes data produced by public health/civil registration. UNODC and WHO are working together to harmonize data and procedures to produce joint UNODC-WHO homicide estimates at country, regional and global level.</p> <p>Considering data collected by both UNODC and WHO, national data on homicide are available for 174 countries (at least one data point after 2009) . Time series data on homicide suitable for monitoring are available for 141 countries (at least 3 data points, the most recent for</p>

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	<p>2011 or later). When national data on homicide are not available, estimates are produced by WHO.</p> <p>In general, no national data sources exist on conflict-related deaths, as normal registration systems are heavily affected by war operations. Estimates of conflict-related deaths, often displaying wide variations, are produced at international level: conflict death databases include the IISS Armed Conflict Database, the UCDP Battle-Related Deaths Dataset, PRIO Battle-Deaths Data and WHO estimates of deaths by cause.</p>
<b>Disaggregation</b>	<p>Recommended disaggregations for this indicator are:</p> <ul style="list-style-type: none"> <li>• By context (intentional homicide and conflict-related deaths)</li> </ul> <p>On intentional homicide, possible disaggregations include:</p> <ul style="list-style-type: none"> <li>• sex and age of victim and perpetrator</li> <li>• relationship between victim and perpetrator (intimate partner, other family member, acquaintance, etc.)</li> <li>• means of perpetration (firearm, blunt object, etc.)</li> <li>• situational context/motivation (organized crime, intimate partner violence, etc.)</li> <li>• by region</li> <li>• by population group</li> <li>• by displacement and statelessness status.</li> </ul> <p>On conflict-related-deaths, possible disaggregations include:</p> <ul style="list-style-type: none"> <li>• sex and age of victim and perpetrator</li> <li>• civilian versus military status of victim</li> </ul>
<b>Comments and limitations</b>	<p>The ICCS provides important clarifications on the exact definition of intentional homicide for statistical purposes. In particular, it states that the following killings need to be included in the count of homicide:</p> <ul style="list-style-type: none"> <li>• Murder</li> <li>• Honour killing</li> <li>• Serious assault leading to death</li> <li>• Death as a result of terrorist activities</li> <li>• Dowry-related killings</li> <li>• Femicide</li> <li>• Infanticide</li> <li>• Voluntary manslaughter</li> </ul>



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	<ul style="list-style-type: none"> <li>• Extrajudicial killings</li> <li>• Killings caused by excessive force by law enforcement/state officials</li> </ul> <p>Furthermore, the ICCS provides indications on how to distinguish between intentional homicides, killings directly related to war/conflict and other killings that amount to war crimes.</p> <p>Homicide data can be produced by two separate and independent sources and this can be used to assess accuracy of national data. Usually, for countries where data from both sources exist, a good level of matching between the sources is recorded (<i>see UNODC Global Study on Homicide, 2013</i>).</p> <p>Data on homicides produced by public health authorities are guided by the International classification of diseases (ICD-10), which is very similar to the definition of intentional homicide provided by the ICCS.</p> <p>Data on conflict-related deaths are characterised by large variability due to uncertainty of estimates.</p>
<b>Gender equality issues</b>	When properly disaggregated, intentional homicide can be used to quantify gender-based killings, a relevant indicator to monitor violence against women. Currently, 68 countries have reported homicide data disaggregated by type of perpetrator to UNODC (at least one data point after 2009).
<b>Data for global and regional monitoring</b>	At international level, data on intentional homicides are routinely collected and disseminated by the United Nations Office on Drugs and Crime (UNODC) and the World Health Organization. Several regional organizations collect and disseminate homicide data, especially in the Americas (OAS and IDB) and in Europe (Eurostat). Conflict death databases, at the international level, include the IISS Armed Conflict Database, the UCDP Battle-Related Deaths Dataset, and PRIO Battle-Deaths Data and WHO estimates of deaths by cause database. National level datasets exist for some countries.
<b>Supplementary information</b>	At global level, intentional homicide is the most prevalent type of violent death. In 2012, the ratio between victims of conflict/war and victims of intentional homicide varied between one to five to one to ten (uncertainty due to variability of estimates of deaths related to war/conflict produced respectively by WHO and Uppsala Conflict Data Program). Non-intentional homicide is another crime that can provide information on violence prevalence. Though, it mostly refers to cases of killings due to negligent behaviours rather than to intentional violence. For nine countries where data are available, 95% of all non-intentional homicide are due to vehicular homicide. As situations of conflict affect a limited number of countries at a given time, the indicator is relevant for certain country contexts.
<b>References</b>	UNODC, Global Study on Homicide 2011; UNODC, Global Study on Homicide 2013; WHO-UNDP-UNODC, Global Status Report on Violence Prevention 2014; Igarape Institute, Homicide Monitor, 2015 ( <a href="http://homicide.igarape.org.br/">http://homicide.igarape.org.br/</a> ); UNODC, International Classification of Crime for Statistical Purposes, 2015

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From United Nations Mine Action Service:

<b>Definition and method of computation</b>	The count of conflict-related deaths caused by mines/ERW should include “individuals killed or injured in incidents involving devices detonated by the presence, proximity, or contact of a person or a vehicle, such as all antipersonnel mines, antivehicle mines, abandoned explosive ordnance (AXO), unexploded ordnance (UXO), and victim-activated IEDs.” <sup>46</sup>
<b>Rationale and interpretation</b>	The presence of mines/ERW in conflict and post-conflict contexts is devastating for people and communities. These hazards cause grievous injury and death, impede peace operations, and hamper post-conflict reconstruction and development efforts. Findings from the M&E Mechanism for the UN Strategy 2013-2018 (UN M&E Mechanism) illustrate the deadly risk posed by mines/ERW in affected countries and territories in which the UN operates; in particular, the disproportionate impact of explosive hazards on the civilians who constitute more than half of the casualties from mines/ERW. The regular monitoring of mine/ERW casualty data through the global mechanism of the Sustainable Development Goals will significantly enhance the capacity of affected countries and territories including Member States, UN entities, and civil society to understand the scope of these threats and effectively mitigate the harms they cause.
<b>Sources and data collection</b>	Many member states affected by mines/ERW have casualty reporting systems in place. The most common, in use in 80% of mine action programmes globally, is the Information Management System for Mine Action (IMSMA). <sup>47</sup>
<b>Disaggregation</b>	Recommended disaggregation for this indicator: <ul style="list-style-type: none"> <li>• Victim sex and age (Man, Woman, Boy, Girl)</li> <li>• Device type (See below)</li> <li>• Victim type (Civilian, Non-civilian, Operator)</li> </ul> <p>Data from the M&amp;E Mechanism for the UN Strategy for Mine Action 2013-2018 indicates that at least 86% of casualty data is available with sex and age disaggregation in participating countries and territories.</p>
<b>Comments and limitations</b>	
<b>Gender equality issues</b>	Findings from the UN M&E Mechanism align with findings from other research demonstrating the disproportionate impact of mins/ERW on boys and men. Boys and men constitute 91% of mine/ERW casualties in countries participating in the M&E Mechanism. This trend is consistent across civilians, non-civilians, and operators; and it is mirrored across age and gender distribution data among beneficiaries of victim assistance services.
<b>Data for global and regional monitoring</b>	The Landmine and Cluster Munitions Monitor provides several research products including annual reports on a variety of indicators related to mines, cluster munitions, and other ERW, including casualty data.
	The UN Interagency Working Group for Mine Action currently tracks casualty data in participating countries and territories as part of the M&E Mechanism for the UN Strategy for Mine Action 2013-2018.
<b>Supplementary</b>	<i>Different types of devices which cause death/injury:</i>

<sup>46</sup> Survey Manual of the M&E Mechanism for the UN Strategy for Mine Action 2013-2018. Definition adapted from the Landmine and Cluster Munition Monitor 2013.

<sup>47</sup> [Geneva International Centre for Humanitarian Demining](#)

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<p><b>information</b></p>	<ul style="list-style-type: none"> <li>• Antipersonnel mines</li> <li>• Antivehicle mines</li> <li>• Abandoned explosive ordnance (AXO)</li> <li>• Unexploded ordnance (UXO)</li> <li>• Victim-activated improvised explosive devices (IEDs).</li> </ul>
<p><b>References</b></p>	<ul style="list-style-type: none"> <li>• The Monitoring &amp; Evaluation Mechanism for the UN Strategy for Mine Action 2013-2018.</li> <li>• <a href="#">The Landmine and Cluster Munitions Monitor</a></li> <li>• <a href="#">Geneva International Centre for Humanitarian Demining</a></li> </ul>

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**Target 16.2** End abuse, exploitations, trafficking and all forms of violence against and torture of children.

**Suggested Indicator 1: Percentage of children aged 1-14 years who experienced any physical punishment by caregivers in the past month**

**From: Goal 16 TST Working Group**

<b>Indicator 16.2.1</b>	<b>Percentage of children aged 1-14 years who experienced any physical punishment by caregivers in the past month</b>
<b>Goal and target addressed</b>	Goal 16 Target 16.2
<b>Definition and method of computation</b>	
<b>Rationale and interpretation</b>	The consequences of violent discipline range from immediate effects to long-term damage that children carry well into adulthood. Moreover, research findings suggest that even mild forms of physical discipline are harmful to children.
<b>Sources and data collection</b>	Household surveys such as MICS that have been collecting data on this indicator in low- and middle-income countries since 2005. The MICS include a standard set of questions covering different disciplinary methods, including nonviolent forms of discipline, psychological aggression and physical means of punishing children.
<b>Disaggregation</b>	This indicator should be disaggregated by age, sex, region and population group.
<b>Comments and limitations</b>	
<b>Gender equality issues</b>	
<b>Data for global and regional monitoring</b>	UNICEF. Fully comparable data are available for some 60 low- and middle-income countries. See UNICEF global database: <a href="http://data.unicef.org/child-protection/violent-discipline">http://data.unicef.org/child-protection/violent-discipline</a>
<b>Supplementary information</b>	
<b>References</b>	<a href="http://data.unicef.org/child-protection/violent-discipline">http://data.unicef.org/child-protection/violent-discipline</a>

**Suggested Indicator 2: Number of detected and non-detected victims of human trafficking per 100,000; by sex, age and form of exploitation**

**From UNODC and OHCHR:**

<b>Definition and method of computation</b>	Trafficking in persons is defined as the recruitment, transportation, transfer, harbouring or receipt of persons, by means of the threat or use of force or other forms of coercion, of abduction, of fraud, of deception, of the abuse of power or of a position of vulnerability or of the giving or receiving of payments or benefits to achieve the consent of a person having control over another person, for the purpose of exploitation. Exploitation shall include, at a minimum, the exploitation of the prostitution of others or other forms of sexual exploitation, forced labour or services, slavery or practices similar to slavery, servitude or the removal of organs (The United Nations Protocol to Prevent Suppress and Punish Trafficking in Persons, especially Women and Children, which is
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	<p>supplementing the United Nations Convention against Transnational Organized Crime).</p> <p>The number of victims is defined as the number of detected and estimated number of non-detected adult women and men and girls and boys (18-) who have been trafficked for different forms of trafficking in persons. The estimated ratio between the number of detected victims and the estimated number of non-detected victims can be used to estimate the total number of human trafficking victims at national, regional and global levels. In addition, the ratio can be used to measure the efficiency of countries to detect trafficking victims.</p>
<b>Rationale and interpretation</b>	<p>Human trafficking for different forms of exploitation represents a major violation of victim's human rights, dignity and inclusion to the society. It has an impact on a person's health and opportunities, it creates economic inequalities and it is a threat to the personal security. The regular production of figures on this indicator will allow the monitoring of the impact of the anti-trafficking measures to the level of trafficking at national, regional and global levels. It also helps to assess the capacity of countries to detect and consequently support victims of trafficking. It will raise awareness on the most prevalent forms of trafficking in persons in different parts of the world.</p>
<b>Sources and data collection</b>	<p>Currently, the available and country specific number of detected victims is collected yearly from the Member States using a specific questionnaire. It is published in the UNODC biennial Global Report on Trafficking in Persons. Data are available for about 130 countries, since 2007. The data is disaggregated for age, sex and forms of exploitation. The estimated number of non-detected victims can be established by applying methodologies developed to measure the estimated number of different hidden populations (e.g. Respondent Driven Sampling and Network Scale-up Method). These methodologies have been tested with different forms of trafficking in persons (see comments below).</p>
<b>Disaggregation</b>	<p>Recommended disaggregation for this indicator is:</p> <ul style="list-style-type: none"> <li>• sex of the victim</li> <li>• age of the victim</li> <li>• form of exploitation</li> </ul>
<b>Comments and limitations</b>	<p>In 2013 and 2014, UNODC has conducted two Expert Group Meetings with the academia on measuring different hidden populations. The work has resulted in a methodology to measure the hidden part of trafficking in persons in order to estimate the number of non-detected victims of trafficking. The methodology has been used in some studies and will be soon tested by UNODC.</p>
<b>Gender equality issues</b>	<p>Trafficking in persons has a negative impact particularly on women. Currently, 70 % of detected victims of trafficking in persons are female: adult women (49%) and girls (21%). The international community stressed this aspect already when they adopted the international instrument to address trafficking which is titled: The UN Protocol to Prevent, Suppress and Punish Trafficking in Persons, especially Women and Children.</p>
<b>Data for global and regional monitoring</b>	<p>UNODC is the only international organization which is regularly collecting and disseminating data on the number of detected victims of human trafficking at the global level. Selected data on specific forms of trafficking in persons are collected and disseminated by ILO, UNICEF and UNHCR. Regional and geographically defined data is collected by IOM and some regional organizations such as EU. The Academia has developed a list of local studies assessing the hidden part of trafficking</p>

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	for specific geographical areas and forms of exploitation.
<b>Supplementary information</b>	The General Assembly in resolution A/RES/64/293 mandated UNODC to report every two years on trafficking in persons flows and patterns, at the national, regional and international levels. As to the results of current data collection, we can see that between 2007 and 2013, there is a slight increase in the number of detected victims per 100,000 population. There should be a continuous monitoring of this trend and it should be combined with the number of non-detected victims to understand the changes in the severity of trafficking in persons.
<b>References</b>	UNODC Global Report on Trafficking in Persons 2009, 2012 and 2014, <a href="http://www.unodc.org/glotip.html">www.unodc.org/glotip.html</a> UNODC, International Classification of Crime for Statistical Purposes, 2015

### From Goal 16 TST Working Group:

<b>Definition and method of computation</b>	This is an outcome indicator derived from administrative data. The indicator is computed as the total number of identified victims of trafficking divided by population (per 100,000 persons). This indicator directly measures exploitation and trafficking, which are inadequately captured by the other proposed indicators. These human rights abuses affect both adults and children, and States have existing obligations to prevent them for both population groups.
<b>Rationale and interpretation</b>	Trafficking in persons is a universal form of modern-day slavery. Trafficked persons are often victims of physical, sexual and psychological violence. The demand for cheap labour and sexual services, coupled with criminal practices that seek to profit from the exploitation of vulnerable people, is its main driver. Addressing this most egregious violation of human rights would significantly contribute to one of the main priorities of post-2015 namely to “leave no one behind” and has its legal basis in the UN Convention on Transnational Organized Crime and the optional protocol on human trafficking.
<b>Sources and data collection</b>	A primary data source will be administrative and judicial records maintained by competent national authorities, which may include police, labour inspectors, health care providers, educational institutions, national human rights institutions and ombudspersons, as well as civil society organizations. Current data sources include the UNODC Global Report on Trafficking in Persons, the U.S. Department of State’s Trafficking in Persons Report; IOM Trafficked Migrants Assistance Database.
<b>Disaggregation</b>	Data for this indicator should be disaggregated by sex, age, population group (ethnicity, minority or indigenous status) and nationality of the victim and, where relevant, perpetrator, by geographic location, and by type of perpetrator (private enterprise, individual, etc.).
<b>Comments and limitations</b>	As it relies upon reports of individual events, this indicator may not be fully reliable. It may underestimate (or sometimes, though more rarely, overestimate) the true number of victims. These human rights abuses are, by their nature, hidden and in most instances, the number of cases reported will depend on awareness of victims of their rights, access to information, motivation and perseverance of civil society organizations and the media.  Data are compiled separately for each human rights abuse and aggregated. In order to reduce the total number of global indicators, this

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	indicator is proposed to monitor targets 5.2 (violence against women), 8.7 (elimination of the worst forms of child labour and forced labour), 16.1 (violence), 16.2 (violence against children) and 16.4 (organised crime). Organized crime often includes significant human rights abuses, including trafficking, slavery, exploitation and forced labour, against both children and adults. Victims of such crimes are among the most invisible in official statistics, so it is vital that these abuses are monitored within the SDG framework to ensure that no one is left behind.
<b>Gender equality issues</b>	
<b>Data for global and regional monitoring</b>	At the international level, the ILO compiles data on trafficking, slavery, exploitation and forced labour. Data on trafficked persons is published by UNODC in its biennial Global Report on Trafficking in Persons, and in the IOM Human Trafficking Database.
<b>Supplementary information</b>	
<b>References</b>	

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**Target 16.3** Promote the rule of law at the national and international levels and ensure equal access to justice for all

**Suggested Indicator 1: Percentage of victims of violence in the previous 12 months who reported their victimization to competent authorities or other officially recognized conflict resolution mechanisms (also called crime reporting rate)**

**From UNODC and OHCHR:**

<b>Definition and method of computation</b>	Number of victims of violent crime (physical or sexual assault) in the previous 12 months who reported their last incident to competent authorities or other officially recognized conflict resolution mechanisms, as a percentage of all victims of crime in the previous 12 months. Competent authorities includes police, prosecutors or other authorities with competencies to investigate certain crimes (such as corruption or fraud), while ‘other officially recognised conflict resolution mechanisms’ may include a variety of institutions with a role in the informal justice or dispute resolution (e.g. tribal or religious leaders, village elders, community leaders), provided their role is officially recognised by state authorities.
<b>Rationale and interpretation</b>	Reporting to competent authorities is the first step for crime victims to seek justice: if competent authorities are not alerted they are not in a condition to conduct proper investigations and administer justice. However, lack of trust and confidence in the ability of the police or other authorities to provide effective redress, or objective and subjective difficulties in accessing them, can influence negatively the reporting behaviour of crime victims. As such, reporting rates provide a direct measure of the confidence of victims of crime in the ability of the police or other authorities to provide assistance and bring perpetrators to justice. Reporting rates provide also a measure of the ‘dark figure’ of crime, that is the proportion of crimes not reported to the police. Trends in reporting rates of violent crime can be used to monitor public trust and confidence in competent authorities on the basis of actual behaviours and not perceptions.
<b>Sources and data collection</b>	Victimisation surveys provide direct information on this indicator, as they collect information on the experience of violent crime and on whether the victim has reported it to competent authorities. According to a recent review conducted by UNODC-INEGI Centre of Excellence on crime statistics, 72 countries have implemented at least one national victimisation after 2009 (in 43 of these countries the victimisation survey has been conducted by the national statistical office or another public institution/ministry). In addition, 9 African countries have already implemented or are in the process of implementing a victimisation survey module as part of the Strategy for Harmonisation of Statistics for Africa (SHaSA).
<b>Disaggregation</b>	Recommended disaggregations for this indicator are: <ul style="list-style-type: none"> <li>• sex</li> <li>• type of crime</li> <li>• ethnicity</li> <li>• migration background</li> <li>• citizenship</li> </ul>
<b>Comments and limitations</b>	The target relates to the multidimensional concepts of rule of law and access to justice and at least two indicators are required to cover the main



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	elements of access to justice and efficiency of the justice system. The proposed indicator 16.3.1 covers the aspect of access to justice although it doesn't cover civil or administrative disputes. The indicator as formulated is a standard indicator widely published when a victimization survey is undertaken, but further work could be conducted to test the feasibility to expand the indicator to cover administrative disputes.
<b>Gender equality issues</b>	Independently of the level of violent victimization of women, it provides information on whether there are gender disparities on the attitude to freely and safely report their victimization experiences. For example, female victims of domestic violence are more reluctant to report to authorities their experience for different reasons, including fear of consequences and lack of trust in authorities. An increasing level of reporting indicates that measures have been successful to raise awareness that violent behaviours are unacceptable and/or reporting channels for victims of violent crime have improved and/or trust towards authorities has increased; moreover, higher reporting means that criminal justice institutions are in a better position to enforce the law and ensure justice.
<b>Data for global and regional monitoring</b>	UNODC collects data on crime reporting rates through the long-standing annual data collection mandated by the UN General Assembly UN-CTS. The UN-CTS has established a network of focal points (presently covering 125 countries and territories). Data on crime reporting rates are currently available for approximately 35 countries..
<b>Supplementary information</b>	Reporting rates of crimes are known to vary widely by type of crime: they are usually higher in relation to property crimes as victims seek to re-obtain stolen goods or for insurance purposes.
<b>References</b>	In 2010 UNODC-UNECE published a Manual on Victimization Surveys, that provides technical guidance on the implementation of such surveys, on the basis of good practices developed at country level. UNODC, International Classification of Crime for Statistical Purposes, 2015

### Suggested Indicator 2: Unsentenced detainees as percentage of overall prison population

#### From UNODC and Goal 16 TST Working Group:

<b>Definition and method of computation</b>	The total number of persons held in detention who have not yet been sentenced, as a percentage of the total number of persons held in detention, on a specified date. 'Sentenced' refers to persons subject to criminal proceedings who have received a decision from a competent authority regarding their conviction or acquittal. For the purposes of the indicator, persons who have received a 'non-final' decision (such as where a conviction is subject to appeal) are considered to be 'sentenced'.
<b>Rationale and interpretation</b>	The indicator signifies overall respect for the principle that persons awaiting trial shall not be detained in custody. This, in turn, is premised on aspects of the right to be presumed innocent until proven guilty. From a development perspective, extensive use of pre-sentence detention when not necessary for reasons such as the prevention of absconding, the protection of victims or witnesses, or the prevention of the commission of further offences, can divert criminal justice system resources, and exert financial and unemployment burdens on the accused and his or her

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	family. Measuring the relative extent to which pre-sentence detention is used can provide the evidence to assist countries in lowering such burdens and ensuring its proportionate use.
<b>Sources and data collection</b>	UNODC collects data on prisons through its annual data collection (UN-CTS). Data on unsentenced and total detainees from the UN-CTS are available for 114 countries. The country coverage can improve if other sources (research institutions and NGOs) are included (data for additional 70 countries are available, bringing the total to 184 countries).
<b>Disaggregation</b>	Recommended disaggregation for this indicator are: <ul style="list-style-type: none"> <li>• age and sex</li> <li>• length of pre-trial (unsentenced) detention</li> </ul>
<b>Comments and limitations</b>	The target relates to the multidimensional concepts of rule of law and access to justice and at least two indicators are required to cover the main elements of access to justice and efficiency of the justice system. The proposed indicator 16.3.2 covers the efficiency of the justice system.
<b>Gender equality issues</b>	These data can be disaggregated by sex and indicate whether different levels of unsentenced detention exist for men and women
<b>Data for global and regional monitoring</b>	At international level, data on the number of persons held in unsentenced detention are available from the long-standing United Nations Survey of Crime Trends and Operations of Criminal Justice Systems mandated by the UN General Assembly (UN-CTS). At regional level, data are available from a number of collection initiatives including Council of Europe Annual Penal Statistics (SPACE) and OAS Observatory on Citizen Security Data Repository.
<b>Supplementary information</b>	The indicator is most commonly measured using data from administrative records. National decisions that need to be taken when collecting data for the indicator include the definition of ‘detention’, as well as the day of the year on which the data is collected. Data from all individual places of detention (which may be managed by different government authorities) must be aggregated and used for overall calculation of the indicator.
<b>References</b>	Definitions and other metadata are provided in the UN-Crime Trends Survey (UN-CTS) Guidance on collection of information on detained persons, as well as example data collection sheets, are provided in the United Nations Manual for the Development of a System of Criminal Justice Statistics, as well as (for children), in the UNODC/UNICEF Manual for the Measurement of Juvenile Justice Indicators.

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**Target 16.4** By 2030, significantly reduce illicit financial and arms flows, strengthen the recovery and return of stolen assets and combat all forms of organized crime.

**Suggested Indicator 1: Total value of inward and outward illicit financial flows (in current US\$).**

**From Goal 16 TST Working Group and OHCHR:**

<b>Indicator 16.4.1</b>	<b>Total value of inward and outward illicit financial flows (in current US\$)</b>
<b>Goal and target addressed</b>	Goal 16 Target 16.4
<b>Definition and method of computation</b>	<p>Illicit financial flows (IFFs) are commonly defined as the transferred monies that is earned, transferred or utilized through illicit means, into or out of a country. They include legally earned value, money and monetized instruments that are transferred illicitly or value, money and monetized instruments that are acquired through illegal activities, such as the proceeds of crimes, including corruption and tax evasion. They can also capture tax avoidance and trade misinvoicing.</p> <p>Although the UN Economic Commission for Africa, UNDP, Global Financial Integrity and others have produced global country-by-country estimates for illicit financial flows, more work on methodologies would be required.</p> <p>Overview of the main methods of estimating illicit financial flows (adapted from the Mbeki Report of the High-level Panel on Illicit Financial Flows from Africa (<a href="http://www.uneca.org/iff">http://www.uneca.org/iff</a>)): In terms of the methodologies used to estimate IFFs, several empirical models have been used to estimate both the magnitude of IFFs and their economic implications for developing countries. These models and the analytic methods underlying them deserve further scrutiny. In particular, four methods have dominated the empirical literature: the Hot Money Method, the Dooley Method, the World Bank Residual Method and the IMF Direction of Trade Statistics (DOTS)–based Trade Mispricing Method. The latter two remain the most widely used. The Hot Money Method records IFFs through net errors and omissions in payment balances. The Dooley Method relies on the privately held foreign assets reported in the balance of payments that do not generate investment income. The World Bank Residual Method estimates IFFs as the difference between the source of funds (external debt and foreign direct investment) and the use of funds (current account deficit and reserves). The Trade Mispricing Model assesses IFFs by looking for disparities arising from overinvoicing of imports and underinvoicing of exports after adjusting for ordinary price differences. In this model, imports are generally recorded after adjusting for the cost of insurance and freight, while exports are usually valued free-on-board. To provide the most thorough estimates of IFFs, Global Financial Integrity has combined the World Bank Residual Method and the Trade Mispricing Model in its computations. ECA has used the Trade Mispricing Model (see Mbeki report).</p>

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	<p>An Overview of the Analytical Methodologies Utilized by Global Financial Integrity to Study Illicit Financial Flows (adapted from their website: <a href="http://www.gfintegrity.org/issues/illicit-financial-flows-analytical-methodologies-utilized-global-financial-integrity/">http://www.gfintegrity.org/issues/illicit-financial-flows-analytical-methodologies-utilized-global-financial-integrity/</a>):</p> <p>Global Financial Integrity (GFI) estimates that nearly US\$1 trillion of unrecorded money flows out of developing countries annually. There are three forms of unrecorded money moving across borders:</p> <ul style="list-style-type: none"> <li>• Corrupt: Proceeds of bribery and theft by government officials.</li> <li>• Criminal: Proceeds of drug trading, human trafficking, counterfeiting, contraband, and myriad forms of additional activities.</li> <li>• Commercial: Proceeds arising from import and export transactions conducted so as to manipulate customs duties, VAT taxes, income taxes, excise taxes, or other sources of government revenues.</li> </ul> <p>In analyzing IFFs, GFI utilizes sources of data and analytical methodologies that have been used by international institutions, governments, and economists for decades. Basically, these data sources and methodologies are providing information on gaps—gaps in balance of payments data and gaps in trade data. Where recorded sources and uses of funds in balance of payments data do not match, the difference is net errors and omissions, indicating an inflow or outflow that was not recorded. Where bilateral trade data does not match (after adjusting for freight and insurance in the data of the importing country) this indicates re-invoicing of transactions between export from one country and import into another country.</p> <p>Some reviewers of GFI’s data sources and analytical methodologies have raised questions, which GFI is pleased to address as follows:</p> <ul style="list-style-type: none"> <li>• GFI well recognizes that statistics can be flawed, due to errors in collection, recording, or conveying. Precisely the same point can be made about virtually every other economic analysis ever undertaken. GFI uses the best data available, data that has been collected, reported, and recorded by governments for decades according to international guidelines issued by the IMF.</li> <li>• The reliability and accuracy of trade statistics of developing countries are regularly assessed through the IMF’s Data Quality Assessment Framework under the Data component of the Reports on Standards and Codes. These ratings show that for all assessed developing countries (about 72) the quality is “very high” or “high”.</li> <li>• GFI does not suggest that every single unrecorded transaction is illicit; however, the vast majority of unrecorded transactions are illicit.</li> <li>• GFI does not use net illicit outflows and illicit inflows. In countries where unrecorded outflows and unrecorded inflows roughly balance, it would be a mistake to consider that such a country has no problem with unrecorded flows. There is no such</li> </ul>
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	concept as “net crime.” Indeed, in GFI’s view, illicit outflows and illicit inflows should be added, since both sides of the equation generally produce harm.
<b>Rationale and interpretation</b>	The indicator measures an important aspect of target 16.4. The indicator also covers other aspects of this target, such as revenues emanating from illicit arms sales and organized crime.
<b>Sources and data collection</b>	<p>GFI undertakes macroeconomic analyses of IFFs and detailed analyses of trade misinvoicing by commodity groups. GFI consistently use the following:</p> <p>IMF:</p> <ol style="list-style-type: none"> <li>1. Balance of payments data, contributing to the analysis of net errors and omissions.</li> <li>2. Direction of Trade Statistics (DOTS), enabling analyses of discrepancies in trade between pairs of reporting countries.</li> </ol> <p>For other economic and trade analyses, GFI draws from a selection of sources including the following:</p> <ul style="list-style-type: none"> <li>• World Bank: Providing data on debt, contributing to the analysis of broad capital flight.</li> <li>• UN COMTRADE: Providing data on bilateral trade in commodity groups.</li> <li>• US Dept. of Commerce: Providing data on trade transactions by Harmonized System coding categories.</li> <li>• European Statistics: Providing data on trade transactions by Harmonized System coding categories.</li> </ul> <p>GFI believes that the estimates arising from these data sources and analytical methodologies are very conservative, for several reasons:</p> <ul style="list-style-type: none"> <li>• DOTS data records trade in merchandise only. It does not include trade in intangibles, services, licenses, royalties, etc., now estimated to comprise more than 25 percent of all global trade.</li> <li>• DOTS data reveals only transactions that have been re-invoiced between export and import. It does not reveal transactions where price manipulations have been included in the same invoice exchanged between exporters and importers.</li> </ul> <p>None of the data sources adequately reveal cash transactions across borders, particularly those used in criminal pursuits.</p> <p><a href="http://www.gfintegrity.org/issues/data-by-country/">http://www.gfintegrity.org/issues/data-by-country/</a></p>
<b>Disaggregation</b>	Data could be disaggregated, depending on the methodology, to IFFs resulting from trade misinvoicing and other means of transfers.
<b>Comments and limitations</b>	
<b>Gender equality issues</b>	N/A
<b>Data for global and regional monitoring</b>	Data is estimate country-by-country and can be aggregated to regional and global levels.
<b>Supplementary</b>	

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<b>information</b>	
<b>References</b>	Global Financial Integrity ( <a href="http://www.gfintegrity.org/issues/data-by-country/">http://www.gfintegrity.org/issues/data-by-country/</a> ) Mbeki Report of the High-level Panel on Illicit Financial Flows from Africa ( <a href="http://www.uneca.org/iff">http://www.uneca.org/iff</a> )

From UNODC:

<b>Definition and method of computation</b>	There is no single, agreed definition of illicit financial flows (IFF), but essentially these are financial flows generated by methods, practices and crimes aiming to transfer financial capital in contravention of national or international laws. When analyzing IFF the following components are generally included: proceeds of crime, proceeds of corruption (national or international corruption), money laundering (including from proceeds of crime), tax evasion, theft of state assets, and market and regulatory abuses.
<b>Rationale and interpretation</b>	IFF have a negative impact on society in many respects, including governance, economic growth and human security. The illicit economy generated by IFF can exacerbate conflict for resources, pose impediments to sustainable economic growth and promote human right abuses. For instance, illicit markets are characterized by greater violence and though violence occurs more commonly in connection with illegal than with legal economic activity.
<b>Sources and data collection</b>	A global repository of IFF data is not currently available. Some national or global estimates for the volume of illicit financial flows may exist, such as those compiled by the NGO Global Financial Integrity, but these are quite controversial. To establish a global indicator of illicit financial flows, methodologies would have to be further refined and a common definition agreed upon.
<b>Disaggregation</b>	The indicator can have a higher political relevance if it is disaggregated by the broad components which source IFF: <ul style="list-style-type: none"> <li>• Organized crime activities</li> <li>• Corruption</li> <li>• Tax evasion</li> <li>• Other criminal or administrative offences</li> </ul>

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**Suggested Indicator 2: Percentage of seized and collected firearms that are recorded and traced, in accordance with international standards and legal instruments**

**From UNODC:**

<p><b>Definition and method of computation</b></p>	<p>Illicit trafficking in firearms is defined by the UN Firearms Protocol as <i>“the import, export, acquisition, sale, delivery, movement or transfer of firearms, their parts components and ammunitions, from or across the territory of one state (party) to that of another state, if any of the states (party) concerned does not authorise it in accordance with the terms of the Firearms protocol, or if the firearms are not marked in accordance with art. 8 of the Protocol”</i> (Source: Art. 3 (e) FP).</p> <p>Tracing is defined in the Firearms Protocol as <i>“the systematic tracking of firearms (parts, components and ammunition) from manufacturer to purchaser for the purpose of assisting the competent authorities of States Parties in detecting, investigating and analysing illicit manufacturing and illicit trafficking”</i> (Source: Art. 3 (f) FP).</p> <p>The number of seized, confiscated and collected firearms are counted as total numbers and can also be expressed as rate by 100,000 population (the rate is defined as the total count of seized, confiscated, found, or collected firearms divided by the total resident population, expressed per 100,000 population).</p> <p>The number of traced firearms is expressed as total numbers and as percentage of all seized, confiscated, found or collected firearms</p>
<p><b>Rationale and interpretation</b></p>	<p>Because the manufacturing and transfer of firearms, their parts and component and ammunition is subject to legal authorization, their seizure information can provide useful insight on possible deviation or trafficking of these goods. Firearms seizures data appear to be the best currently available measure of transnational firearms trafficking, when combined with other relevant information. Seizure may be necessary in order to prevent firearms from being trafficked elsewhere.</p> <p>Firearms tracing is the means through which national authorities can discover the origin of firearms, used in illicit activities or suspected to have been illicitly trafficked from abroad or stolen. Tracing valued as a source of evidence for prosecution of trafficking and other offenses, and a source of information for analysis and combating the routes used by firearms traffickers. Tracing allows authorities to track down the firearms back through all stages and transfers, from manufacturing until the moment the firearm was diverted into the illicit circuit.</p> <p>Tracing of firearms requires countries to properly identify and record the firearms and to maintain comprehensive and up to date records through registries of all arms held in State or in civilian hands. Tracing is conducted at national level, by checking the firearms identifying data against national registries, as well as internationally, through international cooperation, directly or facilitated by organizations such as Interpol, Europol etc.. The increased number of tracing requests and responses is an indicator of the increased level of information exchange, confidence and cooperation among States.</p>
<p><b>Sources and data collection</b></p>	<p>Sources for seized and collected firearms at the national level are the police and customs/border authorities. UNODC was mandated by the</p>

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	<p>Conference of the Parties to the United Nations Convention Against Transnational Organized Crime (COP-UNTOC) <i>to conduct a study on the transnational nature of and routes used in trafficking in firearms, based on the analysis of information provided by States on confiscated weapons and ammunition.</i>”</p> <p>UNODC has collected data on firearms seizures and additional information on firearms trafficking through two sets of questionnaires – total annual seizures and significant individual seizure data – from 2010 – 2013.</p> <p>In 2014 UNODC also received a mandate to continue in the data collection on seizures made by Member States.</p>
<b>Disaggregation</b>	<p>Recommended disaggregation for this indicator are:</p> <ul style="list-style-type: none"> <li>• Total annual firearms seizures</li> <li>• Types of seized firearms</li> <li>• Quantities of traced firearms</li> <li>• Countries involved in the tracing of firearms</li> <li>• Offences associated with traced firearms</li> <li>• Types of firearms prohibited or restricted to civilian use (legal regime of the traced firearms)</li> </ul>
<b>Comments and limitations</b>	
<b>Gender equality issues</b>	<p>When data are properly disaggregated, information related to seized firearms and their context can be used to quantify gender-based information on the persons involved in the illicit activities leading to the seizure and confiscation of firearms, in particular their illicit traffic.</p>
<b>Data for global and regional monitoring</b>	<p>Data are currently being collected through 2 different questionnaires: the Annual Seizure Questionnaire and the Significant Seizure Questionnaire. Through the help of the Permanent Missions, UNODC establish a network of national focal points responsible for collecting and collating quantitative and qualitative information on seizures from relevant authorities at the national level. The first data collection was conducted in 2010.</p>
<b>Supplementary information</b>	<p>Firearms are also widely acknowledged as playing a crucial role in the commission of serious crimes, including homicides. Their illicit trafficking is thought to be closely linked to organized crime and terrorist groups that benefit from their availability and from the profit that their illicit trade generate.</p>
<b>References</b>	<p>UNODC Firearms Study2015</p>



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**Target 16.5** Substantially reduce corruption and bribery in all their forms.

**Suggested Indicator 1: Percentage of persons who had at least one contact with a public official, who paid a bribe to a public official, or were asked for a bribe by these public officials, during the last 12 months. Disaggregate by age, sex, region and population group.**

**From UNODC, OHCHR and Goal 16 TST Working Group:**

<b>Definition and method of computation</b>	Percentage of persons who paid at least one bribe (gave a public official money, a gift or counter favour) or were asked for a bribe by these public officials, to a public official in the last 12 months, as a percentage of persons who had at least one contact with a public official in the same period. Bribery is the undue advantage (money, gift or a service) requested/offered by/to a public official in exchange for a special treatment. Administrative bribery is often intended as the type of bribery affecting citizens or businesses in their dealings with public administrations and/or civil servants: this form of bribery affects most countries of the world and can be measured through sample surveys that focus on the experience of bribery.
<b>Rationale and interpretation</b>	Corruption is an antonym of equal accessibility to public services and of correct functioning of the economy; as such, it has a negative impact on fair distribution of resources and development opportunities. Besides, corruption erodes public trust in authorities and the rule of law; when administrative bribery becomes a recurrent experience of large sectors of the population and businesses, its negative effects have an enduring negative impact on democratic processes and justice. By providing a direct measure of the experience of bribery, this indicator provides an objective metrics of corruption, a yardstick to monitor progress in the fight against corruption.
<b>Sources and data collection</b>	Household corruption surveys and victimisation surveys with module on bribery. The first large scale victimisation surveys were implemented in the 1970s and the programme of International Crime Victimization Surveys (ICVS, 6 waves between 1989 and 2010) contributed to disseminate this instrument worldwide. According to a recent review conducted by UNODC-INEGI Centre of Excellence on crime statistics, 72 countries have implemented at least one national victimisation survey after 2009 (in 43 of these countries the victimisation survey has been conducted by national statistical office or another public institution/ministry). In addition, 9 African countries have already implemented or are in the process of implementing a victimisation survey module as part of the Strategy for Harmonisation of Statistics for Africa (SHaSA). UNODC collects prevalence data on bribery from surveys (since 2009) through the annual data collection UN-CTS.
<b>Disaggregation</b>	Recommended disaggregation for this indicator are: <ul style="list-style-type: none"> <li>• age and sex</li> <li>• type of official</li> </ul>
<b>Comments and limitations</b>	This indicator provides solid information on the experience of bribery, typically occurring in the interaction between businesses and the public sector in the context of basic service delivery/transactions, while it does

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	not cover other forms of corruption, such as 'grand corruption', trading in influence or abuse of power.
<b>Gender equality issues</b>	Disaggregation of data by sex of both bribe-payers and public officials is important to assess different behaviours and vulnerability to bribery by sex.
<b>Data for global and regional monitoring</b>	<p>Various programmes and initiatives have produced data on the experience of corruption by the population. Programme of surveys on the experience of corruption have been supported by international organizations, including by UNODC, the World Bank and UNDP. Surveys on corruption experience are also implemented by NGOs and the private sector: for example, the 'Global Corruption Barometer' is published annually by Transparency International and it includes survey data on the experience of bribery for a large set of countries.</p> <p>At national level, surveys on the experience of corruption are conducted by an increasing number of countries, sometimes as part of the regular production by official statistics. Data on bribery can also be collected as part of general victimization surveys.</p>
<b>Supplementary information</b>	
<b>References</b>	<p>Documentation of corruption surveys (analytical reports and methodological information) is available on the UNODC website. Methodological documentation to develop and implement surveys on corruption can also be found in the UNODC-UNECE Manual on Victimization surveys.</p> <p>UNODC, International Classification of Crime for Statistical Purposes, 2015</p>

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**Target 16.6** Develop effective, accountable and transparent institutions at all levels.

**Suggested Indicator 1: Primary government expenditures as a percentage of original approved budget**

**From Goal 16 TST Working Group:**

<b>Indicator 16.6.1</b>	<b>Primary government expenditures as a percentage of original approved budget</b>
<b>Goal and target addressed</b>	Goal 16 Target 16.6
<b>Definition and method of computation</b>	This indicator can be based on Indicator PI-2 of the Public Expenditure and Financial Accountability (PEFA) dataset: composition of expenditure outturn compared to original approved budget, considers (i) the variation between approved budget and final expenditure for the year for each major function (comparable to a sector) (ii) variation in expenditure from the original budget by economic classification and (iii) the average amount charged to the contingency reserve over the last 3 years.
<b>Rationale and interpretation</b>	PEFA is the Public Expenditure and Financial Accountability programme started in 2001 to develop a country-led agenda on public financial management reform, ie. a government-led reform programme for which analytical work, reform design, implementation and monitoring reflect country priorities and are integrated into governments' institutional structures. PEFA Indicator PI-2 on the composition of expenditure outturn compared to original approved budget works at the administrative level to calculate variance for the main budgetary heads (votes) of ministries, departments and agencies, which are included in the approved budget.
<b>Sources and data collection</b>	Data for 149 countries (collected on 398+ occasions) available at <a href="http://www.pefa.org">www.pefa.org</a> .
<b>Disaggregation</b>	This indicator can be disaggregated by different sectoral expenditures (for each major function and by economic classification).
<b>Comments and limitations</b>	
<b>Gender equality issues</b>	
<b>Data for global and regional monitoring</b>	Data for 149 countries (collected on 398+ occasions) available at <a href="http://www.pefa.org">www.pefa.org</a> .
<b>Supplementary information</b>	
<b>References</b>	<a href="https://www.pefa.org/en/content/methodological-guidance-and-practical-tools">https://www.pefa.org/en/content/methodological-guidance-and-practical-tools</a>

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**Suggested Indicator 2: Percentage of recommendations to strengthen national anti-corruption frameworks (institutional and legislative) implemented, as identified through the UNCAC Implementation Review Mechanism.**

**From UNODC:**

<p><b>Definition and method of computation</b></p>	<p>By measuring the level of implementation of the recommendations stemming from the United Nations Convention against Corruption (UNCAC) Implementation Review , this indicator provides an objective metrics of government actions fighting against corruption by strengthening their institutional and legislative resilience to corruption, and aligning them to the internationally agreed upon criteria as outlined in UNCAC. This implementation rate thereby becomes an individual, country-owned yardstick to monitor progress towards enhancing their resilience to corruption and their fight against it.</p>
<p><b>Rationale and interpretation</b></p>	<p>Corruption is an antonym of equal accessibility to public services and of correct functioning of the economy; as such, it has a negative impact on fair distribution of resources and development opportunities. Besides, corruption erodes public trust in authorities and the rule of law; when administrative bribery becomes a recurrent experience of large sectors of the population and businesses, its negative effects have an enduring negative effect on democratic processes and justice.</p> <p>The United Nations Convention Against Corruption (UNCAC) is the only globally accepted framework for action by States in relation to the issue of corruption remain. At 175 States parties, and an even larger number of signatories, countries unable to proceed with the ratification remain blocked due to the necessary national legislative amendments required prior to doing so. There is therefore strong reasons to believe 180 State Parties will be reached within the next couple of years, as even those few countries that have not yet ratified the Convention are mostly in the process of doing so and have on multiple occasions expressed their support to the objectives of the Convention.</p> <p>The UNCAC’s Mechanism for Implementation Review is the only globally applicable and accepted anti-corruption tool. The Mechanism reviews each State Party’s normative and qualitative implementation by comparing the viability of the legislative framework with the reporting, investigation, prosecution and conviction statistics provided by the country’s national authorities. The information submitted is reviewed by experts from two other States Parties and the UNCAC Secretariat (UNODC) for gaps and weaknesses based on their expertise as well as international standards. Ways to enhance and strengthen the current framework and additional measures to address weaknesses and gaps are identified and agreed upon and made public in a United Nations document, called an Executive summary:  <a href="http://www.unodc.org/unodc/en/treaties/CAC/country-profile/index.html">http://www.unodc.org/unodc/en/treaties/CAC/country-profile/index.html</a>          To date, with well over 90 reviews finalised and another 30 in advanced stages, every single State party reviewed has received recommendations on how to strengthen their anti-corruption framework.</p>
<p><b>Sources and data collection</b></p>	<p>States Parties’ self-reported measures to implement the recommendations.</p>
<p><b>Disaggregation</b></p>	<p>Recommended disaggregation for this indicator are:</p> <ul style="list-style-type: none"> <li>• institutional recommendations</li> </ul>

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	<ul style="list-style-type: none"> <li>• legislative recommendations</li> <li>• recommendations related to enhanced collection/generation of statistics on the implementation of UNCAC</li> </ul>
<b>Comments and limitations</b>	The major advantage of this proposed indicator is that the system for data collection is largely in place (States parties shall submit information on progress achieved through each new review cycle), and more importantly it would be a system which has been vetted and agreed to by all the 175+ States parties. The challenge here would consist in determining what would be a reasonable target. Moreover, recommendations may differ as concerns the complexity of implementation.
<b>Gender equality issues</b>	
<b>Data for global and regional monitoring</b>	Data readily available through the already funded and existing Implementation Review Mechanism. Data can easily be aggregated at the regional and global level and is already being done through the Secretariat's analysis presented twice a year to the Implementation Review Group. <a href="http://www.unodc.org/unodc/en/treaties/CAC/IRG-sessions.html">http://www.unodc.org/unodc/en/treaties/CAC/IRG-sessions.html</a>
<b>Supplementary information</b>	A noteworthy reference to the importance of this indicator can be found in the Rio+20 declaration, para 266 "We are determined to take urgent and decisive steps to continue to combat corruption in all its manifestations, which requires strong institutions at all levels, and <b>urge all States that have not yet done so to consider ratifying or acceding to the United Nations Convention against Corruption and begin its implementation.</b> "
<b>References</b>	

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**Target 16.7** Ensure responsive, inclusive, participatory and representative decision-making at all levels

**Suggested Indicator 1: Proportions of positions (by age, sex, disability and population groups) in public institutions (national and local legislatures, public service, and judiciary) compared to national distributions.**

**From Goal 16 TST Working Group:**

<b>Indicator 16.7.1</b>	<b>Proportions of positions (by sex, disability and population groups) in public institutions (national and local legislatures, public service, and judiciary) compared to national distributions</b>
<b>Goal and target addressed</b>	Goal 16 Target 16.7.
<b>Definition and method of computation</b>	This indicator focuses on the representativeness aspect of the target, but the presence of diversity also conduces to inclusivity and responsiveness of decision-making.  The indicator is calculated as the number of public service positions held by members of the target group divided by the total number of such positions.
<b>Rationale and interpretation</b>	In order that decision-making be responsive, inclusive, participatory and representative, it is important to ensure diversity in representation at all levels of State institutions (central, regional and local).  Article 25(c) ICCPR provides that citizens should have access, on general terms of equality, to public service in their country. General Comment 25 of the Human Rights Committee elaborates that access to public service should be based on equal opportunity and general principles of merit, and further states that the provision of secured tenure would ensure that persons holding public service positions are free from political interference or pressures.  Article 7(c) of the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) stipulates that States should take all appropriate measures to eliminate discrimination against women in the political and public life of the country and, in particular, ensure to women, on equal terms with men, the right to participate in the formulation of government policy and the implementation thereof and to hold public office and perform all public functions at all levels of government.
<b>Sources and data collection</b>	The primary data source is administrative and employment records at national level in accordance with the obligations arising from ICCPR and CEDAW.
<b>Disaggregation</b>	Disaggregation by sex and disability are most immediately feasible and region of origin could be specified. Population group would be defined at the country level, and could include ethnic or religious groups, indigenous populations, etc. One particular disaggregation compares with Goal 5.5, namely local government by sex. [Comparison to national distributions may require affirmative action in some settings to ensure that certain populations are effectively included.]  Data for this indicator should also be disaggregated by State institution

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	(executive, parliament, government department, judiciary, police, etc.), level of position (senior management, middle management, professional, entry level, support staff) and type of contract (short-term, temporary, permanent).
<b>Comments and limitations</b>	<p>Fairer representation of all population groups in public service positions at all levels renders decision-making by public bodies more legitimate and more responsive to the concerns of the whole population.</p> <p>While the indicator, particularly disaggregated by seniority and contract type, provides a good indication of progress to overcome historical or ongoing discrimination, it cannot detect tokenism where official job titles mask a lack of influence in practice, or other forms of discrimination within the public service that may affect the ability of members of target populations to influence decision-making. Perception surveys or discrimination testing could supplement this indicator to detect such issues.</p> <p>In order to reduce the total number of global indicators, this indicator is proposed to monitor targets 5.5 (women’s full and effective participation), 10.2 (political inclusion), and 16.7 (responsive, inclusive, participatory and representative decision-making).</p>
<b>Gender equality issues</b>	The indicator is highly gender –relevant, disaggregation should be possible by sex within more sophisticated systems and so the indicator may capture gender differences as they are reflected in the comparative experience of men and women in representation. The indicator is also relevant for Goal 5.
<b>Data for global and regional monitoring</b>	At the international level, the ILO compiles data on female share of employment by occupation, by level of position, and by private/public sector. UN Women and the Inter-Parliamentary Union compile statistical information about women parliamentarians, women members of cabinet and other relevant information.
<b>Supplementary information</b>	
<b>References</b>	

**From OHCHR:**

Goal and target addressed	This indicator is proposed to monitor the following targets: 5.5 (women’s full and effective participation) 10.2 (political inclusion) 16.7 (responsive, inclusive, participatory and representative decision-making)
Definition and method of computation	Target groups should be identified at national level in an inclusive, participatory process, with the direct involvement of marginalised and minority groups themselves. The Committee on the Elimination of Racial Discrimination (CERD) has made clear that identification as a member of a particular ethnic group “shall, if no justification exists to the contrary, be based upon self-identification by the individual concerned.” This principle also applies to other population groups. Target groups may include persons with disabilities, ethnic groups, LGBTI persons, indigenous peoples, religious minorities,

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	<p>linguistic minorities, youth, older persons, or other groups under-represented in the national context.</p> <p>The indicator is calculated as the number of public service positions held by members of the target group divided by the total number of such positions.</p>
Rationale and interpretation	<p>In order that decision-making be responsive, inclusive, participatory and representative, it is important to ensure diversity in representation at all levels of State institutions (central, regional and local).</p> <p>Article 25(c) ICCPR provides that citizens should have access, on general terms of equality, to public service in their country. General Comment 25 of the Human Rights Committee elaborates that access to public service should be based on equal opportunity and general principles of merit, and further states that the provision of secured tenure would ensure that persons holding public service positions are free from political interference or pressures.</p> <p>Article 7(c) of the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) stipulates that States should take all appropriate measures to eliminate discrimination against women in the political and public life of the country and, in particular, ensure to women, on equal terms with men, the right to participate in the formulation of government policy and the implementation thereof and to hold public office and perform all public functions at all levels of government.</p> <p>In cases where a group is very under-represented or has experienced historical discrimination, temporary special measures including minimum quotas on representation may be introduced to redress such discrimination. In some circumstances, such as linguistic minorities, ensuring access to public services for the group may require over-representation of that group in public service posts.</p>
Sources and data collection	<p>The primary data source is administrative and employment records at national level.</p>
Disaggregation	<p>Data for this indicator should be disaggregated by State institution (executive, parliament, government department, judiciary, police, etc.), level of position (senior management, middle management, professional, entry level, support staff) and type of contract (short-term, temporary, permanent).</p> <p>The indicator should be calculated for women and for each target group. Target groups should be defined at the national level, but could include ethnic groups, older persons, persons with disabilities, religious groups, minorities or indigenous peoples, LGBTI persons, etc.</p>



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Comments and limitations	<p>Fairer representation of all population groups in public service positions at all levels renders decision-making by public bodies more legitimate and more responsive to the concerns of the whole population.</p> <p>While the indicator, particularly disaggregated by seniority and contract type, provides a good indication of progress to overcome historical or ongoing discrimination, it cannot detect tokenism where official job titles mask a lack of influence in practice, or other forms of discrimination within the public service that may affect the ability of members of target populations to influence decision-making. Perception surveys or discrimination testing could supplement this indicator to detect such issues.</p>
Gender equality issues	The indicator specifically considers representation of women. Data on each target group should also be disaggregated by sex to ensure that multiple grounds of discrimination can be detected.
Data for global and regional monitoring	At the international level, the ILO compiles data on female share of employment by occupation, by level of position, and by private/public sector. UN Women and the Inter-Parliamentary Union compile statistical information about women parliamentarians, women members of cabinet and other relevant information.
Supplementary information	
References	<p>ILO statistics database:  <a href="http://www.ilo.org/global/statistics-and-databases/lang--en/index.htm">http://www.ilo.org/global/statistics-and-databases/lang--en/index.htm</a>            UN Women data on women in government positions :  <a href="http://www.unwomen.org/en/what-we-do/leadership-and-political-participation/facts-and-figures">http://www.unwomen.org/en/what-we-do/leadership-and-political-participation/facts-and-figures</a>            Inter-Parliamentary Union data on women in parliament:  <a href="http://www.ipu.org/wmn-e/world.htm">http://www.ipu.org/wmn-e/world.htm</a></p>

**Suggested Indicator 2: Proportion of countries that address young people's multisectoral needs with their national development plans and poverty reduction strategies**

**NO METADATA RECEIVED**

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**Target 16.8** Broaden and strengthen the participation of developing countries in the institutions of global governance.

**Suggested Indicator: Percentage of members or voting rights of developing countries in international organizations.**

**From Goal 16 TST Working Group**

<b>Indicator 16.8.1</b>	<b>Percentage of members or voting rights of developing countries in international organizations</b>
<b>Goal and target addressed</b>	Goal 16 Target 16.8
<b>Definition and method of computation</b>	<p>Representation and participation of developing countries in international organizations, including international financial institutions, is often below their relative weight in the world. This indicator would measure the representativeness of developing countries in international organizations. This indicator would be easily measurable by way of data collected by international organizations.</p> <p>The indicator would require a list of international organizations that would be included in the calculation. The indicator could be calculated by taking the simple average of the international organizations on the list. The phrase “global governance” in the target would suggest that the list of international organizations should be limited to organizations with a global mandate, which could, for example, include the governing bodies of all agencies, funds and programmes of the UN system (including and the IMF and the World Bank), but also the Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO), International Atomic Energy Agency (IAEA), Organisation for the Prohibition of Chemical Weapons (OPCW) and the World Trade Organization (WTO).</p> <p>This is a global indicator, not a national indicator. National Statistical Offices need not be involved. The rating CBB from the survey is, therefore, odd, especially the C rating because the data on membership and voting rights is readily available, for example, from the IMF and the World Bank.</p> <p>This indicator also relates to:</p> <ul style="list-style-type: none"> <li>• Target 10.6 (which focuses on global international economic and financial institutions).</li> <li>• Target 16.3 (rule of law at international level).</li> </ul> <p>Target 16.7 (which focuses on inclusive, participatory and representative decision-making at all elvels)</p>
<b>Rationale and interpretation</b>	<p>Representation and participation of developing countries in international organizations, including international financial institutions, is often below their relative weight in the world. This indicator would measure the representativeness of developing countries in international organizations.</p> <p>An adjustment could be made to compare the percentage of members or voting rights of developing countries in IFIs to their share in global</p>

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	population (e.g. for governing bodies of UN funds and programmes) or GDP (e.g. for the IMF and World Bank). This would allow compensation for the fact that the indicator should not increase until reaching 100%.
<b>Sources and data collection</b>	Administrative data of international organizations.
<b>Disaggregation</b>	Can be disaggregated by international organization
<b>Comments and limitations</b>	
<b>Gender equality issues</b>	N/A
<b>Data for global and regional monitoring</b>	This is a global indicator, not a regional or national indicator.
<b>Supplementary information</b>	
<b>References</b>	

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**Target 16.9** By 2030, provide legal identity for all, including birth registration.

**Suggested Indicator: Percentage of children under 5 whose births have been registered with civil authority**

#### **From UNICEF:**

##### **Definition and method of computation**

This indicator provides the proportion of children under the age of five whose births are reported as being registered with the relevant national civil authorities. It is calculated by dividing the number of children under the age of five whose births are reported as being registered with the relevant national civil authorities by the total number of children under the age of five in the population.

##### **Rationale and interpretation**

Registering children at birth is the first step in securing their recognition before the law, safeguarding their rights, and ensuring that any violation of these rights does not go unnoticed.

Children without official identification documents may be denied health care or education. Later in life, the lack of such documentation can mean that a child may enter into marriage or the labour market, or be conscripted into the armed forces, before the legal age. In adulthood, birth certificates may be required to obtain social assistance or a job in the formal sector, to buy or prove the right to inherit property, to vote and to obtain a passport.

##### **Sources and data collection**

Censuses, vital registration systems and household surveys such as UNICEF-supported MICS and DHS.

##### **Disaggregation**

Data are available by sex, age, place of residence, wealth quintiles and other background characteristics.

##### **Comments and limitations**

The number of children who have acquired their right to a legal identity is collected mainly through censuses, civil registration systems and household surveys. Civil registration systems that are functioning effectively compile vital statistics that are used to compare the estimated total number of births in a country with the absolute number of registered births during a given period. However, the systematic recording of births in many countries remains a serious challenge. In the absence of reliable administrative data, household surveys have become a key source of data to monitor levels and trends in birth registration. In most low- and middle-income countries, such surveys represent the sole source of this information.

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### Gender equality issues

As this indicator is disaggregated by sex, it is well-suited for analysis of gender equality issues.

### Data for global and regional monitoring

UNICEF has estimates for the percentage of children under the age of five whose births are reported as being registered with the relevant national civil authorities, disaggregated by age, sex, place of residence and wealth quintile for the world as a whole and by (flexible) regional groupings. The global and regional estimates are based on available data from 162 countries.

### Supplementary information and references

*UNICEF website on birth registration data:*

<http://data.unicef.org/child-protection/birth-registration.html>

### Responsible entities

UNICEF

### From Goal 16 TST Working Group:

<b>Indicator 16.9.1</b>	<b>Percentage of children under 5 whose births have been registered with civil authority</b>
<b>Goal and target addressed</b>	Goal 16 Target 16.9
<b>Definition and method of computation</b>	The indicator is calculated as the number of children whose births have been registered with a civil authority divided by the total number of children.
<b>Rationale and interpretation</b>	Article 7 of the Convention on the Rights of the Child (CRC) provides that all children should be registered immediately after birth and have the right from birth to a name and the right to acquire a nationality. Article 8 CRC further provides that, where a child is illegally deprived of some or all of the elements of his or her identity, States Parties shall provide appropriate assistance and protection, with a view to re-establishing speedily his or her identity. This indicator is therefore measured for all children, defined as persons under the age of 18. Where births are not registered, children may be unable to obtain a birth certificate, which can result in denial of access to public services including education, health and social services, despite the human rights obligations of States to provide these without discrimination. Lack of registration may also result in early marriage or early entry to the labour market, before the child has reached the minimum legal age. Registering children at birth is the first step in securing their recognition before the law, safeguarding their rights, and ensuring that any violation of these rights does not go unnoticed.
<b>Sources and data collection</b>	Data for this indicator are currently collected at the international level by UNICEF through the Multiple Indicator Cluster Survey (MICS), as well as through Demographic and Health Surveys (DHS) and national civil registry systems. Data are currently available mainly for children under 5.

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<b>Disaggregation</b>	The indicator should be disaggregated by sex of the child and age at the time of registration geographic location, .
<b>Comments and limitations</b>	<p>While this indicator measures, and current data availability is concentrated on, children under 5 whose birth have been registered, there is emerging consensus that the collection should allow for disaggregation to identify birth registration of children under 1 as well as overall rates of registration for under 5.</p> <p>Data availability is limited for children over the age of 5, but measuring this indicator for all children is an important element of measuring progress in increasing birth registration, as well as ensuring that older children are not left behind.</p> <p>In order to reduce the total number of global indicators, this indicator is proposed to monitor targets 4.1, 4.2 (universal access to education), and 16.9 (legal identity for all).</p>
<b>Gender equality issues</b>	
<b>Data for global and regional monitoring</b>	<p>UNICEF maintains a global database on the issue since 2003. Comparable data are available for more than 160 countries.</p> <p><a href="http://data.unicef.org/child-protection/birth-registration">http://data.unicef.org/child-protection/birth-registration</a></p>
<b>Supplementary information</b>	<a href="http://data.unicef.org/child-protection/birth-registration">http://data.unicef.org/child-protection/birth-registration</a>
<b>References</b>	<a href="http://data.unicef.org/child-protection/birth-registration">http://data.unicef.org/child-protection/birth-registration</a>

### From UNFPA:

**Definition:** Percentage of births that are registered within a certain period of time after birth (one month, one year, five years of age) in a civil registration and vital statistics system or from household surveys.

**Numerator:** Number of births registered within a given period of time after birth (a month, a year, 0-4 years) in a given calendar year.

**Denominator:** Total number of births in a given calendaryear.

**Disaggregation:** as agreed by the Sustainable development Agenda and indicators but including at least, place of residence (U/R), sex of the child, mothers education, household wealth.

**Method of measurement:** data should be available and could be obtained from civil registration and vital statistics systems. Civil registration administrative data could be linked to estimates of the expected number of newborns. In countries with deficient CRVS systems, data is collected via household surveys (DHS and MICS). Questions are asked about registration status of children born in the five years preceding the data of the survey. The numerator of this indicator includes children whose birth certificate was seen by the interviewer or whose mother or care-taker says the birth has been registered. Data are also often presented for other age groups such as infants or children under 5 years of age.

**Method of estimation:** currently UNICEF produces and publish estimates of birth registration for children under five using both CRVS and household surveys data. Alternative data sources to be considered are the United Nations Demographic Yearbook and the World Population Prospects produced by UNPD-DESA.

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A new methodology and set of procedures need to be put in place to produce the desired estimate of birth registration for under one year of age (see justifications below).

Measurement frequency: Annual

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**Target 16.10** Ensure public access to information and protect fundamental freedoms, in accordance with national legislation and international agreements.

**Suggested Indicator: Number of verified cases of killing, kidnapping, enforced disappearance, arbitrary detention and torture of journalists, associated media personnel, trade unionists and human rights advocates in the previous 12 months**

From OHCHR:

<b>Number of verified cases of killing, enforced disappearance, arbitrary detention, assault and torture of journalists, trade unionists or human rights defenders</b>	
<b>Goal and target addressed</b>	This indicator is proposed to monitor the following targets: 5.2 (violence against women) 16.1 (violence and deaths) 16.3 (rule of law) 16.6 (accountable institutions) 16.10 (protection of fundamental freedoms).
<b>Definition and method of computation</b>	<p>For this indicator, killing includes intentional homicide and other arbitrary deprivation of life, as formulated in Article 6(1) ICCPR. Enforced disappearance is defined as the arrest, detention, abduction or any other form of deprivation of liberty, followed by a refusal to acknowledge the deprivation of liberty or by concealment of the fate or whereabouts of the disappeared person, which place such a person outside the protection of the law (International Convention for the Protection of All Persons from Enforced Disappearance, adapted to account for disappearances perpetrated by non-State actors). Arbitrary detention is detention without due process and safeguards, as outlined in Article 9(1) ICCPR. Torture means any act by which severe pain or suffering, whether physical or mental, is intentionally inflicted on a person for such purposes as obtaining from him or a third person information or a confession, punishing him for an act he or a third person has committed or is suspected of having committed, or intimidating or coercing him or a third person, or for any reason based on discrimination of any kind, when such pain or suffering is inflicted by or at the instigation of or with the consent or acquiescence of a public official or other person acting in an official capacity (Convention against Torture). Assault means physical attack against the body of another person resulting in serious bodily injury.</p> <p><i>Human rights defenders</i> is a term used to describe people who, individually or with others, act to promote or protect human rights. Human rights defenders are identified above all by what they do and it is through a description of their actions and of some of the contexts in which they work that the term can best be explained. The definition of human rights defenders may include journalists and trade unionists, but each individual case is counted only once. Other examples may include a student campaigning to end</p>



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	<p>torture in prisons, a politician who takes a stand against endemic corruption or witnesses in court cases on human rights abuses.</p> <p>Journalists cover ‘journalists, media workers and social media producers who generate a significant amount of public-interest journalism.’ This could include a wide range of actors, including professional full-time reporters and analysts, foreign correspondents and local journalists, as well as bloggers and other social media producers who engage in forms of self-publication in print, on the Internet or elsewhere, journalists from ‘traditional media’ and those who work across multiple media.</p> <p>The term “trade unionist” refers to an individual employed or accredited by a trade union, and other elected representatives of workers, including workers in the informal sector.</p> <p>The indicator is calculated as the total number of reported cases of killing, disappearance, arbitrary detention, assault and torture of journalists, trade unionists or human rights defenders during the reporting period which are verified by an independent entity (in this case OHCHR and UNESCO).</p>
<p><b>Rationale and interpretation</b></p>	<p>Data on human rights violations committed against journalist, trade unionists and human rights defenders is required to know if fundamental freedoms, including the right to freedom of opinion and expression, which includes the right to receive information, and the right to freedom of peaceful assembly and of association are protected in accordance with international law. The State is obliged to respect the human rights of all persons under its jurisdiction, in that it must refrain from infringement on rights, as well as an obligation to protect individuals against acts of third parties. The indicator therefore measures all such cases, but where the killing, disappearance, detention, assault or torture is perpetrated by an agent of the State or any other person acting under government authority or with its complicity, tolerance or acquiescence, or where the State fails to adequately investigate, punish or redress an offence committed by a third party, this will constitute a violation of human rights.</p> <p>Killing, disappearance, arbitrary detention, assault and torture of journalists, trade unionists or human rights defenders may have a chilling effect on freedom of expression and other fundamental freedoms. In order to have a full picture of the extent of protection of fundamental freedoms, it is advisable to also have a basket of indicators at national level including on access to information, other aspects of the rights to freedom of opinion and expression and freedom of assembly and association, notably the right to communicate with international human rights mechanisms, and other types of human rights violations often committed against journalists, trade unionists and human rights defenders, which may include intimidation, harassment, prosecution, defamation, and restricting mobility.</p>
<p><b>Sources and data collection</b></p>	<p>This indicator collates data from multiple sources, including National Human Rights Institutions, national non-governmental organisations, associations of journalists, trades unions, ILO, and international non-governmental organisations including, for example Reporters without Borders, Article 19, and the Human Rights Observatory. Regional</p>

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	<p>human rights Commissions, Courts and organisations also receive reports of such violations.</p> <p>Information on the number of such violations committed against human rights defenders will be compiled annually by OHCHR from these data sources and further data collected through individual complaints to human rights treaty bodies, and Special Procedures of the Human Rights Council, including the Special Rapporteurs on human rights defenders, on freedom of opinion and expression, torture, the Working Group on Enforced or Involuntary Disappearances, and the Working Group on Arbitrary Detention. Additional data from OHCHR field offices and UN Country Teams will also be included. These data will be verified, cross-checked to ensure no duplication, and compiled in line with the agreed international definitions outlined above.</p> <p>Information on the number of journalists killed are compiled annually by UNESCO from data collected through multi-sourced research, including press reports, information from monitoring groups, direct reports, and information from UNESCO field offices and other UN bodies. Reports of killings compiled by UNESCO are then transmitted for clarification on the status of judicial investigation to Member States and categorized into the following: 1) no information received so far; 2) on-going; 3) resolved; 4) killed in cross-fire; and 5) others. This information can be found at the annual report by the UNESCO Director-General on <i>'The Safety of Journalists and the Danger of Impunity'</i>.</p> <p>UNESCO and OHCHR will serve as the lead agencies that will compile and validate data from these multiple sources. These agencies will develop a methodology of adjusting data taking into account data quality issues and to ensure the comparability of different data sources.</p>
<b>Disaggregation</b>	<p>The data on the indicator is disaggregated by type of violation, profession/area of work, ethnicity, sex, age, income, geographic location, disability, religion, migratory or displacement status, minority or indigenous status, sexual orientation and gender identity of the victim, and relevant characteristics of the perpetrator, where known (public official, private individual, agent of another entity, sex, age). The indicator could also distinguish on the basis of political opinion of the victim where this has been expressed.</p>
<b>Comments and limitations</b>	<p>Estimates of the number of violations are particularly sensitive to the completeness of reporting of individual events. Such data may underestimate (or sometimes, though more rarely, overestimate) the true number of cases. In most instances, the number of cases reported will depend on the access to information, motivation and perseverance of civil society organizations and the media.</p>
<b>Gender equality issues</b>	<p>Women human rights defenders have faced all the types of violations included in this indicator. However, their particular situation and role require special awareness and sensitivity both to the ways in which they might be affected differently by such pressures and to some additional challenges. It is essential to ensure that women human rights defenders as well as men are protected and supported in their work and, indeed, that such women are fully recognized as human rights defenders.</p>

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<b>Data for global and regional monitoring</b>	UNESCO and OHCHR are the agencies responsible for compiling these indicators at the international level. This is a forward-looking indicator, for which full methodologies will be developed in the course of implementation of the SDGs. UNESCO and OHCHR will first publish data on killings, and then on the other human rights violations included in the indicator.
<b>Supplementary information</b>	
<b>References</b>	<p>Declaration on the Right and Responsibility of Individuals, Groups and Organs of Society to Promote and Protect Universally Recognized Human Rights and Fundamental Freedoms: <a href="http://www.ohchr.org/EN/Issues/SRHRDefenders/Pages/Declaration.aspx">http://www.ohchr.org/EN/Issues/SRHRDefenders/Pages/Declaration.aspx</a></p> <p>UNITED NATIONS (2004). <i>Human Rights Defenders: Protecting the Right to Defend Human Rights</i>. Geneva. Available from <a href="http://www.ohchr.org/EN/Issues/SRHRDefenders/Pages/SRHRDefendersIndex.aspx">http://www.ohchr.org/EN/Issues/SRHRDefenders/Pages/SRHRDefendersIndex.aspx</a>.</p> <p>UNITED NATIONS (2012). <i>Human Rights Indicators: A Guide to Measurement and Implementation</i>. New York and Geneva. Available from <a href="http://www.ohchr.org/EN/Issues/Indicators/Pages/HRIndicatorsIndex.aspx">http://www.ohchr.org/EN/Issues/Indicators/Pages/HRIndicatorsIndex.aspx</a>.</p> <p>UNITED NATIONS (2014). <i>The Safety of Journalists and the Danger of Impunity: Report by the Director-General to the Intergovernmental Council of the IPDC (Twenty-Ninth Session)</i>. Paris. Available from <a href="http://unesdoc.unesco.org/images/0023/002301/230101E.pdf">http://unesdoc.unesco.org/images/0023/002301/230101E.pdf</a>.</p>

**From Goal 16 TST Working Group:**

<b>Indicator 16.10.2</b>	<b>Number of verified cases of killing, kidnapping, enforced disappearance, arbitrary detention and torture of journalists, associated media personnel, trade unionists and human rights advocates in the previous 12 months</b>
<b>Goal and target addressed</b>	Goal 16 Target 16.10
<b>Definition and method of computation</b>	For this indicator, killing includes intentional homicide and other arbitrary deprivation of life, as formulated in Article 6(1) ICCPR. Enforced disappearance is defined as the arrest, detention, abduction or any other form of deprivation of liberty, followed by a refusal to acknowledge the deprivation of liberty or by concealment of the fate or whereabouts of the disappeared person, which place such a person outside the protection of the law (International Convention for the Protection of All Persons from Enforced Disappearance, adapted to account for disappearances perpetrated by non-State actors). Arbitrary detention is detention without due process and safeguards, as outlined in Article 9(1) ICCPR. Torture means any act by which severe pain or suffering, whether physical or mental, is intentionally inflicted on a person for such purposes as obtaining from him or a third person information or a confession, punishing him for an act he or a third person

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	<p>has committed or is suspected of having committed, or intimidating or coercing him or a third person, or for any reason based on discrimination of any kind, when such pain or suffering is inflicted by or at the instigation of or with the consent or acquiescence of a public official or other person acting in an official capacity (Convention against Torture). Assault means physical attack against the body of another person resulting in serious bodily injury.</p> <p>Human rights defenders is a term used to describe people who, individually or with others, act to promote or protect human rights. Human rights defenders are identified above all by what they do and it is through a description of their actions and of some of the contexts in which they work that the term can best be explained. The definition of human rights defenders may include journalists and trade unionists, but each individual case is counted only once. Other examples may include a student campaigning to end torture in prisons, a politician who takes a stand against endemic corruption or witnesses in court cases on human rights abuses.</p> <p>Journalists cover ‘journalists, media workers and social media producers who generate a significant amount of public-interest journalism.’ This could include a wide range of actors, including professional full-time reporters and analysts, foreign correspondents and local journalists, as well as bloggers and other social media producers who engage in forms of self-publication in print, on the Internet or elsewhere, journalists from ‘traditional media’ and those who work across multiple media.</p> <p>The term “trade unionist” refers to an individual employed or accredited by a trade union, and other elected representatives of workers, including workers in the informal sector. Trade unionists included in this indicator are those whose fundamental freedoms are violated by virtue of their trade union membership or in the exercise of their trade union duties. The computation of this indicator is based on submissions made to the ILO regular system of supervision of International Labour Standards and through complaints submitted to the ILO Committee on Freedom of Association; reports submitted by national and regional trade union organisations to the International Trade Union Confederation (ITUC) which are compiled on an annual basis in the ITUC Annual Survey on violations of trade union rights; and submissions made by national independent trade unions of journalists to the International Federation of Journalists (IFJ).</p> <p>The indicator is calculated as the total number of reported cases of killing, disappearance, arbitrary detention, assault and torture of journalists, trade unionists or human rights defenders during the reporting period which are verified by an independent entity (in this case OHCHR and UNESCO).</p>
<p><b>Rationale and interpretation</b></p>	<p>Data on human rights violations committed against journalist, trade unionists and human rights defenders is required to know if fundamental freedoms, including the right to freedom of opinion and expression, which includes the right to receive information, and the right to freedom of peaceful assembly and of association are protected in accordance with international law. The State is obliged to respect the human rights of all persons under its jurisdiction, in that it must refrain from infringement on rights, as well as an obligation to protect individuals against acts of third parties. The indicator therefore measures all such cases, but where the</p>

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	<p>killing, disappearance, detention, assault or torture is perpetrated by an agent of the State or any other person acting under government authority or with its complicity, tolerance or acquiescence, or where the State fails to adequately investigate, punish or redress an offence committed by a third party, this will constitute a violation of human rights.</p> <p>Killing, disappearance, arbitrary detention, assault and torture of journalists, trade unionists or human rights defenders may have a chilling effect on freedom of expression and other fundamental freedoms. In order to have a full picture of the extent of protection of fundamental freedoms, it is advisable to also have a basket of indicators at national level including on access to information, other aspects of the rights to freedom of opinion and expression and freedom of assembly and association, notably the right to communicate with international human rights mechanisms, and other types of human rights violations often committed against journalists, trade unionists and human rights defenders, which may include intimidation, harassment, prosecution, defamation, and restricting mobility.</p> <p>Based on submissions and complaints received through the ILO supervisory system as well as on information compiled through the ITUC Annual Survey on violations of trade union rights, one notes that trade unionist represent a specific category whose fundamental freedoms are regularly violated across the globe, thus the importance of this indicator.</p>
<p><b>Sources and data collection</b></p>	<p>This indicator collates data from multiple sources, including National Human Rights Institutions, national non-governmental organisations, associations of journalists, trades unions, ILO, and international non-governmental organisations including, for example Reporters without Borders, Article 19, and the Human Rights Observatory. Regional human rights Commissions, Courts and organisations also receive reports of such violations. ILO/ITUC collect data for trade unions.</p> <p>Information on the number of such violations committed against human rights defenders will be compiled annually by OHCHR from these data sources and further data collected through individual complaints to human rights treaty bodies, and Special Procedures of the Human Rights Council, including the Special Rapporteurs on human rights defenders, on freedom of opinion and expression, torture, the Working Group on Enforced or Involuntary Disappearances, and the Working Group on Arbitrary Detention. Additional data from OHCHR field offices and UN Country Teams will also be included. These data will be verified, cross-checked to ensure no duplication, and compiled in line with the agreed international definitions outlined above.</p> <p>Information on the number of journalists killed are compiled annually by UNESCO from data collected through multi-sourced research, including press reports, information from monitoring groups, direct reports, and information from UNESCO field offices and other UN bodies. Reports of killings compiled by UNESCO are then transmitted for clarification on the status of judicial investigation to Member States and categorized into the following: 1) no information received so far; 2) on-going; 3) resolved; 4) killed in cross-fire; and 5) others. This information can be found at the annual report by the UNESCO Director-General on ‘The Safety of Journalists and the Danger of Impunity’.</p> <p>UNESCO and OHCHR will serve as the lead agencies that will compile</p>

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	and validate data from these multiple sources. These agencies will develop a methodology of adjusting data taking into account data quality issues and to ensure the comparability of different data sources.
<b>Disaggregation</b>	The data on the indicator is disaggregated by type of violation, profession/area of work, ethnicity, sex, age, income, geographic location, disability, religion, migratory or displacement status, minority or indigenous status, sexual orientation and gender identity of the victim, and relevant characteristics of the perpetrator, where known (public official, private individual, agent of another entity, sex, age). The indicator could also distinguish on the basis of political opinion of the victim where this has been expressed.
<b>Comments and limitations</b>	<p>This indicator is proposed to monitor the following targets:            5.2 (violence against women)            16.1 (violence and deaths)            16.3 (rule of law)            16.6 (accountable institutions)            16.10 (protection of fundamental freedoms).</p> <p>Estimates of the number of violations are particularly sensitive to the completeness of reporting of individual events. Such data may underestimate (or sometimes, though more rarely, overestimate) the true number of cases. In most instances, the number of cases reported will depend on the access to information, motivation and perseverance of civil society organizations and the media.</p>
<b>Gender equality issues</b>	Women human rights defenders have faced all the types of violations included in this indicator. However, their particular situation and role require special awareness and sensitivity both to the ways in which they might be affected differently by such pressures and to some additional challenges. It is essential to ensure that women human rights defenders as well as men are protected and supported in their work and, indeed, that such women are fully recognized as human rights defenders.
<b>Data for global and regional monitoring</b>	<p>UNESCO and OHCHR are the agencies responsible for compiling these indicators at the international level. This is a forward-looking indicator, for which full methodologies will be developed in the course of implementation of the SDGs. UNESCO and OHCHR will first publish data on killings, and then on the other human rights violations included in the indicator.</p> <p>In the 2008 ILO Global Report on “Freedom of association in practice: Lessons learned”, the allegations examined by the CFA concerning denial of civil liberties were broken down by regions. Out of the 533 allegations examined by the CFA between March 2004 and June 2007, 13% concerned denials of civil liberties. The regional breakdown of these denials of civil liberties was as follows: Africa (83 allegations); Americas (292 allegations); Asia and Pacific (109 allegations); Europe (49 allegations). Such monitoring of the respect of fundamental freedoms will continue to be possible in the future.</p>
<b>Supplementary information</b>	<p>The Universal Declaration of Human Rights, available at: <a href="http://www.un.org/en/documents/udhr/">http://www.un.org/en/documents/udhr/</a>            International Covenant on Civil and Political Rights, <a href="http://www.ohchr.org/en/professionalinterest/pages/ccpr.aspx">http://www.ohchr.org/en/professionalinterest/pages/ccpr.aspx</a>            ILO Declaration on Fundamental Principles and Rights at Work, available at: <a href="http://www.ilo.org/declaration/lang--en/index.htm">http://www.ilo.org/declaration/lang--en/index.htm</a>            ILO, Freedom of association in practice: Lessons learned, Global Report</p>

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	<p>under the follow-up to the Webpage of the International Trade Union Confederation, available at: <a href="http://www.ituc-csi.org/">http://www.ituc-csi.org/</a></p> <p>Webpage of the International Federation of Journalists, available at: <a href="http://www.ifj.org/">http://www.ifj.org/</a></p>
<b>References</b>	<p>Declaration on the Right and Responsibility of Individuals, Groups and Organs of Society to Promote and Protect Universally Recognized Human Rights and Fundamental Freedoms: <a href="http://www.ohchr.org/EN/Issues/SRHRDefenders/Pages/Declaration.aspx">http://www.ohchr.org/EN/Issues/SRHRDefenders/Pages/Declaration.aspx</a></p> <p>UNITED NATIONS (2004). Human Rights Defenders: Protecting the Right to Defend Human Rights. Geneva. Available from <a href="http://www.ohchr.org/EN/Issues/SRHRDefenders/Pages/SRHRDefendersIndex.aspx">http://www.ohchr.org/EN/Issues/SRHRDefenders/Pages/SRHRDefendersIndex.aspx</a>.</p> <p>UNITED NATIONS (2012). Human Rights Indicators: A Guide to Measurement and Implementation. New York and Geneva. Available from <a href="http://www.ohchr.org/EN/Issues/Indicators/Pages/HRIndicatorsIndex.aspx">http://www.ohchr.org/EN/Issues/Indicators/Pages/HRIndicatorsIndex.aspx</a>.</p> <p>UNITED NATIONS (2014). The Safety of Journalists and the Danger of Impunity: Report by the Director-General to the Intergovernmental Council of the IPDC (Twenty-Ninth Session). Paris. Available from <a href="http://unesdoc.unesco.org/images/0023/002301/230101E.pdf">http://unesdoc.unesco.org/images/0023/002301/230101E.pdf</a>.</p>

### From UNESCO:

**Definition and method of computation:** For this indicator, killing includes intentional homicide and other arbitrary deprivation of life, as formulated in Article 6(1) ICCPR. Enforced disappearance is defined as the arrest, detention, abduction or any other form of deprivation of liberty, followed by a refusal to acknowledge the deprivation of liberty or by concealment of the fate or whereabouts of the disappeared person, which place such a person outside the protection of the law (International Convention for the Protection of All Persons from Enforced Disappearance, adapted to account for disappearances perpetrated by non-State actors). Arbitrary detention is detention without due process and safeguards, as outlined in Article 9(1) ICCPR. Torture means any act by which severe pain or suffering, whether physical or mental, is intentionally inflicted on a person for such purposes as obtaining from him or a third person information or a confession, punishing him for an act he or a third person has committed or is suspected of having committed, or intimidating or coercing him or a third person, or for any reason based on discrimination of any kind, when such pain or suffering is inflicted by or at the instigation of or with the consent or acquiescence of a public official or other person acting in an official capacity (Convention against Torture). Assault means physical attack against the body of another person resulting in serious bodily injury.

*Human rights defenders* is a term used to describe people who, individually or with others, act to promote or protect human rights. Human rights defenders are identified above all by what they do and it is through a description of their actions and of some of the contexts in which they work that the term can best be explained. The definition of human rights defenders may include journalists and trade unionists, but each individual case is counted only once. Other examples may include a student campaigning to end torture in prisons, a politician who takes a stand against endemic corruption or witnesses in court cases on human rights abuses.

Journalists cover ‘journalists, media workers and social media producers who generate a significant amount of public-interest journalism.’ **This conceptualisation, has been agreed by UNESCO Member States, and could**

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include a wide range of actors, including professional full-time reporters and analysts, foreign correspondents and local journalists, as well as bloggers and other social media producers who engage in forms of self-publication in print, on the Internet or elsewhere, journalists from ‘traditional media’ and those who work across multiple media.

The term “trade unionist” refers to an individual employed or accredited by a trade union, and other elected representatives of workers, including workers in the informal sector.

The indicator is calculated as the total number of reported cases of killing, disappearance, arbitrary detention, assault and torture of journalists, trade unionists or human rights defenders during the reporting period which are verified by an independent entity (in this case OHCHR and UNESCO).

**Rationale and interpretation:** Data on human rights violations committed against journalist, trade unionists and human rights defenders is required to know if fundamental freedoms, including the right to freedom of opinion and expression, which includes the right to receive information, and the right to freedom of peaceful assembly and of association are protected in accordance with international law. The State is obliged to respect the human rights of all persons under its jurisdiction, in that it must refrain from infringement on rights, as well as an obligation to protect individuals against acts of third parties. The indicator therefore measures all such cases, but where the killing, disappearance, detention, assault or torture is perpetrated by an agent of the State or any other person acting under government authority or with its complicity, tolerance or acquiescence, or where the State fails to adequately investigate, punish or redress an offence committed by a third party, this will constitute a violation of human rights.

Killing, disappearance, arbitrary detention, assault and torture of journalists, trade unionists or human rights defenders may have a chilling effect on freedom of expression and other fundamental freedoms. In order to have a full picture of the extent of protection of fundamental freedoms, it is advisable to also have a basket of indicators at national level including on access to information, other aspects of the rights to freedom of opinion and expression and freedom of assembly and association, notably the right to communicate with international human rights mechanisms, and other types of human rights violations often committed against journalists, trade unionists and human rights defenders, which may include intimidation, harassment, prosecution, defamation, and restricting mobility.

**Sources and data collection:** This indicator collates data from multiple sources, including National Human Rights Institutions, national non-governmental organisations, associations of journalists, trades unions, ILO, and international non-governmental organisations including, for example Reporters without Borders, Article 19, and the Human Rights Observatory. Regional human rights Commissions, Courts and organisations also receive reports of such violations.

Information on the number of such violations committed against human rights defenders will be compiled annually by OHCHR from these data sources and further data collected through individual complaints to human rights treaty bodies, and Special Procedures of the Human Rights Council, including the Special Rapporteurs on human rights defenders, on freedom of opinion and expression, torture, the Working Group on Enforced or Involuntary Disappearances, and the Working Group on Arbitrary Detention. Additional data from OHCHR field offices and UN Country Teams will also be included. These data will be verified, cross-checked to ensure no duplication, and compiled in line with the agreed international definitions outlined above.

Information on the number of journalists killed are compiled annually by UNESCO, **on a mandate by its Member States**, from data collected through multi-sourced research, including press reports, information from monitoring groups, direct reports, and information from UNESCO field offices and other UN bodies. Reports of killings **and impunity** compiled by UNESCO are then transmitted for clarification on the status of judicial



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investigation to Member States and categorized into the following: 1) no information received so far; 2) on-going; 3) resolved; 4) killed in cross-fire; and 5) others. This information can be found **on an annual basis, within the reports** by the UNESCO Director-General on ‘*The Safety of Journalists and the Danger of Impunity*’ and in the UNESCO study titled *World Trends in Freedom of Expression and Media Development*.

UNESCO and OHCHR will serve as the lead agencies that will compile and validate data from these multiple sources. These agencies will develop a methodology of adjusting data taking into account data quality issues and to ensure the comparability of different data sources.

**Disaggregations:** The data on the indicator is disaggregated by type of violation, profession/area of work, ethnicity, sex, age, income, geographic location, disability, religion, migratory or displacement status, minority or indigenous status, sexual orientation and gender identity of the victim, and relevant characteristics of the perpetrator, where known (public official, private individual, agent of another entity, sex, age). The indicator could also distinguish on the basis of political opinion of the victim where this has been expressed.

**Comments and limitations:** Estimates of the number of violations are particularly sensitive to the completeness of reporting of individual events. Such data may underestimate (or sometimes, though more rarely, overestimate) the true number of cases. In most instances, the number of cases reported will depend on the access to information, motivation and perseverance of civil society organizations and the media.

**Gender equality issues:** Women human rights defenders have faced all the types of violations included in this indicator. However, their particular situation and role require special awareness and sensitivity both to the ways in which they might be affected differently by such pressures and to some additional challenges. It is essential to ensure that women human rights defenders as well as men are protected and supported in their work and, indeed, that such women are fully recognized as human rights defenders.

**Data for regional and global monitoring:** UNESCO and OHCHR are the agencies responsible for compiling these indicators at the international level. This is a forward-looking indicator, for which full methodologies will be developed in the course of implementation of the SDGs. UNESCO and OHCHR will first publish data on killings, and then on the other human rights violations included in the indicator.

**Supplementary information:** While this indicator does not cover every aspect of this particular target, it does identify one of the most salient and measurable dimensions that impacts on the whole. Further, it is an indicator that draws upon existing UN agreements and mechanisms for data collection.

**References:** Declaration on the Right and Responsibility of Individuals, Groups and Organs of Society to Promote and Protect Universally Recognized Human Rights and Fundamental Freedoms: <http://www.ohchr.org/EN/Issues/SRHRDefenders/Pages/Declaration.aspx>

United Nations (2004). *Human Rights Defenders: Protecting the Right to Defend Human Rights*. Geneva. Available from

<http://www.ohchr.org/EN/Issues/SRHRDefenders/Pages/SRHRDefendersIndex.aspx>.

United Nations (2012). *Human Rights Indicators: A Guide to Measurement and Implementation*. New York and Geneva. Available from

<http://www.ohchr.org/EN/Issues/Indicators/Pages/HRIndicatorsIndex.aspx>.

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United Nations (2014). *The Safety of Journalists and the Danger of Impunity: Report by the Director-General to the Intergovernmental Council of the IPDC (Twenty-Ninth Session)*. Paris. Available from <http://unesdoc.unesco.org/images/0023/002301/230101E.pdf>.

United Nations (2015) *World Trends in Freedom of Expression and Media Development*. Paris. Available from: <http://www.unesco.org/new/en/world-media-trends>

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**Target 16.a** Strengthen relevant national institutions, including through international cooperation, for building capacity at all levels, in particular in developing countries, to prevent violence and combat terrorism and crime.

**Suggested Indicator: Percentage of victims who report physical and/or sexual crime to law enforcement agencies during past 12 months disaggregated by age, sex, region and population group**

**From UNODC and Goal 16 TST Working Group:**

<b>Definition and method of computation</b>	Number of victims of violent crime (physical or sexual assault) in the previous 12 months who reported their last incident to competent authorities or other officially recognized conflict resolution mechanisms, as a percentage of all victims of crime in the previous 12 months. Competent authorities includes police, prosecutors or other authorities with competencies to investigate certain crimes (such as corruption or fraud), while ‘other officially recognised conflict resolution mechanisms’ may include a variety of institutions with a role in the informal justice or dispute resolution (e.g. tribal or religious leaders, village elders, community leaders), provided their role is officially recognised by state authorities.
<b>Rationale and interpretation</b>	Reporting to competent authorities is the first step for crime victims to seek justice: if competent authorities are not alerted they are not in a condition to conduct proper investigations and administer justice. However, lack of trust and confidence in the ability of the police or other authorities to provide effective redress, or objective and subjective difficulties in accessing them, can influence negatively the reporting behaviour of crime victims. As such, reporting rates provide a direct measure of the confidence of victims of crime in the ability of the police or other authorities to provide assistance and bring perpetrators to justice. Reporting rates provide also a measure of the ‘dark figure’ of crime, that is the proportion of crimes not reported to the police. Trends in reporting rates of violent crime can be used to monitor public trust and confidence in competent authorities on the basis of actual behaviours and not perceptions.
<b>Sources and data collection</b>	Victimisation surveys provide direct information on this indicator, as they collect information on the experience of violent crime and on whether the victim has reported it to competent authorities. According to a recent review conducted by UNODC-INEGI Centre of Excellence on crime statistics, 72 countries have implemented at least one national victimisation after 2009 (in 43 of these countries the victimisation survey has been conducted by the national statistical office or another public institution/ministry). In addition, 9 African countries have already implemented or are in the process of implementing a victimisation survey module as part of the Strategy for Harmonisation of Statistics for Africa (SHaSA).
<b>Disaggregation</b>	Recommended disaggregations for this indicator are: <ul style="list-style-type: none"> <li>• sex</li> <li>• type of crime</li> <li>• ethnicity</li> <li>• migration background</li> </ul>

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	<ul style="list-style-type: none"> <li>• citizenship</li> </ul>
<b>Comments and limitations</b>	The target relates to the multidimensional concepts of rule of law and access to justice and at least two indicators are required to cover the main elements of access to justice and efficiency of the justice system. The proposed indicator 16.3.1 covers the aspect of access to justice although it doesn't cover civil or administrative disputes. The indicator as formulated is a standard indicator widely published when a victimization survey is undertaken, but further work could be conducted to test the feasibility to expand the indicator to cover administrative disputes.
<b>Gender equality issues</b>	Independently of the level of violent victimization of women, it provides information on whether there are gender disparities on the attitude to freely and safely report their victimization experiences. For example, female victims of domestic violence are more reluctant to report to authorities their experience for different reasons, including fear of consequences and lack of trust in authorities. An increasing level of reporting indicates that measures have been successful to raise awareness that violent behaviours are unacceptable and/or reporting channels for victims of violent crime have improved and/or trust towards authorities has increased; moreover, higher reporting means that criminal justice institutions are in a better position to enforce the law and ensure justice.
<b>Data for global and regional monitoring</b>	UNODC collects data on crime reporting rates through the long-standing annual data collection mandated by the UN General Assembly UN-CTS. The UN-CTS has established a network of focal points (presently covering 125 countries and territories). Data on crime reporting rates are currently available for approximately 35 countries..
<b>Supplementary information</b>	Reporting rates of crimes are known to vary widely by type of crime: they are usually higher in relation to property crimes as victims seek to re-obtain stolen goods or for insurance purposes.
<b>References</b>	In 2010 UNODC-UNECE published a Manual on Victimization Surveys, that provides technical guidance on the implementation of such surveys, on the basis of good practices developed at country level. UNODC, International Classification of Crime for Statistical Purposes, 2015

**Goal 16** Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

**Target 16.b** Promote and enforce non-discriminatory laws and policies for sustainable development.

**Suggested Indicator: Percentage of population reporting having personally felt discriminated against or harassed within the last 12 months on the basis of a ground of discrimination prohibited under international human rights law disaggregated by age, sex, region and population group**

**From Goal 16 TST Working Group:**

<b>Indicator 16.b.1</b>	<b>Percentage of population reporting having personally felt discriminated against or harassed within the last 12 months on the basis of a ground of discrimination prohibited under international human rights law</b>
<b>Goal and target addressed</b>	Goal 16 Target 16.b
<b>Definition and method of computation</b>	<p>Grounds of discrimination prohibited under international human rights law, as enshrined in the 1948 Universal Declaration of Human Rights and subsequently elaborated upon by international human rights mechanisms, include ethnicity, sex, age, income, geographic location, disability, religion, migratory or displacement status, civil status, sexual orientation and gender identity. While some grounds are common to all countries and follow standard definitions, such as sex, age or disability, the precise categories to be included under grounds such as ethnicity, geographic location and religion will vary according to national circumstances and should be determined in a participatory process at national level.</p> <p>The indicator is calculated as the percentage of persons reporting having personally felt discriminated against or harassed within the last 12 months on the basis of a ground of discrimination prohibited under international human rights law. This will be calculated using the full survey results, with techniques of imputation, estimation and data weighting to ensure a representative sample and data reliability.</p>
<b>Rationale and interpretation</b>	This outcome indicator provides a measure of how well non-discriminatory laws and policies are applied in practice, from the perspective of the population. It is based on personal experience rather than perception to ensure greater validity of data, as perceptions of the experience of others may themselves be affected by stereotyping.
<b>Sources and data collection</b>	The primary data source is surveys conducted at the national or regional level.
<b>Disaggregation</b>	Data for this indicator should be disaggregated by ground of discrimination, relationship with the person or entity felt to have discriminated (employer/employee, public official or employee, private enterprise, teacher/student, etc.), and place where the discrimination occurred (work, street, home, school, etc.). This indicator should be also disaggregated by age, sex, region and population group.
<b>Comments and limitations</b>	<p>This indicator is proposed to monitor the following targets: 10.2 (inclusion) 10.3 (equal opportunities) 16.3 (rule of law)</p> <p>Because the indicator measures the percentage of the population reporting discrimination during the time period, each victim is counted only once,</p>

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	<p>irrespective of the number of times discrimination or harassment was experienced. Without this information, the indicator does not therefore permit estimates of incidence of discrimination.</p> <p>In many national contexts, surveys may exclude the homeless or low-income groups without access to telephones. Face-to-face surveys often exclude non-urban populations or members of linguistic minorities. There is evidence to suggest that the most marginalised populations are less likely to respond to surveys, but this effect is reduced by ensuring their participation in the preparation of the survey.</p>
<b>Gender equality issues</b>	Data for the indicator should be disaggregated by sex, sexual orientation and gender identity. Multiple grounds of discrimination (e.g. women members of an ethnic minority who have suffered discrimination based on both sex and ethnicity) should be noted.
<b>Data for global and regional monitoring</b>	Data for this indicator are collected in an increasing number of countries. At the regional level, the EU Fundamental Rights Agency has collected the data for 27 EU Member States. Relevant data is also collected in Eurobarometer and Afrobarometer surveys, and this question could easily be added.
<b>Supplementary information</b>	
<b>References</b>	FRA survey data and methodology: <a href="http://fra.europa.eu/en/survey/2012/eu-midis-european-union-minorities-and-discrimination-survey">http://fra.europa.eu/en/survey/2012/eu-midis-european-union-minorities-and-discrimination-survey</a>

## Goal 17 Strengthen the means of implementation and revitalize the global partnership for sustainable development

### Target 17.1 Strengthen domestic resource mobilization, including through international support to developing countries, to improve domestic capacity for tax and other revenue collection.

**Suggested Indicator: Composition of Tax Revenues (by sources), including revenues derived from environmental taxes, and as % of GDP**

**From OECD:**

#### *Definition and method of computation*

Total taxes as a percentage of Gross Domestic Product (GDP). In the OECD classification the term “taxes” is defined as compulsory unrequited payments to general government. The definition of government follows that of the 2008 System of National Accounts (SNA). The important parts of the SNA’s conceptual framework and its definitions of the various sectors of the economy have been reflected in the OECD’s classification of taxes. The data are predominantly recorded on an accrual basis. Data on tax revenues are recorded without offsets for the administrative expenses connected with tax collection. GDP also follows the definition used in the SNA. The methodology used in compiling the OECD’s internally comparable revenue statistics has been carefully developed and refined through consultation with national statisticians and tax policy makers for more than 40 years. It continues to evolve.

#### *Rationale and interpretation*

The headline measure presents the total tax revenues received by the national government during the year, expressed as a percentage of GDP – i.e., total national income. Taxes include personal and corporate income taxes, taxes on property, value added taxes, excise taxes, tariffs, customs duties and social security contributions.

The tax to GDP ratio is the leading indicator to estimate the financial domestic means of a government to conduct its programme, to raise resources to supply physical infrastructure, public goods and services. The tax to GDP ratio supports the development of effective tax systems and is an essential feature of a successful governance framework. Normalising the data, by dividing total revenues by GDP, enables easy comparisons across countries. Comparable and consistent tax statistics, such as the tax to GDP ratio, facilitate transparent policy dialogue and provide policy makers with an important tool to assess alternative fiscal reforms and to undertake relevant policy actions.

#### *Sources and data collection*

The OECD Revenue Statistics data are compiled by the OECD and are provided by each country in accordance with the OECD classification. The accuracy of the data is guaranteed as it is verified and validated by national authorities and regional organisations.

#### **2. Disaggregation**

**3.** The OECD Revenue Statistics publications not only contain the overall tax burden as measured by tax to GDP ratios but also provide comparative statistics on: the tax mix (i.e., the distribution of the total tax take by the main types of taxes – for example, personal and corporate income taxes, social security contributions, taxes on goods and services; taxes on payroll and workforce; taxes on property); the share of tax revenues attributed to the different levels of

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government (i.e., federal or central, state and local). In certain sub-headings, distinctions are made between different categories of taxpayers.

### 4. *Comments and limitations*

The coverage of the OECD Revenue Statistics data currently includes almost 60 countries, but is progressively increasing. It would be possible to complement the missing countries with alternative sources of data such as national accounts.

### *Gender equality issues*

Not applicable.

### *Data for global and regional monitoring*

The [OECD Revenue Statistics](#) publication is an annual report presenting a unique set of internationally comparable tax data in a common format from 1965 onwards for OECD member countries. The OECD's Revenue Statistics publications have been expanding to include a larger number of partner countries in three regions – Africa / Asia and Pacific Islands / Latin America and the Caribbean. The OECD has published four annual editions of [Revenue Statistics in Latin America and the Caribbean](#) and two annual editions of [Revenue Statistics in Asian countries](#). The OECD is currently working towards the publication of the first edition of *Revenue Statistics in Africa*, due to be released in early 2016.

### *Supplementary information*

Methodology of collection and classification and data are on-line. They are publicly available at all time, freely reusable for analysis.

### *References*

<http://stats.oecd.org/Index.aspx?lang=en&SubSessionId=bce616ae-0181-41e1-aae7-4d820bbd68e1&themetreeid=18>



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**Target 17.2** Developed countries to implement fully their official development assistance commitments, including the commitment by many developed countries to achieve the target of 0.7 per cent ODA/GNI to developing countries and 0.15 to 0.20 per cent of ODA/GNI to least developed countries; ODA providers are encouraged to consider setting a target to provide at least 0.20 per cent of ODA/GNI to least developed countries.

**Suggested Indicator:** Net ODA, total and to LDCs, as percentage of OECD/Development Assistance Committee (DAC) donors' gross national income (GNI)

**From OECD:**

*Definition and method of computation*

Net [official development assistance](#) (ODA) to all countries on the [DAC List of ODA Recipients](#) and net official development assistance to the [Least Developed Countries, SIDS and LLDCs](#), as well as African countries. Data are usually expressed in US dollars at the average annual exchange rate, or as a share of provider countries' gross national income (GNI).

*Rationale and interpretation*

ODA is the accepted measure of development co-operation, including both grants and soft loans provided by governments for development and welfare objectives in developing countries. UN members have agreed a total net ODA target for economically advanced countries of 0.7% of GNI, and a target of 0.15-0.20% for ODA to LDCs.

*Sources and data collection*

Data on ODA are compiled by the Organisation for Economic Co-operation and Development from returns submitted by its member countries and other aid providers. Data can be accessed [here](#).

*Disaggregation*

The data are generally obtained on an activity level, and include numerous parameters. They can thus be disaggregated by provider and recipient country, by the groups of countries listed in Target 10b; and by sector assisted, by type of finance, and by type of resources provided.

*Comments and limitations*

The data only address concessional flows for development and welfare purposes provided by governments. The OECD and other organisations also collect data on broader financial flows to developing countries, including non-concessional official flows, foreign direct investment, bank lending, export credits and other flows. The World Bank makes estimates of remittance flows, and the IMF compiles balance-of-payments data. However the poverty focus and concordance of the various categories of flows with national development plans is less clear, and further discussion may be required to arrive at an agreed measure of non-ODA official and private flows “to implement programmes and policies to end poverty in all its dimensions”.

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### *Gender equality issues*

The data include a [“gender equality” marker](#) which identifies individual projects that have a clear gender dimension. There are also dedicated purpose codes for activities specifically targeting gender equality or that aim to combat violence against women and girls (in preparation).

### *Data for global and regional monitoring*

Data are available for essentially all high-income countries, and for an increasing number of middle-income aid providers.

### *Supplementary information*

See the [DAC Aid Statistics page](#).

### *References*

OECD 2011, [Measuring Aid](#)

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**Target 17.3** Mobilize additional financial resources for developing countries from multiple sources.

**Suggested Indicator: Total Capital Inflow (TCI)**

**NO METADATA RECEIVED**

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**Target 17.4** Assist developing countries in attaining long-term debt sustainability through coordinated policies aimed at fostering debt financing, debt relief and debt restructuring, as appropriate, and address the external debt of highly indebted poor countries to reduce debt distress.

**Suggested Indicator:** Debt service as a percentage of exports of goods and services

**NO METADATA RECEIVED**

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**Target 17.5** Adopt and implement investment promotion regimes for least developed countries.

**Suggested Indicator:** Number of national & investment policy reforms adopted that incorporate sustainable development objectives or safeguards x country

**NO METADATA RECEIVED**

**Goal 17** Strengthen the means of implementation and revitalize the global partnership for sustainable development

**Target 17.6** Enhance North-South, South-South and triangular regional and international cooperation on and access to science, technology and innovation and enhance knowledge sharing on mutually agreed terms, including through improved coordination among existing mechanisms, in particular at the United Nations level, and through a global technology facilitation mechanism.

**Suggested Indicator:** Access to patent information (WIPO Patent Database) and use of the international IP system

**NO METADATA RECEIVED**

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**Target 17.7** Promote the development, transfer, dissemination and diffusion of environmentally sound technologies to developing countries on favourable terms, including on concessional and preferential terms, as mutually agreed.

**Suggested Indicator:** Average applied tariffs imposed on environmental Goods

**NO METADATA RECEIVED**

**Goal 17** Strengthen the means of implementation and revitalize the global partnership for sustainable development

**Target 17.8** Fully operationalize the technology bank and science, technology and innovation capacity-building mechanism for least developed countries by 2017 and enhance the use of enabling technology, in particular information and communications technology.

**Suggested Indicator: Proportion of individuals using the Internet.**

**From ITU, UNCDF, Partnership on Measuring ICT for Development:**

**Definition and method of computation:**

This indicator is defined as the proportion of individuals who used the Internet from any location in the last three months. The *Internet* is a worldwide public computer network. It provides access to a number of communication services including the World Wide Web and carries e-mail, news, entertainment and data files, irrespective of the device used (not assumed to be only via a computer – it may also be by mobile telephone, tablet, PDA, games machine, digital TV etc.). Access can be via a fixed or mobile network.

For countries that collect data on this indicator through an official survey, this indicator is calculated by dividing the total number of in-scope individuals using the Internet (from any location) in the last 3 months by the total number of in-scope individuals. For countries that have not carried out an official survey, data are estimated (by ITU) based on the number of Internet subscriptions and other socioeconomic indicators such as for example GNI per capita, and on the time series data of the indicator.

**Rationale and interpretation**

The Internet has become an increasingly important tool to access public information, which is a relevant means to protect fundamental freedoms. The number of Internet users has increased substantially over the last decade and access to the Internet has changed the way people live, communicate, work and do business. Internet uptake is a key indicator tracked by policy makers and others to measure the development of the information society and the growth of Internet content – including user-generated content – provides access to increasing amounts of information and services.

Despite growth in networks, services and applications, information and communication technology (ICT) access and use is still far from equally distributed, and many people cannot yet benefit from the potential of the Internet. This indicator highlights the importance of Internet use as a development enabler and helps to measure the digital divide, which, if not properly addressed, will aggravate inequalities in all development domains. Classificatory variables for individuals using the Internet – such as age, sex, education level or labour force status – can help identify digital divides in individuals using the Internet. This information can contribute to the design of targeted policies to overcome those divides.

The proportion of individuals using the Internet is an established indicator and also one of the three ICT-related Millennium Development Goal (MDG) indicators (for Target 8F). It is part of the Partnership on Measuring ICT for Development's Core List of Indicators, which has been endorsed by the UN Statistical Commission (last time in 2014). It is also included in the



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ITU ICT Development Index, and thus considered a key metric for international comparisons of ICT developments.

### **Sources and data collection**

This indicator is based on an internationally agreed definition and methodology, which have been developed under the coordination of ITU, through its Expert Groups and following an extensive consultation process with countries. It is also a core indicator of the Partnership on Measuring ICT for Development's Core List of Indicators, which has been endorsed by the UN Statistical Commission (last time in 2014). Data on individuals using the Internet are collected through an annual questionnaire that ITU sends to national statistical offices (NSO). In this questionnaire ITU collects absolute values. The percentages are calculated a-posteriori. The survey methodology is verified to ensure that it meets adequate statistical standards. The data are verified to ensure consistency with previous years' data and situation of the country for other related indicators (ICT and economic).

For most developed and an increasing number of developing countries, percentage of individuals using the Internet data are based on methodologically sound household surveys conducted by national statistical agencies. If the NSO has not collected Internet user statistics, then ITU estimates the percentage of individuals using the Internet.

Data are usually not adjusted, but discrepancies in the definition, age scope of individuals, reference period or the break in comparability between years are noted in a data note. For this reason, data are not always strictly comparable.

Some countries conduct a household survey where the question on Internet use is included every year. For others, the frequency is every two or three years. Overall, the indicator is available for 100 countries at least from one survey in the years 2011-2014.

ITU makes the indicator available for each year for 200 economies by using survey data and estimates for almost all countries of the world.

### **Disaggregation**

For countries that collect this indicator through an official survey, and if data allow breakdown and disaggregation, the indicator can be broken down by region (geographic and/or urban/rural), by sex, by age group, by educational level, by labour force status, and by occupation. ITU collects data for all of these breakdowns from countries.

### **Comments and limitations**

While the data on the percentage of individuals using the Internet are very reliable for countries that have collected the data through official household surveys, they are less reliable in cases where the number of Internet users is estimated by ITU. ITU is encouraging all countries to collect data on this indicator through official surveys and the number of countries with official data for this indicator is increasing.

### **Gender equality issues**

Discrepancies exist between the proportion of men and women that use the Internet and it is important to track this gender divide. For countries that collect this indicator through an official survey, and if data allow breakdown and disaggregation, the indicator can be broken down by sex. About 70 countries have sex-disaggregated data for this indicator for at least

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one year in the period 2011-2014 and more countries are expected to produce these data over the next years

### **Data for global and regional monitoring**

Regional and global aggregates of the number of Internet users are calculated as unweighted sums of the country values. Regional and global values for the percentage of individuals using the Internet are averages of the country values weighted by the population of the countries and regions. They are widely available since ITU produces data for this indicator for 200 economies, covering the large majority of developed and developing countries, and all regions.

### **Supplementary information**

Discrepancies between global and national figures may arise when countries use a different definition than the one agreed internationally and used by ITU. Discrepancies may also arise in cases where the age scope of the surveys differs, or when the country only provides data for a certain age group and not the total population.

Year-end estimates are usually released in June of the following year through the ITU World Telecommunication/ICT Indicators Database. Data are also available at no cost through the ITU ICT Eye, see: <http://www.itu.int/ITU-D/ict/>

### **References:**

- [ITU Manual for Measuring ICT Access and Use by Households and Individuals 2014](#)

### **Targets for which indicator are relevant:**

1.4, 2c, 5b, 9c, 10.3, 12.8, 16.10, 16.6, 16.7, 16.10, 17.6, 17.8,

**Goal 17** Strengthen the means of implementation and revitalize the global partnership for sustainable development  
**Target 17.9** Enhance international support for implementing effective and targeted capacity-building in developing countries to support national plans to implement all the sustainable development goals, including through North-South, South-South and triangular cooperation.

**Suggested Indicator:** The dollar value of financial and technical assistance, including through North-South, South-South, and triangular cooperation, committed to developing countries' designing and implementing a holistic policy mix that aim at sustainable development in three dimensions (including elements such as reducing inequality within a country and governance).

**NO METADATA RECEIVED**

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**Target 17.10** Promote a universal, rules-based, open, non-discriminatory and equitable multilateral trading system under the World Trade Organization, including through the conclusion of negotiations under its Doha Development Agenda.

**Suggested Indicator: Worldwide weighted tariff-average**

**From ITC/UNCTAD/WTO:**

**Definition and method of computation**

Worldwide weighted tariff-average is an indicator that provides the value of custom duties levied by every importing country from all their trading partners. The unit of measurement will be in % terms. All calculations are based on official data. However, in order to include all tariffs into the calculation, some rates which are not expressed in ad valorem form (e.g., specific duties) are converted in ad valorem equivalents (i.e. in per cent of the import value). The conversion is made at the tariff line level for each importer by using the unit value method. Import unit values are calculated from import values and quantities. Only a limited number of non-ad valorem tariff rates (i.e. technical duties) cannot be provided with ad valorem equivalents (AVE) and are excluded from the calculation. This methodology also allows for cross-country comparisons.

**Rationale and interpretation**

The average level of customs tariff rates applied worldwide can be used as an indicator of the degree of success achieved by multilateral negotiations.

**Disaggregation**

This indicator can be disaggregated and analysed by type of tariffs (MFN tariffs and preferential tariffs), product sector, by geographical region and by level of development.

**Comments and limitations**

Tariffs are only part of the factors that can explain the degree of openness and transparency in the international trade arena. However, accurate estimates on non-tariff measures or of transparency indicator do not exist.

**Gender equality issues**

Gender equality issues cannot be captured by this indicator

**Supplementary information and references**

To further refine the quality of the information, additional sub-measurements could be calculated including: a) Tariff peaks (i.e. % of tariffs on some products that are considerably higher than usual, defined as above 15 per cent) and b) Tariff escalation (i.e. wherein a country applies a higher tariff rate to products at the later stages of production). These calculations were already provided by ITC as part of the MDG Gap Task Force Report. See the report for further information on the methodology at [http://www.un.org/en/development/desa/policy/mdg\\_gap/mdg\\_gap2014/2014GAP\\_FULL\\_EN.pdf](http://www.un.org/en/development/desa/policy/mdg_gap/mdg_gap2014/2014GAP_FULL_EN.pdf)

**Responsible entities**

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ITC/UNCTAD/WTO

### **Sources and data collection**

Tariff data for the calculation of this indicator are retrieved from the ITC (MAcMap) - <http://www.macmap.org/> - and WTO (IDB). Data from these 2 databases are also displayed on the World Integrated Trade Solution application <http://wits.worldbank.org/>

Tariff data (MFN and preferences) are collected every year for more than 130 countries and territories. WTO data are received directly from WTO Members and are processed and verified. They are jointly validated by the members themselves. Calculations of ad valorem equivalents (AVE) are provided by ITC.

Trade data for the calculation of weights and unit values are retrieved from ITC (Trade Map), WTO (IDB) and UNSD (COMTRADE) databases. Trade data has at least a one-year lag in terms of availability compared to tariffs.

This indicator can generally be compiled around March of each year. At that time (say year y), the indicator is compiled for (y-2), corresponding to the availability of detailed bi-lateral trade flows.

### **Current data availability**

Tariff data is available for overall more than 190 countries. Data are updated every year for approximately 130 countries.

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**Target 17.11** Significantly increase the exports of developing countries, in particular with a view to doubling the least developed countries' share of global exports by 2020.

**Suggested Indicator: Developing country's and LDCs' exports (by partner group and key sectors), including services.**

**From ITC/UNCTAD/WTO:**

#### **Definition and method of computation**

This indicator provides calculations of developing and LDCs exports of goods and services toward the rest of the World. The unit of measurement could be in % (developing countries' and LDCs share of global exports) or alternatively in value (i.e. USD '000). Alternatively, and in order to reflect the dual purpose of the target (i.e. increase of developing countries exports / doubling the LDCs share for global exports) 2 different indicators can be calculated out of the same data, namely: (1) least developed countries' share of global exports (in % terms), (2) exports of developing countries (in value terms).

The indicator will not include export of oil and arms.

#### **Rationale and interpretation**

The indicator is self-explanatory and measures precisely what is required by the target.

#### **Sources and data collection**

Data on goods trade is retrieved from ITC (Trade Map), WTO (IDB) and UNSD (COMTRADE) databases.

For services trade, WTO, ITC, UNCTAD have harmonized their databases and are now providing the same information.

This indicator can generally be compiled around March of each year. At that time (say year y), the indicator is compiled for (y-2), corresponding to the availability of detailed bi-lateral trade flows.

#### **Disaggregation**

This indicator can be disaggregated and analysed by product sector, by geographical region and by level of development.

#### **Comments and limitations**

To further refine the quality of the information, additional sub-measurement could be calculated including a) Exports of high technological content as proportion of total exports, b) Export diversification (by product; by market destination). This sub measurement can be calculated only for goods trade and not for services trade.

Synergies could be created with target 8.2 (as a measurement of diversification, technological upgrading and innovation) and target 2.3 (to measure the increase of productivity of small scale food producers and the enhanced opportunities to access market and value addition segments) .

In terms of limitation,

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- Concerning missing data for trade in goods (especially in the case of LDCs) ITC (Trade Map) uses mirror data to complete the information and UNCTAD provides systematic estimates.
- Information on services trade is less detailed.

### Gender equality issues

Gender equality issues cannot be captured by this indicator

### Supplementary information and references

### Responsible entities

ITC/UNCTAD/WTO

### Current data availability

Data on goods trade is available for almost all countries and territories.

Data on services trade are available for almost 200 countries but bilateral data are scarcer and as well as information at the higher level of detail

### From Universal Postal Union (UPU):

In the sections below, the UPU provides metadata regarding an e-commerce component for the indicator “Developing countries and LDCs’ exports (by partner group and key sectors), including services”, namely “Developing countries and LDCs’ e-commerce flows at the export level (volumes and/or values, and by product)”.

#### *Definition and method of computation*

Developing countries and LDCs’ e-commerce flows at the export level (volumes and/or values, and by product): this indicator would be a volume or value index of international e-commerce flows from developing countries and LDCs to the rest of the world.

International postal and parcel flows would be a proxy for international e-commerce flows since the e-commerce ecosystem heavily relies on the international postal and express infrastructure to transport e-commerce-related shipments.

#### *Rationale and interpretation*

E-commerce is likely to represent a significant share of international trade transactions by 2030. In order to avoid an e-commerce divide between developing and developed countries, trade policies must fully take into account this irreversible phenomenon. Moreover, international e-commerce will play an essential development role for micro, small and medium-sized enterprises in the coming two decades, particularly for those interested in internationalizing their activities.

#### *Source and data collection*

The indicator can be estimated thanks to data available in UPU’s international tracking systems for parcels and postal items enabling real-time analysis of billions of data records.

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### *Disaggregation*

The possibility of accessing tracking systems data enables the maximal disaggregation level from a geographic perspective, with detailed information available for any location involved in international postal and parcels exchanges within a country. Moreover, the forthcoming systematic use of an electronic customs declaration system by UPU member countries will considerably enrich the data with product information at the most disaggregated HS classification level for international trade.

### *Comments and limitations*

While international postal exchanges reflect the development of international e-commerce very well, a small number of international postal transactions represents exchanges between individuals only. However, the latter exchanges are typically not submitted to commercial customs declaration.

### *Gender equality issues*

The proportion of male or female recipients of postal items could be estimated by sampling postal traffic in each country.

### *Supplementary information*

Postal, parcel and express delivery networks are dealing with at least half a trillion economic transactions every year. Furthermore, post offices represent the largest physical retail network in the world with over 650,000 offices worldwide.

### *References*

UNCTAD. (2015). Information Economy Report 2015. Unlocking the Potential of E-commerce for Developing Countries. UNCTAD. At: [http://unctad.org/en/PublicationsLibrary/ier2015\\_en.pdf](http://unctad.org/en/PublicationsLibrary/ier2015_en.pdf)

UPU Postal Statistics website: <http://www.upu.int/en/resources/postal-statistics/about-postal-statistics.html>

### *Targets for which indicators are relevant*

2.3, 8.2



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**Target 17.12** Realize timely implementation of duty-free and quota-free market access on a lasting basis for all least developed countries, consistent with World Trade Organization decisions, including by ensuring that preferential rules of origin applicable to imports from least developed countries are transparent and simple, and contribute to facilitating market access.

**Suggested Indicator: Average tariffs faced by developing countries and LDCs by key sectors**

**From ITC/UNCTAD/WTO:**

#### **Definition and method of computation**

Similar calculations were already used for the calculation of MDG 8.7 (Average tariffs imposed by developed countries on agricultural products and textiles and clothing from developing countries). For reference purposes see the Millennium Development Goals Report 2015 available at [http://www.un.org/millenniumgoals/2015\\_MDG\\_Report/pdf/MDG%202015%20rev%20\(July%201\).pdf](http://www.un.org/millenniumgoals/2015_MDG_Report/pdf/MDG%202015%20rev%20(July%201).pdf) (p. 64)

#### **Rationale and interpretation**

The reduction of average tariff on key sector as agriculture can represent a proxy of the level of commitment of developed country to improve market access conditions. As it was done for MDG 8.7, the term “key sector” has to be interpreted as those sectors of particular interest for LDCs and developing countries exports. The list of key sectors used by the MDG indicator 8.7 (i.e. agriculture, textile and clothing) might have to be reviewed.

#### **Sources and data collection**

Tariff data for the calculation of this indicator are retrieved from the ITC (MAcMap) - <http://www.macmap.org/> - and WTO (IDB). Data from these 2 databases are also displayed on the World Bank/UNCTAD World Integrated Trade Solution application <http://wits.worldbank.org/>

Tariff data (MFN and preferences) are collected every year for more than 120 countries and territories. WTO data are received directly from WTO Members and are processed and verified. They are jointly validated by the members themselves. Calculations of ad valorem equivalents (AVE) are provided by ITC.

Trade data for the calculation of weights and unit values are retrieved from ITC (Trade Map), WTO (IDB) and UNSD (COMTRADE) databases. Trade data has at least a one-year lag in terms of availability compared to tariffs.

This indicator can generally be compiled around March of each year. At that time (say year y), the indicator is compiled for (y-2), corresponding to the availability of detailed bi-lateral trade flows.

#### **Disaggregation**

## Goal 17 Strengthen the means of implementation and revitalize the global partnership for sustainable development

This indicator can be disaggregated and analysed by type of tariffs (MFN tariffs and preferential tariffs), product sector, by geographical region and by level of development.

### Comments and limitations

ITC/UNCTAD/WTO endorse the suggestion proposed by India, during the open consultation, to reword the indicator to read: "Average tariffs for exports faced by developing countries and LDCs by key source from developed countries" and by the United States to focus only on LDCs. The two suggestions will not change the calculation methodology behind the indicator. Agreement on these points should be sought during the next IAEG meeting.

In terms of limitations:

- Tariffs are only part of the trade limitation factors, especially when looking at exports of developing or least developed countries under non-reciprocal preferential treatment, that set criteria for eligibility. Accurate estimates on non-tariff measures do not exist, thus the calculations on market access are limited to tariffs only.
- A full coverage of preferential schemes of developed countries has been used for the computation, but preferential treatment may not be fully used by developing countries' exporters for different reasons such as the inability of certain exporters to meet eligibility criteria (i.e., complying with rules of origin).
- The indicator only addresses the tariff situation facing developing countries' exports and not their own tariff profiles, despite the fact that trade openness, by itself, is conducive to export promotion.

### Gender equality issues

Gender equality issues cannot be captured by this indicator

### Data for global and regional monitoring

### Supplementary information and references

### Responsible entities

ITC/UNCTAD/WTO

### Current data availability

Concerning the feasibility rating, data is already available.

**Goal 17** Strengthen the means of implementation and revitalize the global partnership for sustainable development

**Target 17.13** Enhance global macroeconomic stability, including through policy coordination and policy coherence.

**Suggested Indicator: GDP**

**NO METADATA RECEIVED**

## Goal 17 Strengthen the means of implementation and revitalize the global partnership for sustainable development

### Target 17.14 Enhance policy coherence for sustainable development.

**Suggested Indicator: Number of countries that have ratified and implemented relevant international instruments including environmental, human rights, and labour instruments**

From OHCHR, UNCDF:

#### **Definition and Method of Computation**

The indicator refers to the expression by the State of its consent to be bound by a human rights treaty under international law. A ‘State-party’ to a treaty is a State that has expressed its consent, by an act of ratification, accession or succession, and where the treaty has entered into force. A value of 1 is assigned for a ‘State-party’ (or a State about to become party after formal reception by the UN Secretariat of the State’s decision to be a party) and 0 otherwise.

#### **Concepts**

The Universal Declaration of Human Rights (1948) recognizes civil, cultural, economic, political and social rights. In transforming the provisions of the Declaration into legally binding obligations, the United Nations adopted in 1966 the International Covenant on Economic, Social and Cultural Rights (ICESCR) and the International Covenant on Civil and Political Rights (ICCPR). The United Nations adopted the International Convention on the Elimination of All Forms of Racial Discrimination (ICERD) in 1965; the first Optional Protocol to the ICCPR (CCPR-OP1) in 1966; the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) in 1979; the Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment (CAT) in 1984; the Convention on the Rights of the Child (CRC) and the Second Optional Protocol to the International Covenant on Civil and Political Rights, aimed at the abolition of the death penalty (CCPR-OP2-DP) in 1989; the International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families (MWC) in 1990; the Optional Protocol to the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW-OP) in 1999; the Optional Protocols to the Convention on the Rights of the Child, on the involvement of children in armed conflict (CRC-OP-AC) and on the sale of children, child prostitution and child pornography (CRC-OP-SC) in 2000; the Optional Protocol to the Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment (CAT-OP) in 2002; the [Convention on the Rights of Persons with Disabilities](#) (CRPD) in 2006; the [Optional Protocol to the Convention on the Rights of Persons with Disabilities](#) (CRPD-OP) in 2006; the [International Convention for the Protection of All Persons from Enforced Disappearance](#) (CEPD) in 2006; and the [Optional Protocol of the Covenant on Economic, Social and Cultural Rights](#) (ICESCR-OP) in 2008.

A State that has signed a treaty has not expressed its consent to be bound by the treaty. Signature is a means of authentication and expresses the willingness of the signatory State to continue the treaty-making process. The signature qualifies the signatory state to proceed to ratification, acceptance or approval. It also creates an obligation to refrain, in good faith, from acts that would defeat the object and the purpose of the treaty (see Vienna Convention on the Law of Treaties, 1969).

#### **Method of computation**

## Goal 17 Strengthen the means of implementation and revitalize the global partnership for sustainable development

A value of 1 is assigned for a ‘State-party’ (or a State about to become party after formal reception by the UN Secretariat of the State’s decision to be a party) and 0 otherwise. The provisions under the treaty determines the moment of its entry into force.

### **Rationale and Interpretation**

Ratification, acceptance or succession of an international human rights treaty reflects a certain acceptance of concerned human rights standards by a State and gives an indication, notably at international level, of a State’s commitment to undertake steps that help in the realization of those rights. When a State has ratified the treaty, it assumes a legal obligation to respect, protect and fulfill the human rights standards reflected in that treaty. An additional obligation is to submit regular reports to the monitoring committee set up under that treaty to monitor implementation of human rights and compliance with international human rights instruments. This indicator is a *structural indicator* in OHCHR’s methodology on human rights indicators (HRI/MC/2008/3).

### **Sources and Data Collection**

The indicator is produced by the Office of the United Nations High Commissioner for Human Rights (OHCHR) based on data obtained from and regularly updated by the United Nations Office of Legal Affairs that has the mission to, inter alia, register and publish treaties, and to perform the depositary functions of the Secretary-General (<http://untreaty.un.org/ola>). The indicator is updated by OHCHR every six months.

### **Disaggregation**

Disaggregation of information is not applicable for this indicator.

### **Comments and Limitations**

The indicator provides information on acceptance by a State of international human rights standards and its intention or commitment to undertake steps to realise human rights in conformity with the provisions of the relevant instruments (*structural indicator*). It does not, however, capture the actual process of implementation (*process indicator*) or the results thereof (*outcome indicator*).

The indicator does not reflect possible “reservation” entered by a State on a treaty. State-parties can enter “reservations” on a treaty. A reservation is a declaration made by a state by which it purports to exclude or alter the legal effect of certain provisions of the treaty in their application to that state. A reservation enables a state to accept a multilateral treaty as a whole by giving it the possibility not to apply certain provisions with which it does not want to comply. Reservations can be made when the treaty is signed, ratified, accepted, approved or acceded to. Although, an “ideal” indicator on the status of international human rights treaties should include different weights for different reservations, establishing objective criteria to obtain a weighting scheme may be technically difficult. Reservations should however not be incompatible with the object and the purpose of the treaty (see Vienna Convention of the Law of Treaties, 1969).

The HRC also adopted the human rights voluntary goals (HRC res.9/12) to promote the realisation of the Universal Declaration of Human Rights. One goal is the universal

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ratification of the core international human rights instruments and dedication of all efforts towards the realization of the international human rights obligations of States.

**Gender Equality Issues**

**Data for Global and Regional Monitoring**

OHCHR is responsible for compiling this indicator at the international level, which can be broken down by regions and human rights instruments.

**Footnote**

**Supplementary Information**

Interactive maps developed by OHCHR: <http://indicators.ohchr.org/>

**Examples**

**References**

(United Nations: 2012) Human Rights Indicators: A Guide to Measurement and Implementation, HR/PUB/12/5

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**Target 17.15** Respect each country's policy space and leadership to establish and implement policies for poverty eradication and sustainable development.

**Suggested Indicator:** Numbers of constraints that are embodied in ODA or loan agreements, IIAs, RTAs etc.

**NO METADATA RECEIVED**

**Goal 17** Strengthen the means of implementation and revitalize the global partnership for sustainable development

**Target 17.16** Enhance the global partnership for sustainable development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the sustainable development goals in all countries, in particular developing countries.

**Suggested Indicator: Indicator 7 from Global Partnership Monitoring Exercise: Mutual accountability among development co-operation actors is strengthened through inclusive reviews**

**From OECD-UNDP Secretariat of the Global Partnership for Effective Development Cooperation:**

***Definition and Method of Computation***

A country is considered to have a mutual assessment of progress in place when at least 4 out of 5 of the following criteria are met:

- An aid policy or partnership policy defines the country’s development co-operation priorities.
- National targets for effective development co-operation exist for both the developing country government and providers of development co-operation.
- Progress has been assessed regularly and jointly by government and providers at the senior level in the past two years.
- Local governments and non-executive stakeholders have been actively involved in these reviews.
- The comprehensive results of the review have been made public in a timely manner.

***Rationale and Interpretation***

Development processes are driven by the contributions and the concerted efforts of multiple actors, including government authorities, providers of development co-operation, the private sector, civil society and others. Strong multi-stakeholder partnerships provide an enabling environment for greater development effectiveness. In this regard, mutual accountability in between the relevant stakeholders participating in development efforts can enhance the quality and strength of these partnerships.

Mutual assessment reviews are national exercises that engage both developing country authorities and providers of development co-operation, as well as other stakeholders, at the senior level in a mutual performance review.

These reviews should ideally be conducted through inclusive dialogues involving a broad range of government ministries; providers of development co-operation (including bilateral, multilateral, and global initiatives); as well as other stakeholders, including parliamentarians, local governments, the private sector, and civil society organisations (referred to as “non-executive” stakeholders). These assessments should be done regularly (every one to two years).

***Sources and Data Collection***

The data is collected as part of the monitoring efforts of the monitoring survey for the Global Partnership for Effective Development Co-operation every 1 – 2 years. The first such monitoring survey was carried out in 2013, and the second round is being conducted in 2015. The indicator based on a set of different criteria is also available from the surveys on monitoring the Paris Declaration on Aid Effectiveness conducted in 2006, 2008, and 2011. The indicator for these years differs in that engagement of non-



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executive stakeholders was encouraged, while in 2013 the inclusiveness criterion required their active involvement.

### ***Disaggregation***

The data can be further disaggregated according to each of the 5 criteria used to assess mutual assessments of progress.

### ***Is there already a baseline value for 2015?***

Yes. In 2013, 59% of surveyed countries were determined to have mutual assessment reviews in place. A baseline can be calculated using the second monitoring round being conducted in 2015.

### ***Limitations***

Data is limited to those countries which participate in the monitoring survey for the Global Partnership.

### ***Data for global monitoring***

The indicator is well-suited for global monitoring, and global aggregates are calculated as the percentage of countries which have mutual assessment reviews in place.

### ***Current Data Availability***

Global aggregates are available for the 2006, 2008, and 2011 surveys on monitoring the Paris Declaration on Aid Effectiveness as well as the 2014 and 2015 monitoring surveys of the Global Partnership for Effective Development Co-operation. The Paris surveys on monitoring the Paris Declaration on Aid Effectiveness covered 34, 55, and 78 countries, respectively. The 2014 monitoring round of the Global Partnership covered 46 countries representing roughly 46% of global Country Programmable aid. For the 2015 monitoring round, more than 60 developing countries have preliminarily confirmed participation.

### ***Responsible Entities***

The Global Partnership for Effective Development Co-operation with monitoring efforts led by a collaborative team from the OECD and UNDP.

### ***Supplementary Information and Resources***

Information on the indicator as well as the monitoring surveys for the Global Partnership for Effective Development Co-operation can be found by consulting the progress report from the 2014 monitoring round at:

[http://www.keepeek.com/Digital-Asset-Management/oecd/development/making-development-co-operation-more-effective\\_9789264209305-en#page1](http://www.keepeek.com/Digital-Asset-Management/oecd/development/making-development-co-operation-more-effective_9789264209305-en#page1)

Information on the surveys on monitoring Paris Declaration on Aid Effectiveness can be found by consulting the 2011 survey report:

<http://www.oecd.org/dac/effectiveness/2011surveyonmonitoringtheparisdeclaration.htm>

# Goal 17 Strengthen the means of implementation and revitalize the global partnership for sustainable development

From OECD:

## *Definition and Method of Computation*

A country is considered to have a mutual assessment of progress in place when at least 4 out of 5 of the following criteria are met:

- An aid policy or partnership policy defines the country's development co-operation priorities.
- National targets for effective development co-operation exist for both the developing country government and providers of development co-operation.
- Progress has been assessed regularly and jointly by government and providers at the senior level in the past two years.
- Local governments and non-executive stakeholders have been actively involved in these reviews.
- The comprehensive results of the review have been made public in a timely manner.

## *Rationale and Interpretation*

Development processes are driven by the contributions and the concerted efforts of multiple actors, including government authorities, providers of development co-operation, the private sector, civil society and others. Strong multi-stakeholder partnerships provide an enabling environment for greater development effectiveness. In this regard, mutual accountability in between the relevant stakeholders participating in development efforts can enhance the quality and strength of these partnerships.

Mutual assessment reviews are national exercises that engage both developing country authorities and providers of development co-operation, as well as other stakeholders, at the senior level in a mutual performance review.

These reviews should ideally be conducted through inclusive dialogues involving a broad range of government ministries; providers of development co-operation (including bilateral, multilateral, and global initiatives); as well as other stakeholders, including parliamentarians, local governments, the private sector, and civil society organisations (referred to as “non-executive” stakeholders). These assessments should be done regularly (every one to two years).

## *Sources and Data Collection*

The data is collected as part of the monitoring efforts of the monitoring survey for the Global Partnership for Effective Development Co-operation every 1 – 2 years. The first such monitoring survey was carried out in 2013, and the second round is being conducted in 2015. The indicator based on a set of different criteria is also available from the surveys on monitoring the Paris Declaration on Aid Effectiveness conducted in 2006, 2008, and 2011. The indicator for these years differs in that engagement of non-executive stakeholders was encouraged, while in 2013 the inclusiveness criterion required their active involvement.

## *Disaggregation*

The data can be further disaggregated according to each of the 5 criteria used to assess mutual assessments of progress.

## *Is there already a baseline value for 2015?*

Yes. In 2013, 59% of surveyed countries were determined to have mutual assessment reviews in place. A baseline can be calculated using the second monitoring round being conducted in 2015.

## *Limitations*

## Goal 17 Strengthen the means of implementation and revitalize the global partnership for sustainable development

Data is limited to those countries which participate in the monitoring survey for the Global Partnership.

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The Global Partnership for Effective Development Co-operation with monitoring efforts led by a collaborative team from the OECD and UNDP.

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Information on the indicator as well as the monitoring surveys for the Global Partnership for Effective Development Co-operation can be found by consulting the progress report from the 2014 monitoring round at:

[http://www.keepeek.com/Digital-Asset-Management/oecd/development/making-development-co-operation-more-effective\\_9789264209305-en#page1](http://www.keepeek.com/Digital-Asset-Management/oecd/development/making-development-co-operation-more-effective_9789264209305-en#page1)

Information on the surveys on monitoring Paris Declaration on Aid Effectiveness can be found by consulting the 2011 survey report:

<http://www.oecd.org/dac/effectiveness/2011surveyonmonitoringtheparisdeclaration.htm>

**Goal 17** Strengthen the means of implementation and revitalize the global partnership for sustainable development

**Target 17.17** Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships.

**Suggested Indicator: Amount of US\$ committed to public-private partnerships**

**NO METADATA RECEIVED**

**Goal 17 Strengthen the means of implementation and revitalize the global partnership for sustainable development**

**Target 17.18 By 2020, enhance capacity-building support to developing countries, including for least developed countries and small island developing States, to increase significantly the availability of high-quality, timely and reliable data disaggregated by income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant in national contexts.**

**Suggested Indicator: Proportion of sustainable development indicators with full disaggregation produced at the national level.**

**From TST:**

**Definition and Method of Computation**

The ability of National Statistical Offices and other bodies within countries to report on the diversity of SDG indicators is itself a measure of capacity, particularly when we think about the eventual complexity of the indicator framework as well as the points of disaggregation. Right now, a number of the existing indicators are calculated or modeled at global level, and the purpose of this indicator is to measure the shift in that calculation process to the national level.

Disaggregation would be assessed on the basis of the language of target 17.18, as well as the metadata and agreements on disaggregation for each indicator itself. The baseline and targets for this indicators will be determined in a later stage using trend data on the MDGs reporting and independent assessments of current capacity of countries for reporting towards the final results framework and indicators for the SDGs.

**Sources and Data Collection**

MDG reporting databases (UNDESA and UNDP) plus baseline assessment in 2015 by UNFPA.

**Disaggregation**

Not applicable.

**Goal 17** Strengthen the means of implementation and revitalize the global partnership for sustainable development

**Target 17.19** By 2030, build on existing initiatives to develop measurements of progress on sustainable development that complement gross domestic product, and support statistical capacity-building in developing countries.

**Suggested Indicator:** Financial and other resources made available to strengthen the statistical capacity in developing countries

**NO METADATA RECEIVED**

**Suggested Indicator:** Inclusive Wealth Index

**NO METADATA RECEIVED**



**SDG follow-up and review | Indicator for SDG Target 10.7: “Facilitating safe and orderly migration through well-managed migration policies” – a proposal by the International Organization for Migration (IOM)**

**Target 1.4 By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance**

**Proposed Revised Indicator by FAO: a) Percentage of people with ownership or secure rights over agricultural land (out of total agricultural population), by sex and type of tenure; and (b) Share of women among owners or rights-bearers of agricultural land, by type of tenure**

**6. Precise definition of the indicator**

Definition of indicator:

The indicator is divided in two parts: (a) measures the incidence of people with ownership or secure rights over agricultural land among the total agricultural population; while (b) focusses on the gender parity measuring the extent to which women are disadvantaged in ownership or rights over agricultural land. Part (a) and part (b) cannot be seen as two different indicators, they rather provide two complementary information. Plus, they can be computed using (almost) the same data, the main difference between the 2 parts being only the denominator.

We propose using the ‘total agricultural population’ as denominator of part (a), instead of the total population, because ownership or right-security over agricultural land is obviously relevant only for the people whose livelihood rely on agriculture.

Part (a)

$$\left( \frac{\text{People with ownership or secure rights over agricultural land}}{\text{Total agricultural population}} \right) \cdot 100$$

Part (b)

$$\left( \frac{\text{Women with ownership or rights over agricultural land}}{\text{Total owners or rights bearers over agricultural land}} \right) \cdot 100$$

Definition of ownership and rights over land:

*The landowner is the legal owner of the land. Definitions of ownership may vary across countries and surveys. For instance, documented ownership means that ownership is verified through title or deed, while*

*reported ownership relies on individuals' own judgment. Reported ownership may be more appropriate in countries where a formal registration system is not in place.*

*Additionally, in some countries, particularly where land private ownership is not applicable, it is more appropriate to investigate rights over land using proxies able to capture individuals' capability to control and take decisions over the land. Proxies of such "bundle of rights" may include the right to sell, to bequeath or the right to decide how to use the land.*

*Since the definition of ownership and land rights has to take into account what is more relevant in the country, the indicator will need to be complemented with metadata that specify what definition(s) of ownership or rights over land is/are employed.*

*Finally and most importantly, this indicator has to be disaggregated by type of tenure. Therefore, the data collection methodology should always include a question on land tenure. Land tenure refers to the arrangements or rights under which land is operated, and it is one of the key elements to tenure security. There are different formal and informal tenure systems around the world and the distinction between legal and non-legal tenure is often blurred. When available, the indicator shall also be disaggregated by documented tenure rights.*

*The FAO World Census of Agriculture encourages countries to use country-specific types of tenure whilst ensuring the possibility to classify ex-post under the following broad categories: 1) legal ownership or legal owner-like possession; 2) Non-legal ownership or non-legal owner-like possession; 3) Rented land from someone else; 4) Various other types of land tenure<sup>48</sup>.*

#### **7. How is the indicator linked to the specific TARGET as worded in the OWG report and copied above?**

The indicator is related to Goal 1, target 1.4: *"By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance."*

More specifically, this indicator monitors "**ownership and rights over land**" and it is particularly useful in terms of framing gender differences in land ownership and control whilst relating them specifically to the population of interest, namely the people who own land or with rights over land. As such it gives a clearer picture of gender and social inequalities in land ownership/control, than for instance looking at the incidence of female ownership/control over land in the entire population of a country. An increase in the percentage of women owning/controlling land indicates that, within the population of interest (i.e., the landowners/rights bearers), progress is made towards achieving equal rights over land among men and women.

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<sup>48</sup> <http://www.fao.org/economic/ess/ess-wca/wca-guidelines/en/>



Finally, the indicator focuses on **agricultural** land, because agricultural land is a productive resource, and focusing on agricultural landownership gives a clearer indication of empowerment and advancement towards poverty reduction, compared to lands used for other purposes that are not economically and livelihood-related. This is particularly true in developing countries where poverty reduction strategies are necessarily linked to agricultural development. Agriculture land includes land for crop, livestock and forestry use.

#### **8. Does the indicator already exist and is it regularly reported?**

The indicator already exists. Until now, the indicator has been collected mainly through the LSMS-ISA surveys and to a smaller extent through DHS surveys in collaboration with National Institutes of Statistics. At the time of writing, the indicator is readily available for 11 countries. Additional, but yet unprocessed surveys (e.g., DHS, LSMS, national household income and expenditure surveys etc.) lead to a conservative estimate of an additional 10 countries for which the indicator could be derived. It cannot be excluded that many other surveys not currently available to FAO would be potential sources as well, for countries not covered by LSMS or DHS.

Thanks to a fruitful cooperation with IFPRI-PIM, FAO is already disseminating the available data for through the Gender and Land Rights Database (GRLD). In the next future, the same data will be also disseminated through FAO's Rural Livelihood Monitoring (RLM) platform. The new World Programme for Agricultural Census (WCA 2020) has proposed the collection of land ownership data disaggregated by sex as a supplementary item. Furthermore, the FAO Statistics Division is starting a project called AGRIS (Agricultural Integrated Surveys) through which methodological guidelines will be provided to countries on how to conduct farm surveys (i.e. key indicators to collect, definitions, methods for data collection, periodicity, etc.), and effort will also be made to support countries in the actual implementation of the farm surveys. By doing so, the availability of this indicator will increase substantially in the future.

While comparability across countries (mainly due to differing definitions) and low current availability pose a challenge to this indicator, it is still fair to consider the indicator superior to the "share of female agricultural holders" – widely available through agricultural census data- because it provides intra-holding/household information and is usually made available in a shorter time span.

It also worth mentioning that the importance of a sex-disaggregated indicator on land is acknowledged in the *Minimum Set of Gender Indicators* approved by UNSC, where a place-holder indicator 'proportion of the (adult) population who own land, by sex' figures as one of the 52 indicators. Furthermore, the EDGE (Evidence and Data for Gender Equality) initiative<sup>49</sup> is conducting methodological work on standards for the collection of reliable sex disaggregated data on land ownership.

#### **9. Comment on the reliability, potential coverage, comparability across countries, and the possibility to compute the indicator at sub-national level.**

##### Reliability

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<sup>49</sup> A joint UNWOMEN and UNSD project with the aim of accelerating existing efforts to generate comparable gender indicators on health, education, employment, entrepreneurship and asset ownership.

The indicator is expected to be reliable because the identification of the plot owner(s)/individual with rights over land in household surveys is a feasible task. Household surveys are usually done on a sample basis and are statistically representative at national and subnational level.

#### Coverage

The indicator is nationally representative insofar the survey data is nationally representative. The indicator can be collected periodically (about every 2-4 years) which is a reasonable frequency to capture significant changes in land ownership.

#### Comparability across countries

Different country definitions of ownership and rights over land can be problematic. Also, the indicator is collected in different years, depending on when surveys are conducted in individual countries. This can negatively affect comparability across countries.

#### Sub-national estimates

It is possible to disaggregate the indicator by geographic areas if the surveys are representative for these areas. The level of disaggregation depends on the sample design of the surveys.

### **10. Is there a baseline value for 2015?**

We do not expect this indicator to change rapidly. It is worth highlighting that the baseline and follow-up values will be different across countries. To ensure correct comparisons linear interpolation between the actual data points will be necessary.

**Target 1.4 By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance**

**Proposed Additional Indicator by FAO:** *Proportion of adult women/men agricultural holders, out of total agricultural holders*

#### **2. Precise definition of the indicator**

Definition of the indicator:

$$\left( \frac{\text{Female Agricultural Holders}}{\text{Total Agricultural Holders}} \right) \cdot 100$$

Definition of agricultural holder:

*“The agricultural holder is defined as the civil or juridical person who makes the major decisions regarding resource use and exercises management control over the agricultural holding operation. The agricultural*

*holder has technical and economic responsibility for the holding and may undertake all responsibilities directly, or delegate responsibilities related to day-to-day work management to a hired manager” (FAO, 2005)<sup>50</sup>.*

The indicator illustrates the management of agricultural holdings by gender. While it does not inform about resource ownership, it shows to what extent women have the management responsibility of agricultural production resources. As such, it is an important indicator of women’s influence in agricultural production.

### **3. How is the indicator linked to the specific TARGET as worded in the OWG Report?**

The indicator is related to Goal 1, target 1.4 (“By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance”).

More specifically, the proposed indicator monitors “**control over land and other forms of property.**” Since the holder is in charge of managing the agricultural holding, s/he controls and makes decisions about the holding, including the holding’s land and other resources within it. Hence, the proposed indicator is a very direct measure of control over land or other forms of property.

An increase in the percentage of female agricultural holders out of total agricultural holders indicates that more women take the role of agricultural managers and hence have enhanced control over agricultural resources.

### **4. Does the indicator already exist and is it regularly reported?**

The indicator already exists. National Statistical Offices (and/or Ministries of Agriculture) conducting an Agricultural Census (AC) maintain this indicator by collecting the data item needed to generate it (i.e. the sex of the agricultural holder). Indeed, the sex of the agricultural holder is a core item that has been recurrently suggested under the FAO World Census of Agriculture (WCA) Programme. At the time of writing, the indicator is reported in the AC reports for 97 countries, in the WCA 2000 or 2010 rounds.

At the end of each WCA Programme round, the **FAO Statistics Division** extracts this indicator from the National AC Reports and compile it into a cross-country comparison table (see: <http://www.fao.org/economic/ess/ess-wca/wca-2000/ess-wca2000-tables/en/> table 2.1). In addition, the FAO’s Gender and Land Rights Database (GLRD)<sup>51</sup> team also complements this work by analysing the National AC Reports and disseminating the information on the GLRD webpage.

Until now, the majority of countries have only one data point (15 countries have two), and the reference year also varies across countries. National ACs are conducted approximately every 10 years, which means that the proposed indicator has the relatively low collection frequency.

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<sup>50</sup> Source: FAO, 2005, A system of integrated agricultural censuses and surveys - World Programme for the Census of Agriculture 2010 (<http://www.fao.org/docrep/009/a0135e/A0135E00.htm>).

<sup>51</sup> Please note that the link to the metadata is under construction as the GLRD is being revamped and re-launched in February 2015. This is an internal link to the new website where the metadata is available: <http://www-test.fao.org/glrld/data-map/statistics/en/>.

However, the FAO Statistics Division has recently started the AGRIS project (Agricultural and Rural Integrated Surveys) through which methodological guidelines will be provided to countries on how to conduct farm surveys (i.e. key indicators to collect, definitions, methods for data collection, periodicity, etc.), and effort will also be made to support countries in the actual implementation of the farm surveys. The implementation of this project will increase the availability of proposed and other similar indicators by enhancing the frequency of data collection.

A few additional considerations on the indicator:

- The indicator is the most available amongst the gender and land indicators, with an already existing set-up for continued collection.
- As an indicator of management, the indicator is silent with regards to the ownership status of the holding, as well as the relative size or value of holdings managed by women. To capture this, a second, complementary indicator on ownership is also proposed for Target 1.4 (see: “percentage of female landowners out of total land owners”, also available in the GRLD).
- The indicator is measured at the holding level, and hence does not capture management of land or other properties within the holding. As such, it tends to underestimate the management role that individuals in the household other than the household head may have. An example is that of married women, who often hold some responsibility for the family farm; however, the husband is typically regarded the household head and by default considered the sole agricultural holder of the household. This leaves married women’s shares of management responsibility underreported in this indicator. However, the new World Programme for the Census of Agriculture (WCA 2020) Guidelines will propose countries to collect data on land ownership within the holding as well, leading to increased availability of intra-holding data.

**5. Comment on the reliability, potential coverage, comparability across countries, and the possibility to compute the indicator at sub-national level.**

Reliability

The indicator is expected to be reliable because the identification of the holding’s manager and sex are fairly straightforward data items to collect. Although ACs are supposed to reach all agricultural holdings in the country, in some countries ACs are done on sample basis. If the samples are statistical representative, it is possible to calculate statistical margin of errors.

Coverage

The indicator is nationally representative insofar the AC is nationally representative (see above). The indicator will be collected periodically (about every 10 years). While this collection frequency is relatively low, initiatives such as AGRIS (see above) could lead to more frequent collection. Furthermore, yearly collection of indicator is considered redundant, as it is unreasonable to expect the percentage of female agricultural holders to change significantly on annual basis.

Comparability across countries

Since ACs rely on the same set of definitions and methodologies, conceptual comparability is high across countries. Yet, the indicator is collected in different points in time (depending on when the AC is conducted). This can potentially affect comparability negatively across countries.

#### Sub-national estimates

In theory it is possible to disaggregate the indicator by geographic areas; however, most of the time this indicator is simply reported at national level in the National AC reports.

### **6. Is there already a baseline value for 2015?**

A *meaningful* and *credible* target would be a relative one rather than an absolute one. Indeed, the percentage of female agricultural holders varies considerably across the regions (see the table below, based on the most recent ACs). If we exclude Europe and North America (composed mainly by developed countries) the percentage of female agricultural holders varies from 4.3 percent the Near East to 18.9 percent in South America.

REGIONS	Percentage of female agricultural holders (out of total holders)	Number of countries
AFRICA	19,3	19
AMERICA, NORTH	20,5	2
AMERICA, CENTRAL AND SOUTH	18,9	17
NEAR EAST	4,3	8
ASIA	14,5	15
EUROPE	23,7	29
OCEANIA	15,7	6

Source: –Agricultural Censuses conducted during the WCA 2000 round, integrated with some ACs conducted in WCA 2015 whose data are already available.

We do not expect this indicator to change rapidly. It is worth highlighting that the baseline and follow-up values will be different across countries. To ensure correct comparisons linear interpolation between the actual data points will be necessary.

**Target 1.4 By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance**

**Proposed Additional Indicator by ITU and Partnership i Measuring ICT for Development: *Proportion of households with broadband Internet access, by urban/rural***

### **Definition and method of computation**

This indicator *proportion of households with broadband Internet access, by urban/rural* is defined as the proportion of households with broadband Internet access using different types of broadband services. Broadband is defined as technologies that deliver advertised download speeds of at least 256 kbit/s. The main types of broadband services are:

- Fixed (wired) broadband network, such as DSL, cable modem, high speed leased lines, fibre-to-the-home/building, powerline and other fixed (wired) broadband
- Terrestrial fixed (wireless) broadband network, such as WiMAX, fixed CDMA
- Satellite broadband network (via a satellite connection)
- Mobile broadband network (at least 3G, e.g. UMTS) via a handset
- Mobile broadband network (at least 3G, e.g. UMTS) via a card (e.g. integrated SIM card in a computer) or USB modem

The *Internet* is a worldwide public computer network. It provides access to a number of communication services including the World Wide Web and carries e-mail, news, entertainment and data files, irrespective of the device used (not assumed to be only via a computer – it may also be by mobile telephone, tablet, PDA, games machine, digital TV etc.). Access can be via a fixed or mobile network.

Data for this indicator can be collected through an official national household survey, by asking about household access to the Internet, broken down by type of Internet service (which can also include narrowband Internet access). The number of in-scope households with Internet access by a given type of service is calculated by aggregating the weighted responses for each type of service. Proportions are expressed as percentages and are calculated by dividing the number of in-scope households with a given type of Internet service by either the total number of in-scope households with Internet or by the total number of in-scope households, and then multiplying the result by 100.

### **Rationale and interpretation**

Internet access, and in particular broadband Internet access, has become a key infrastructure, a key pillar to industrialization and a fundamental driver for innovation. It is an important driver for economic growth and development and can help foster well-being, in particular by delivering a growing number of services and applications, including in the areas of business, health, education and governance. The number of Internet users has increased substantially over the last decade and access to the Internet has changed the way people live, communicate, work and do business. Internet uptake is a key indicator tracked by policy makers and others to measure track development.

Despite growth in networks, services and applications, information and communication technology (ICT) access and use is still far from equally distributed, and many people cannot yet benefit from the potential of the Internet. By 2015, less than 50 per cent of households in the world had access to the Internet, and thus limiting the benefits that Internet access can deliver. The indicator highlights the importance of Internet use as a development enabler and helps to measure the digital divide, which, if not properly addressed, will aggravate inequalities in all development domains.

A breakdown of this indicator by urban/rural households can help identify digital divides between urban and rural areas. This information can contribute to the design of targeted policies to overcome those divides.

### **Sources and data collection**

The indicator on *proportion of households with broadband Internet access, by urban/rural* is based on an internationally agreed definition and methodology, which have been developed under the coordination of ITU, through its Expert Groups and following an extensive consultation process with countries. It is also a core indicator of the Partnership on Measuring ICT for Development's Core List of Indicators, which has been endorsed by the UN Statistical Commission (last time in 2014). The *percentage of households with Internet access* is also included in the ITU ICT Development Index, and thus considered a key metric for international comparisons of ICT developments.

Data on the *proportion of households with broadband Internet access, by urban/rural* are collected through an annual questionnaire that ITU sends to national statistical offices (NSO). In this questionnaire ITU collects absolute values. The percentages are calculated a-posteriori. The survey methodology is verified to ensure that it meets adequate statistical standards. The data are verified to ensure consistency with previous years' data and situation of the country for other related indicators (ICT and economic).

Some countries conduct a household survey where the question on *households with broadband Internet access* is included every year. For others, the frequency is every two or three years. Overall, the indicator is available for 53 countries at least from one survey in the years 2011-2014.

ITU produces data on the *proportion of households with Internet access* (not broken down by narrowband/broadband) for almost 200 economies. Survey data for the *proportion of households with Internet access* is available for 101 countries. For the other countries, ITU estimates the *proportion of households with Internet access* based on other (mainly subscription) data.

### **Disaggregation**

For countries that collect this indicator through an official survey, and if data allow breakdown and disaggregation, the indicator can be broken down by the following household characteristics:

- Breakdown by region, such as geographical areas, urban/ rural.
- Breakdown by household characteristics, such as household composition and size, and whether the household has access to electricity.
- Breakdown by characteristics of the head of the household/household reference person, such as sex, level of education, occupation or status in the labour force.
- Other breakdowns or classifications, where relevant variables or questions are used in the questionnaire, such as household income.

### **Comments and limitations**

Proposed categories of broadband and technical terms will probably vary between countries and therefore questions included in national household surveys/questionnaires must be adapted to the local context. For further information, see the [ITU Manual for Measuring ICT Access and Use by Households and Individuals 2014](#).

### **Gender equality issues**

Information can be produced on the breakdown by characteristics of the head of the household/household reference person, including sex, but ITU does not collect this information at the international level.

### **Data for global and regional monitoring**

Regional and global aggregates can be produced for the *proportion of households with Internet access* since ITU produces data for this indicator for almost 200 economies. In cases where these data are not produced through official household surveys, ITU estimates the *proportion of households with Internet access* based on subscription data. Recent data for the *proportion of households with broadband Internet access* is available for 53 countries and regional and global estimates cannot be produced, although more countries are expected to collect data for this indicator in the future.

### **Supplementary information**

Year-end data on the *proportion of households with Internet access* are usually released in June of the following year through the ITU World Telecommunication/ICT Indicators Database. Data are also available at no cost through the ITU ICT Eye, see: <http://www.itu.int/ITU-D/ict/>.

### **References**

- [ITU Manual for Measuring ICT Access and Use by Households and Individuals 2014](#)

### **Targets for which indicator is relevant**

5.b, 9.1, 9.c, 11.1, 16.10, 17.8



**Target 1.5 By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters.**

**Proposed modified indicator from Joint submission by DESA, Internal Displacement Monitoring Centre, IOM, Joint IDP Profiling Service, OCHA, UNHCR, UNRWA, Special Rapporteur on the Human Rights of Internally Displaced Persons: *Number of deaths, missing people, injured, displaced (including relocated or evacuated) due to disasters, conflict or other economic, social and environmental shocks [a multi-purpose indicator covering 1.5, 10.7, 11.5, 13.1 and 16.1]***

<p>Other targets for which this indicator is relevant</p>	<p>11.5: By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations;</p> <p><i>10.7: Facilitate orderly, safe, regular and responsible migration and mobility of people, including through implementation of planned and well-managed migration policies;</i></p> <p><i>13.1: Strengthen resilience and adaptive capacity to climate related hazards and natural disasters in all countries;</i></p> <p><i>16.1: Significantly reduce all forms of violence and related death rates everywhere.</i></p>
<p>Comments</p>	<p>Rationale for proposed modification regarding <b>displaced</b> and <b>conflict</b> : The proposal expands the revised indicator for 11.5 to include also other shocks (in line with the formulation of target 1.5) that would expand the coverage of the indicator to conflicts/complex humanitarian emergencies as well as other social, economic and environmental, thus establishing a multi-purpose indicator</p> <p>This presumes and may involve the ‘detachment’ of the indicator from individual indicators and the usage of such indicator as a genuinely multi-purpose indicator linked and contributing to multiple other goals and targets. Hence a multi-purpose global indicator covering the number of people killed, injured, displaced (including evacuated and relocated) or otherwise affected by disasters, conflicts, or other social, economic and environmental shocks would link targets 1.5, 11.5, 13.1, 10.7 as well as 16.1. This is recommend for optimal coverage and monitoring of the human impact of disasters, conflicts, complex humanitarian emergencies, or other social, economic and environmental shocks. The proposal is compatible with the joint proposal submitted by UNISDR and expands its coverage beyond disasters and includes a more comprehensive monitoring of displacement.</p> <p><u>With reference to joint proposal submitted by UNISDR, "displaced" encompasses both "evacuated" and "relocated" as data on displacement per se more readily available at global level than in the case of evacuations and relocations. However, should be noted that the effectiveness of evacuations and resulting reduced loss of lives is one of the main ways to confirm reduced disaster risk/impacts. At the same time, while evacuations are mostly temporary and often coordinated, displacement encompasses the more longer-term forced uprooting of people and resulting impacts on their lives and vulnerability. In addition, the category and definition of “affected” needs to be clarified and, where possible, harmonized.</u></p>
<p>Rationale</p>	<p>According to the United Nations High Commissioner for Refugees (UNHCR), global</p>

	<p>forced displacement reached unprecedented levels on record in 2014. By end of 2014, 59.5 million individuals were forcibly displaced worldwide as a result of persecution, conflict, generalized violence, or human rights violations. This is 8.3 million persons more than the year before (51.2 million) and the highest annual increase in a single year. The 59.5 million forcibly displaced persons include 19.5 million refugees, 38.2 million internally displaced persons (see below) and 1.5 million asylum-seekers.</p> <p>According to IDMC, as of the end of 2014, 38.2 million people around the world had been forced to flee their homes by armed conflict and generalised violence, and were living in displacement within the borders of their own country. This represents a 15 per cent increase on 2013, and includes 11 million people who were newly displaced during the year, the equivalent of 30,000 people a day.</p> <p>In addition to the above figures, according to the Internal Displacement Monitoring Centre (IDMC), more than 19.3 million people were displaced by disasters in at least 100 countries in 2014. Since 2008, an average of 26.4 million people have been displaced by disasters each year - equivalent to one person every second. Major disasters are irregular and relatively infrequent, but they cause displacement on a vast scale when they do occur. Thirty-five disasters that each forced more than a million people to leave their homes accounted for 70 per cent of all displacement between 2008 and 2013. Although disaster-induced displacement is usually of shorter duration than those caused by conflict, it often has long-lasting repercussions and can become protracted. Latest IDMC analysis highlights the plight of people who have been living in protracted displacement following disasters for up to 26 years.</p> <p>Also according to IDMC, historical models suggest that even after adjusting for population growth, the likelihood of being displaced by a disaster today is 60 per cent higher than it was in the 1970s. The primary drivers of this increase have been rapid unplanned urbanization, population growth and economic development in hazard-prone areas. Climate change may further increase displacement risk in the future by increasing the frequency and intensity of some weather-related hazards and the vulnerability of communities. The number of mega-events that displace more than 3 million people has been increasing. These mega-events are responsible for the overall increase in displacement risk. Displaced persons are increasingly living in urban settings. In fact, the primary driver of increase in exposure to natural hazards since the 1970s has been rapid, unplanned urbanization, population growth and economic development in hazard-prone areas in developing countries. These drivers concentrate large numbers of vulnerable people in dangerous locations. Weak governance structures can further exacerbate this dangerous process by creating incentives for people to move into hazard-prone areas – or forcing them to live there. Conflict and generalised violence affects several of the most at-risk countries, further increasing the vulnerability of communities, undermining their ability to resist and cope with natural hazards.</p>
Method of computation	The number of refugees and IDPs who have been forcibly displaced by disasters, conflict or other economic, social and environmental shocks during a calendar year.
Data sources and number of countries for which data is currently available	<p>Existing/developing (national level) Government statistics and population data. National disaster loss databases and other government data and statistics. Data sources include administrative data maintained by host countries (ministries and agencies in charge of adjudication of refugee status, immigration authorities in charge of refugee resettlement, interior ministries in charge of issuing work and residents permits and naturalization procedures)</p> <p>Registration and documentation of IDPs and refugees, in particular UNHCR registration (figures disaggregated by age, gender and disabilities – AGD mainstreaming) and profiling exercises, annual refugee flow and stock figures and</p>

	<p>number of asylum applications, participatory needs assessments and population surveys by humanitarian actors.</p> <p>Internal Displacement Monitoring Centre (IDMC) IDP Database and Annual Global Estimates Reports for displacement induced by conflict/generalized violence and disasters, as well as UN Population Fund (UNFPA) figures to normalize displacement estimates.</p> <p>Centre for Research on the Epidemiology of Disasters (CRED) EM-DAT International Disaster Database</p> <p>OCHA situation reports (in ongoing humanitarian emergencies)</p> <p>IOM Displacement Tracking Matrix</p> <p>Joint IDP Profiling Service (JIPS) (collects data disaggregated by sex, age, location and diversity)</p> <p>Uppsala Conflict Data Programme (counts annual number of people killed as a result of conflict, wars etc.)</p>
Responsible entity	UNHCR, Internal Displacement Monitoring Centre, CRED EM-DAT, IOM, OCHA, UNRWA, JIPS, Uppsala Conflict Data Programme, Global Migration Group

**Target 1.5 By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters.**

**Proposed Additional Indicator by UNISDR: *Direct economic loss due to hazardous events in relation to global gross domestic product***

**Definition:**

**Direct economic loss:** Direct loss is nearly equivalent to physical damage. *The monetary value of total or partial destruction of physical assets existing in the affected area.* Examples include loss to physical assets such as damaged housings, factories and infrastructure. Direct losses usually happen during the event or within the first few hours after the event and are often assessed soon after the event to estimate recovery cost and claim insurance payments. These are tangible and relatively easy to measure. Direct Economic loss in this indicator framework consists of agriculture loss, damage to industrial and commercial facilities, damage to housings and critical infrastructures.

We limit the economic loss into direct economic loss, excluding indirect loss (e.g. loss due to interrupted production) and macro-economic loss. The reason is that there is not yet universally standardized methodology to measure indirect and macro-economic loss while direct loss data monitoring is relatively simpler and more standardized.

**Global gross domestic product:** Summation of GDP of Countries. GDP definition according to the World Bank.

**Hazardous event:** The occurrence of a natural or human-induced phenomenon in a particular place during a particular period of time due to the existence of a hazard.

**Hazard:** A potentially damaging physical event, phenomenon or human activity that may cause the loss of life or injury, property damage, social and economic disruption or environmental degradation.

UNISDR recommends setting NO threshold for recording hazardous event in order to monitor *all* hazardous events. Small-scale but frequent hazardous events that are not registered in international disaster loss databases account for an important share of damages and losses when they are combined, and often go unnoticed by the national and international community. These events, when accumulated, are often a source of poverty in developing countries but can be effectively addressed by well-designed policies. The scope of the Sendai Framework for Disaster Risk Reduction 2015-2030 is “the risk of small-scale and large-scale, frequent and infrequent, sudden and slow-onset disasters, caused by natural or man-made hazards as well as relate environmental, technological and biological hazards and risks”.

Regarding the inclusion of biological and environmental hazards in natural hazards category and whether and how to integrate man-made hazards, UNISDR will discuss the issue with WHO and other organizations (for example, WHO would be in a better position in terms of data, knowledge and relationship with Member States and other stakeholders to monitor biological events including epidemics. However, we generally do not expect biological disasters will cause physical damages to facilities. ).

Note: Terminology will be discussed and finalized in the Open-ended Intergovernmental Working Group for Sendai Framework for Disaster Risk Reduction.

#### **Method of computation:**

The original national disaster loss databases usually register physical damage value (housing unit loss, infrastructure loss etc.). Need conversion from physical value to monetary value according to the UNISDR methodology. After converted, divide global direct economic loss by global GDP (inflation adjusted, constant USD) calculated from World Bank Development Indicators.

#### **Rationale and interpretation** (mainly based on TST Issue Brief 2, 3, 5, 20 and 23-26):

Cities around the world, as well as rural populations, witness growing disaster risks. Impacts of climate change on sustainable development are observed through both slow-onset events (e.g. sea level rise, increasing temperatures, ocean acidification, glacial retreat and related impacts, salinization, land and forest degradation, loss of biodiversity and desertification) and extreme weather events. The economic loss indicator would track loss to agricultural, industrial and commercial sectors and damage to housing and critical infrastructure.

Cities are some of the most vulnerable areas to natural disasters. Unplanned urban development (e.g. informal settlements, overcrowding, inadequate infrastructures) exacerbates urban vulnerability to climate change impacts and hydro-meteorological and geological hazards. Over half of all coastal areas are urbanized and 21 of the world’s 33 mega cities lie in coastal flood zones. SIDS and coastal regions are

particularly affected by sea level rise, coastal flooding and erosion, and extreme events (e.g. tsunamis and storm surges) due to undermining natural protective barriers, low levels of development combined with rapid population growth in low lying coastal areas and inadequate capacity to adapt. Poor urban populations must often resort to unsustainable coping strategies and mechanisms.

Large numbers of people remain perilously close to falling into poverty, experiencing shocks that they are unable to cope with. For the poor, a shock of even a relatively short duration can have long term consequences. Several dimensions of poverty are closely related to environment, which is often affected by natural disasters. The poverty reduction agenda could include well-designed social protection scheme to help protecting the poor against sudden shocks and the development of capacities to better predict and prepare for such shocks. Better management of natural resources can themselves strengthen the resilience of the poor, by both reducing the likelihood of natural hazardous events and offering resources to help cope with them.

The environment for food production is increasingly challenging, particularly for smallholders, due to environmental and climate-related factors. Similar to extreme income poverty, food insecurity continues to be predominantly concentrated in rural areas of developing countries, and disproportionately affects poor farmers, agricultural workers, pastoralists and rural communities. Common conditions for protracted crisis situations include frequent or continued exposure to shocks that undermine livelihoods, food and market systems. Special consideration needs to be given to population living in areas prone to environmental and natural disaster shocks.

Biodiversity provides ecosystem resilience and contributes to the ability to respond to unpredictable global changes and natural disasters. Healthy ecosystems act as buffers against natural hazards, providing valuable yet underutilized approaches for climate change adaptation, enhancing natural resilience and reducing the vulnerability of people, for example to floods and the effects of land degradation. These ecosystem services improve the sustainability and economic efficiency of built infrastructure, and are critical for sustainable and resilient urban areas.

This indicator will track direct physical loss expressed in economic term. The disaster loss data (particularly mortality) are significantly influenced by large-scale catastrophic event, which represent important outliers. UNISDR recommends countries to report the data by event, so complementary analysis can be done by both including and excluding such catastrophic events.

The indicator will build bridge between SDGs and the Sendai Framework for Disaster Risk Reduction because the reduction of direct economic loss is included in the Sendai Framework global targets and will also be monitored under the Sendai Framework Monitoring Mechanism.

**Sources and data collection:** National disaster loss database, reported to UNISDR

**Disaggregation:** by country, by event, by hazard type (e.g. disaggregation by climatological, hydrological, meteorological, geophysical, biological and extra-terrestrial for natural hazards is possible following IRDR\* classification), by asset loss category.

\*Integrated Research on Disaster Risk (2014), *Peril Classification and Hazard Glossary (IRDR DATA Publication No.1)*, Beijing: Integrated Research on Disaster Risk

Ideally, in addition, by sub-national administrative unit.

### Comments and limitations:

- ✓ This is proposal by UNISDR based on our experience and knowledge built in the period under the Hyogo Framework for Action (2005-2015). The proposed indicator was further reviewed and examined by other UN agencies including FAO, GFDRR, IOM, UNCCD, UNDP, UNESCAP, UNESCO, UNFPA, UNHCR, UNOCHA, UNOOSA, UNOPS, UNU, UNWOMEN, WHO and WMO (though not all organizations listed here provided comments for this indicator) and submitted to the IAEG process in early-July 2015, then again reviewed by the Technical Expert Group consisting of more than 60 experts from UN system, academic and research, civil sector and private sector in 27-29 July 2015 and submitted and examined by the Member States in the 1<sup>st</sup> Open-ended Intergovernmental Expert Working Group on Indicators and Terminology on Disaster Risk Reduction held in 29-30 September 2015. The suggested indicator is currently under review by the Member States and UNISDR is receiving written inputs from the Member States.
- ✓ The proposed indicators will be also used to monitor Sendai Framework global targets and therefore the detailed definitions shall be discussed and agreed in Open-ended Intergovernmental Expert Working Group on Indicators and Terminology on Disaster Risk Reduction, as outlined in Sendai Framework for Disaster Reduction 2015-2030. The Working Group is likely to finalize the discussion and submit the final report to the GA in December 2016.
- ✓ Not every country has a comparable national disaster loss database that is consistent with the UNISDR guidelines (current coverage is 85 countries. Additional 32 countries are expected to be covered in 2015-16). Therefore, by 2020, it is expected that all countries will build/adjust the database according to the UNISDR guidelines and report the data to UNISDR.

**Gender equality issues:** Not included.

**Data for global and regional monitoring:** Summation of data from national disaster loss databases and World Bank Development Indicators

**Main linkage with SDG Targets:**

*This indicator is proposed as “multi-purpose indicator”.*

#### **Target 1.5:**

By 2030, build **the resilience of the poor and those in vulnerable situations** and reduce their **exposure and vulnerability to climate-related extreme events** and other economic, social and environmental shocks and **disasters**

#### **Target 11.5:**

By 2030, significantly reduce **the number of deaths** and **the number of people affected** and substantially decrease the direct economic losses relative to global gross domestic product caused by **disasters**, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations

#### **Target 13.1:**

Strengthen **resilience and adaptive capacity to climate-related hazards and natural disasters** in all countries

**Target 2.4:**

By 2030, ensure sustainable food production systems and implement **resilient agricultural practices** that increase productivity and production, that help maintain ecosystems, that strengthen capacity for **adaptation to climate change, extreme weather, drought, flooding and other disasters** and that progressively improve land and soil quality

**Target 14.2:**

By 2020, sustainably manage and protect **marine and coastal ecosystems** to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans

**Target 15.3:**

By 2030, combat desertification, restore degraded land and soil, including **land affected by desertification, drought and floods**, and strive to achieve a land-degradation-neutral world

**Target 3.d:**

Strengthen the capacity of all countries, in particular developing countries, for **early warning, risk reduction and management of national and global health risks**

**Target 13.b:**

Promote mechanisms for raising capacities for effective **climate change-related planning and management**, in least developed countries, including focusing on women, youth, local and marginalized communities

**Supplementary information:**

**Related targets in the Sendai Framework for Disaster Risk Reduction 2015-2030:**

Reduce **direct disaster economic loss** in relation to global gross domestic product (GDP) by 2030.

**Sendai Framework for Disaster Risk Reduction 2015-2030:**

([http://www.preventionweb.net/files/43291\\_sendaiframeworkfordrren.pdf](http://www.preventionweb.net/files/43291_sendaiframeworkfordrren.pdf))

**Target 1.a Ensure significant mobilization of resources from a variety of sources, including through enhanced development cooperation, in order to provide adequate and predictable means for developing countries, in particular least developed countries, to implement programmes and policies to end poverty in all its dimensions.**

**Proposed Alternative Indicator by OECD: *Total Official Support for Sustainable Development (TOSSD)***

#### ***Definition and method of computation***

Total Official Support for Development (TOSSD) is an emerging measure aimed to capture the aspect of mobilizing additional financial resources, in particular official resources and private financial finance mobilised through public schemes. TOSSD would include concessional and non-concessional finance. Data is partially available through the measure [Official development finance](#) (ODF). There is ongoing consultation with a broad set of stakeholders on the scope of TOSSD with the aim of having an exact definition and initiate data collection by end 2016. Data would be expressed in US dollars at the average annual exchange rate.

#### ***Rationale and interpretation***

There is a clear need to monitor the mobilisation of additional financial resources in support of the SDGs. TOSSD would also be relevant for tracking resource inflows to all relevant sectors in developing countries. The 2014 [DAC High Level Meeting](#) agreed to continue to develop a new statistical measurement framework of TOSSD as a complement to the ODA measure. TOSSD would increase transparency of development finance beyond ODA, by covering the totality of official finance in support of sustainable development, regardless of types of instruments and associated terms, as well as private financial resources mobilised through public schemes, such as guarantees, mezzanine finance and equity stakes. TOSSD would therefore be suited for tracking blended finance schemes and public-private partnerships in infrastructure and energy sectors. It would also be suited for tracking financial flows targeting the objectives of the Rio conventions, by using the Rio marker system.

#### ***Sources and data collection***

Data on [concessional finance](#) and partial data on [non-concessional finance](#), including additional resources mobilised by official interventions is compiled by the Organisation for Economic Co-operation and Development from returns submitted by its member countries and other providers of development co-operation. Data can be accessed [here](#).

#### ***Disaggregation***

The data will generally be obtained on an activity level, and include numerous parameters. They can thus be disaggregated by provider and recipient country; by type of finance, and by type of resources provided. Some data are also available on the policy objectives targeted by individual projects.



### ***Comments and limitations***

The definition of the measure is working in progress. The OECD has initiated broad consultation with a large group of stakeholders to determine the specifications of the measure.

The data would address official financing for sustainable development provided by governments, including bilateral development finance institutions and development banks, multilateral organisations and philanthropic organisations. The data collection would also cover the amounts mobilised through public schemes. It would complement data collected by other organisations on broader financial flows to developing countries, including foreign direct investment, bank lending and remittances.

### ***Gender equality issues***

Most of the data will be collected at activity/project level and will include a [“gender equality” marker](#) which identifies individual activities/projects that have a clear gender dimension.

### ***Data for global and regional monitoring***

Data will be available for essentially all high-income countries, and for an increasing number of middle-income providers of development co-operation as well as multilateral organisations and non-state actors such as philanthropic organisations.

### ***Supplementary information***

More information on:

- [Mobilisation effect of public development finance](#)
- [Financing Sustainable Development](#)

### ***References***

OECD, 2015, [Towards more inclusive measurement and monitoring of development finance: Total Official Support for Sustainable Development \(TOSSD\)](#)

OECD, 2014, [DAC High Level Meeting Final Communiqué](#)

### ***Other Targets for which indicator is relevant:***

**7.a, 9.a, 10.b, 11.c, 13.a, 15.a, 15.b, 17.3**

**Target 2.1 By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round.**

**Proposed Alternative Indicator by World Food Programme (WFP): *Food Consumption Score (FCS)***

**1. What is the precise definition of the indicator?**

The frequency weighted diet diversity score or “Food consumption score” is a score calculated using the frequency of consumption of different food groups consumed by a household during the 7 days before the survey.

In its standard form, weights are applied to capture the nutrient density of each food group and the score is the sum of the weighted values over the seven day period. The maximum possible score is 112, which would be achieved by households in which each of the 8 food groups is consumed on a daily basis. Details on the food groups and weights are available here:

[http://documents.wfp.org/stellent/groups/public/documents/manual\\_guide\\_proced/wfp197216.pdf](http://documents.wfp.org/stellent/groups/public/documents/manual_guide_proced/wfp197216.pdf)

**2. How is the indicator linked to the specific TARGET as worded in the OWG report and copied above?**

The FCS is recommended for Target 2.1: “By 2030, end hunger and **ensure access by all people, in particular the poor and people in vulnerable situations**, including infants, to safe, **nutritious and sufficient food** all year round.”

This indicator is a “food access” indicator, and is based on both dietary diversity, and the frequency of food groups consumed.

The FCS in its standard form has been in use by WFP for over 15 years and has enabled the organization to assess and monitor food access and consumption in developing countries. While by definition the FCS is a composite indicator, the food frequency data collected for its computation provides a rich data repository that may be employed in a variety of ways. For example, nutrient adequacy may be analysed from the raw frequency data, and unweighted or differentially weighted scores may be adapted to reflect cultural and geographic dietary variation, to account for seasonality, or to prioritize dietary habits that are consistent with sustainable development goals.

**3. Does the indicator already exist and is it regularly reported?**

a. If YES,

i. Which agency maintains and reports it?

The indicator, and the global reference standard necessary to ensure proper cross-country comparisons are developed and maintained by the WFP Policy and Programme Division, and more specifically; the Food Security Analysis Service<sup>52</sup>.

**ii. Please provide a link to the indicator’s METADATA, as provided by the data owner?**

Detailed Metadata tables for the FCS indicator are available at the link immediately below:

<http://www.wfp.org/content/meta-data-food-consumption-score-fcs-indicator>

WFP is a member of the International Household Survey Network (IHSN). As a member of IHSN, WFP maintains a micro-data catalogue and associated website, with meta-data files for its statistically representative household level surveys. These surveys and related studies are known and referred to as *Comprehensive Food Security Vulnerability Assessments* (CFSVAs). The CFSVA surveys contain Food Consumption Score (FCS) data, along with many other variables. Detailed metadata for the CFSVA surveys, including the metadata for the FCS Indicator data; can be viewed and accessed at WFP’s IHSN Survey Data Portal at the link below:

<http://nada.vam.wfp.org/index.php/catalog>

WFP is committed to transparency and data access, and survey data are maintained in publicly available databases.

**iii. Provide a rough assessment of the cost and feasibility of data collection**

**Conventional “face-to-face” survey approach**

FCS data collected around the world by WFP, NGOs, and government partners are often collected within the context of larger/broader food security monitoring systems (FSMS). FSMS surveys and associated household questionnaires typically include a number of core modules; household demographics, income sources, expenditures, food consumption and food sources, coping strategies and shocks. A typical completed FSMS household questionnaire, if collected using a conventional “face-to-face” (i.e. on site enumerator and respondent) approach, costs approximately \$30. For the purpose of providing a rough estimate of the cost and feasibility of collecting only the FCS data together with the standard household demographic data, we estimate the cost at approximately \$15 to \$20 per household using the conventional face-to-face approach for data collection.

**Data collected remotely using mobile phones survey; mVAM remote surveys**

WFP has been collecting Food Consumption Score (FCS) data with other food security data (reduced Coping Strategy Index / rCSI) remotely in 8 countries around the world since 2013. Collecting FCS data remotely using voice calls placed to mobile phones dramatically reduces the costs of data collection. Collecting FCS data remotely using mobile phones dramatically reduces the costs of data collection.

The cost estimates provided below, are based on experiences from two countries only (DR Congo and Somalia). It should be noted that these countries represent contexts where data collection is most difficult, and as such the cost estimates below should be interpreted as higher than typical; i.e. conservative estimates.

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<sup>52</sup> WFP’s Food Security Analysis Service is also known as VAM/Vulnerability Analysis and Mapping.

In DR Congo and Somalia operators are calling respondent households once a month and asking the FCS and the CSI over the phone. The phone calls typically last 6-7 minutes. The cost of completed household questionnaire of these two modules is \$7-9. For the purpose of estimating the cost of the FCS data module; we use a conservative \$7-\$9 estimate per household. This cost estimate includes the salary of the operator, cost of actual call and a \$0.5 airtime credit incentive for the respondent after the call is completed. It is important to note that through potential economies of scale; with a higher call volume; the cost per survey would likely decrease significantly. A review of the mVAM project is currently underway and being undertaken by Tulane University; the review includes a review of costs.

#### **4. Comment on the reliability, potential coverage, comparability across countries, and the possibility to compute the indicator at sub-national level.**

Since 2003, WFP's VAM/Vulnerability Analysis and Mapping team has completed more than 80 baseline surveys worldwide, most of these have been carried out with national scale coverage. The large majority of these surveys contain Food Consumption Score data. The FCS is measured at household level, and therefore can easily be aggregated at the community, national, or regional level using appropriate population adjustments. The proportion of households failing to achieve a minimally acceptable FCS is easily comparable across countries, while scores for households that are not in states of severe or moderate food insecurity are more easily subjected to cultural and geographic variation. To account for this variation, an analysis of scores associated with high-quality diets in each country can be used to estimate proportions of households meeting acceptable dietary requirements.

A number of experts have highlighted the reliability of the FCS indicator with respect to nutrient adequacy estimates<sup>53</sup>, caloric intake<sup>54</sup>, and have also highlighted unique benefits not associated with other dietary diversity indicators<sup>55</sup>.

#### **5. Can a meaningful numerical target for 2030 be set? Is there already a baseline value for 2015?**

WFP currently has statistically representative FCS data at national scale, for over 35 countries around the world, from which baseline values have been derived.

Establishing global targets with the FCS indicator requires consideration of scoring thresholds. At present, two FCS thresholds are commonly employed: households with scores below 21 are generally considered to have very poor food consumption, while scores between 21 and 35 are associated with borderline consumption. While scores above 35 will not necessarily reflect households consuming sufficient quantities of nutritiously diverse foods, we can be sure that households scoring below these levels are in serious risk. For example, a meaningful universal target associated with hunger eradication could be a reduction in the proportion of households scoring below 21 to under 1% and those scoring under 35 to 5%.

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<sup>53</sup> Shengen Fan (IFPRI) and Paul Polman (UNILEVER), 2013. Ending Hunger and Undernutrition by 2025. .

<sup>54</sup> Wiesmann et al. June, 2009. Validation of the World Food Programme's Food Consumption Score and Alternative Indicators of Household Food Security.

<sup>55</sup> Kennedy et al. 2010. Proxy measures of household food consumption for food security assessment and surveillance: comparison of the household dietary diversity and food consumption scores. Public Health Nutr. Dec;13(12):2010-8.

**Target 2.2** By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons.

**Proposed Additional Indicator by UNICEF:** *Prevalence of overweight (weight for height >+2 SD from the median of the WHO Child Growth Standards) among children under five years of age*

**7. Precise definition of the indicator**

Number of under-fives falling above plus 2 standard  
deviations from the median weight for height of the reference population  
Children under 5 years of age in the surveyed population

**8. How is the indicator linked to the specific TARGET as worded in the OWG Report?**

The target in the OWG report refers to overweight directly (i.e. By 2030, end *all forms of malnutrition*, including achieving, by 2025, the internationally agreed targets ...)

**9. Does the indicator already exist and is it regularly reported?**

Yes, the indicator exists and is reported on annually. There is a joint country level dataset and joint global and regional estimates through collaborative effort between UNICEF-WHO and World Bank Group.

Metadata are available at the UNICEF Statistics website: ([uni.cf/jmedashbaord2015](http://uni.cf/jmedashbaord2015)) as Excel sheets containing the associated data; and from an interactive dashboard available at the same link.

**10. Comment on the reliability, potential coverage, comparability across countries, and the possibility to compute the indicator at sub-national level.**

**Reliability**

In general the reliability of these data are high. At the global level, the confidence intervals for overweight prevalence have averaged about +/- 2 percentage points between 1990 and 2014.

At the national level, where reported, the confidence intervals for overweight prevalence are small in general. The joint dataset is being revised to include country level confidence intervals for overweight prevalence.

### **Potential coverage**

At present the joint dataset contains 778 national surveys between 1983 and 2015, covering 150 countries (representing more than 90 per cent of the global under-five population). The number of national surveys is expected to increase annually and number of countries may also increase.

### **Comparability across countries**

Overweight rates are computed using a global reference standard<sup>56</sup> on child growth which ensure proper cross-country comparability. Data accepted into the dataset have been collected and analysed using standard equipment and methods.

### **Sub national data**

Subnational data are available in a majority of household surveys and UNICEF-WHO and World Bank Group have plans to publish a dataset that contains sub national estimates for the country level dataset.

### **11. Is there already a baseline value for 2015?**

As of September 2015, global and regional estimates for 2014 were released; we will release 2015 estimates in September 2016.

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<sup>56</sup> <http://www.who.int/childgrowth/en/>

**Target 2.2** By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons.

**Proposed Additional Indicator from UNICEF:** *Prevalence of wasting (weight for height <-2 SD from the median of the WHO Child Growth Standards) among children under five years of age*

**Precise definition of the indicator**

Number of under-fives falling below minus 2 standard  
deviations from the median weight for height of the reference population  
Children under 5 years of age in the surveyed population

**12. How is the indicator linked to the specific TARGET as worded in the OWG Report?**

The target in the OWG report refers to overweight directly (i.e. By 2030, end *all forms of malnutrition*, including achieving, by 2025, the internationally agreed targets on stunting and *wasting*...)

**13. Does the indicator already exist and is it regularly reported?**

Yes, the indicator exists and is reported on annually. There is a joint country level dataset and joint global and regional estimates through collaborative effort between UNICEF-WHO and World Bank Group.

Metadata are available at the UNICEF Statistics website: ([uni.cf/jmedashbaord2015](http://uni.cf/jmedashbaord2015)) as Excel sheets containing the associated data; and from an interactive dashboard available at the same link.

**14. Comment on the reliability, potential coverage, comparability across countries, and the possibility to compute the indicator at sub-national level.**

**Reliability**

In general the reliability of these data are high. At the global level, in 2014, the confidence intervals for overweight prevalence was about +/- 1 percentage point.

At the national level, where reported, the confidence intervals for wasting can be relatively larger than for stunting. Wasting rates also vary by season and can be affected by numerous factors and thus can fluctuate rapidly. The joint dataset is being revised to include country level confidence intervals for wasting prevalence.

### **Potential coverage**

At present the joint dataset contains 778 national surveys between 1983 and 2015, covering 150 countries (representing more than 90 per cent of the global under-five population). The number of national surveys is expected to increase annually and number of countries may also increase.

### **Comparability across countries**

Wasting rates are computed using a global reference standard<sup>57</sup> on child growth which ensure proper cross-country comparability. Data accepted into the dataset have been collected and analysed using standard equipment and methods.

### **Sub national data**

Subnational data are available in a majority of household surveys and UNICEF-WHO and World Bank Group have plans to publish a dataset that contains sub national estimates for the country level dataset.

#### **15. Is there already a baseline value for 2015?**

As of September 2015, global and regional estimates for 2014 were released; we will release 2015 estimates in September 2016.

**Target 2.2 By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons.**

**Proposed Additional Indicator from UNICEF: *Exclusive breastfeeding among children under 6 months of age***

#### **16. Precise definition of the indicator**

Number of infants under six months of age fed only breastmilk on the previous day  
Children under six months of age in the surveyed population

#### **17. How is the indicator linked to the specific TARGET as worded in the OWG Report?**

The target in the OWG report refers to exclusive breastfeeding directly (i.e. By 2030, end all forms of malnutrition, *including achieving, by 2025, the internationally agreed targets*

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<sup>57</sup> <http://www.who.int/childgrowth/en/>



on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons.). One of the internationally agreed upon targets for 2025 is a global exclusive breastfeeding rate of 50 per cent, thus linking this indicator directly to the target.

**18. Does the indicator already exist and is it regularly reported?**

Yes, the indicator exists and is reported on annually by UNICEF.

Metadata are available at the UNICEF Statistics website:

(<http://data.unicef.org/nutrition/iycf.html>) as Excel sheets containing the associated data.

**19. Comment on the reliability, potential coverage, comparability across countries, and the possibility to compute the indicator at sub-national level.**

**Potential coverage**

At present the UNICEF exclusive breastfeeding dataset contains around 500 data points between 1990 and 2015, covering more than 130 countries. The number of national surveys is expected to increase annually and number of countries may also increase as more and more high-income countries report against international commitments.

**Comparability across countries**

The global database includes only data that adhere to the standard definition. As such dataset contains estimates that have been collected and analysed using standard methods making them comparable across countries.

**Sub national data**

Subnational data are generally available due to the small sample size for the age group in the majority of household surveys (as it only targets infants <6 months of age).

**20. Is there already a baseline value for 2015?**

As of June 2015, UNICEF released global and regional estimates using country data from 2008-2014.

**Target 2.2 By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons.**

**Proposed Additional Indicator by UNICEF: *Prevalence of anemia (Hb ≤ 11 g/dl) among women of reproductive age***

**21. Precise definition of the indicator**

Number of women of reproductive age with a Hb  $\leq$  11 g/dl  
Number of women of reproductive age in the surveyed population

**22. How is the indicator linked to the specific TARGET as worded in the OWG Report?**

The target in the OWG report refers to anemia directly (i.e. By 2030, ***end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets*** on stunting and wasting in children under 5 years of age, and ***address the nutritional needs of adolescent girls, pregnant and lactating women*** and older persons.). One of the internationally agreed upon targets for 2025 is a 50 per cent reduction in anaemia among women of reproductive age, thus linking this indicator directly to the target.

**23. Does the indicator already exist and is it regularly reported?**

Yes, the indicator exists and is reported on periodically by WHO. Metadata are available at the WHO Nutrition website: (<http://www.who.int/vmnis/database/anaemia/en/> ).

**24. Comment on the reliability, potential coverage, comparability across countries, and the possibility to compute the indicator at sub-national level.**

**Potential coverage**

At present the dataset contains data for 193 countries as modelled estimates.

**Comparability across countries**

Anemia prevalence is computed using a global reference cut off based on haemoglobin measurements implemented using standard equipment and methods. The model also uses other standard indicators as additional input variables. Input data accepted into the dataset used to generate the modelled estimates have been collected and analysed using standard equipment and methods.

**Sub national data**

Subnational data are available from some household surveys, but the modelled estimates are not undertaken at the subnational level.

**25. Is there already a baseline value for 2015?**

As of 2015, global, regional and country estimates for 2011 were released in a WHO report. Global and regional updates are generally every 5 to 10 years with the previous report being released in 2008 (covering the 1995-2005 period).

**Target 2.2** By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons.

**Proposed Additional Indicator by FAO:** *Women Dietary Diversity Score*

**26. Precise definition of the indicator**

The Minimum Dietary Diversity for Women (MDD-W) indicator is defined as: “the proportion of all women 15-49 years of age who consumed at least 5 out of 10 defined food groups the previous day”

The 10 food groups are:

- All starchy staple foods
- Beans and peas
- Nuts and seeds
- Dairy
- Flesh foods
- Eggs
- Vitamin A-rich dark green leafy vegetables
- Other vitamin A-rich vegetables and fruits
- Other vegetables
- Other fruits

## **27. How is the indicator linked to the specific TARGET as worded in the OWG Report<sup>58</sup>?**

The MDD-W is a proxy indicator of micronutrient adequacy of the diets of women of reproductive age, with the desired direction of change being an increase of the value of the indicator. Women consuming at least five out of ten food groups have a greater likelihood of meeting their micronutrient needs than women consuming foods from fewer food groups<sup>59</sup>. Women's diets in resource-poor countries have been shown to be inadequate (Torheim, 2010; Lee, 2013), so this indicator is directly relevant to the target of “addressing the nutritional needs of adolescent girls, pregnant and lactating women”.

## **28. Does the indicator already exist and is it regularly reported?**

This is a new indicator that has been developed and validated against high-quality quantitative dietary data (Arimond, Wiesmann, Becquey et al, 2010). It is not yet regularly reported although similar data on dietary diversity of women have been reported in the past.

Because the indicator was recently developed, there has been no routine data collection until very recently when several USAID programmes have incorporated it into their monitoring and evaluation framework (for Feed the Future and Title II programmes).

Potential data sources include the DHS surveys and the UNICEF MICS. Representatives from agencies sponsoring these surveys have been engaged in larger stakeholder consultations on the MDD-W. DHS collected women's dietary diversity data using a previous version of the tool. Other potential sources are national nutrition and health surveys. All of these are conducted on an average of every five years, and global coverage is not attained, however the DHS covers over 90 countries, including most developing countries.

If prioritized and funded, inclusion in large scale surveys such as those mentioned above is feasible. It is a short module requiring no more than 15 minutes of interview time and calculation of the indicator is simple and straight forward. Upfront costs include a one-time questionnaire adaptation to include local foods and for translation into languages used for questionnaire administration. Therefore, marginal costs to including the module into an existing survey include the one time questionnaire preparation, and interview and enumerator training time.

## **29. Comment on the reliability, potential coverage, comparability across countries, and the possibility to compute the indicator at sub-national level.**

### Reliability

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<sup>58</sup> FAO endorses the set of indicators that have been endorsed by Member States at the 65th World Health Assembly (WHA 2012), and supports in particular the Prevalence of stunting (low height-for-age) in children under 5 years of age, and the Prevalence of overweight children under 5 years of age as core indicators for Target 2.2. Furthermore, it is strongly believed that an important determinant of malnutrition is dietary quality and therefore the Women Dietary Diversity Score (listed here as Indicator 2.2.1) is proposed as an additional one. This indicator would provide information to countries on the dimension of women consuming micronutrient poor diets, an important contribution to micronutrient-related malnutrition.

<sup>59</sup> This is the main conclusion of the Women's Dietary Diversity Project I and II (WDDP). The technical report of WDDP-II is about to be published by FAO. All available information can be found at: <http://www.fantaproject.org/research/womens-dietary-diversity-project>

The precision of the calculated estimates depend on the sample size. With large-scale nationally representative studies, the estimates will reach a good level of precision.

#### Coverage

See the paragraph above on data sources.

#### Comparability across countries

While there is no global standard of reference, the concept of food group diversity is globally relevant. All national dietary guidelines stress the importance of varied diets for health and nutrition outcomes (Dwyer, 2012)<sup>60</sup>.

#### Sub-national estimates

Data are collected on individual women. Subnational estimates are possible as long as the survey is representative for specific population groups and/or geographical areas.

### **30. Is there already a baseline value for 2015?**

In the absence of baseline data, it is difficult to set a meaningful target that is feasible to achieve over a 15 year time horizon.

In order to set meaningful targets for tracking progress, it would be desirable to bring together major stakeholders in nutrition and women's health to reach consensus on setting a meaningful and feasible target for the SDGs.

Assembling stakeholders to engage in this process is possible because there is wide support for the inclusion of this indicator in the development goals, as evidenced by the recent policy brief from the Standing Committee on Nutrition available at:

[http://www.unscn.org/files/Publications/Policy\\_brief\\_Priority\\_Nutrition\\_Indicators\\_for\\_the\\_Post-2015\\_SDGs.pdf](http://www.unscn.org/files/Publications/Policy_brief_Priority_Nutrition_Indicators_for_the_Post-2015_SDGs.pdf). In the meantime the organizations, institutions and individuals involved in this area will begin a search for available data that may provide input into this process.

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<sup>60</sup> Dwyer, JT. (2012) Dietary standards and guidelines: Similarities and differences among countries. Chapter 65 in Present Knowledge in Nutrition, 10th ed., pp. 1110-1134, JW Erdman, IA MacDonald, and SH Zeisel, eds. Wiley-Blackwell.

**Target 2.4** By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality.

**Proposed Additional Indicator by UNISDR:** *Agricultural damage and loss due to hazardous events*

**Definition:**

**Direct loss to agriculture (both physical and monetary):** Direct economic loss due to agricultural loss consists of crops (estimated from agricultural lands affected) and livestock loss. Direct loss is nearly equivalent to physical damage. *The monetary value of total or partial destruction of physical assets existing in the affected area.* Examples include loss to physical assets such as damaged housings, factories and infrastructure. Direct losses usually happen during the event or within the first few hours after the event and are often assessed soon after the event to estimate recovery cost and claim insurance payments. These are tangible and relatively easy to measure.

UNISDR originally proposed measuring crops (estimated from agricultural land affected) and livestock loss from the perspective of standardized measurability. The Expert Group proposes to widen the scope including **poultry, fishery and forestry**. UNISDR needs research on how to universally standardize methodology, in consistent with PDNA.

**Agricultural lands affected:** The area of cultivated or pastoral land damaged or destroyed due to hazardous event (unit: hectare).

**Livestock loss:** The number of 4-legged domestic animals (e.g. cow, pig, sheep, goat, cattle) lost due to hazardous event.

**Indirect loss to agriculture (both physical and monetary):** Indirect loss refers to changes in economic flows arising from the hazardous event, and the direct damage it caused. Indirect losses continue until the achievement of full economic recovery or reconstruction. They may include the decline in output in crops, livestock, fisheries/aquaculture and forestry production, and consequent losses along the value chain; lower income to farmers associated with demand reduction and higher cost of production due to the hazardous event; lower tax revenues for governments due to the damages sustained by the agriculture sector; increased expenditure to manage new risks arising from the hazardous event.

**Hazardous event:** The occurrence of a natural or human-induced phenomenon in a particular place during a particular period of time due to the existence of a hazard.

**Hazard:** A potentially damaging physical event, phenomenon or human activity that may cause the loss of life or injury, property damage, social and economic disruption or environmental degradation.

UNISDR recommends setting NO threshold for recording hazardous event in order to monitor *all* hazardous events. Small-scale but frequent hazardous events that are not registered in international

disaster loss databases account for an important share of damages and losses when they are combined, and often go unnoticed by the national and international community. These events, when accumulated, are often a source of poverty in developing countries but can be effectively addressed by well-designed policies. The scope of the Sendai Framework for Disaster Risk Reduction 2015-2030 is “the risk of small-scale and large-scale, frequent and infrequent, sudden and slow-onset disasters, caused by natural or man-made hazards as well as relate environmental, technological and biological hazards and risks”.

Note: Terminology will be discussed and finalized in the Open-ended Intergovernmental Working Group for Sendai Framework for Disaster Risk Reduction.

#### **Method of computation:**

Summation of data from national disaster loss databases to summarize the physical damage. Need conversion from physical value to monetary value according to the UNISDR methodology.

Indirect loss to agriculture is computed by analysing deviations from yields and production trends of affected crop, livestock, fisheries and forestry commodities in the area exposed to the event, extrapolating from national and sub-national data on agriculture production, and based on data including from FAOSTAT, FISHSTAT, FAO/GIEWS, AQUASTAT databases. Producer prices (at the farm-gate or at the first point of sale) are used to estimate the monetary value of physical production losses. A set of FAO assessment tools and methodologies will be used to compute agriculture production losses and associated losses along the value chain, including the Rapid Agricultural Disaster Assessment Routine (RADAR), the Agriculture Stress Index System (ASIS), and the methodological framework applied in the FAO study on “The Impact of Natural Hazards and Disasters on Agriculture, Food Security, and Nutrition” (to be published in November 2015).

#### **Rationale and interpretation** (mainly based on TST Issue Brief 2-5, 20 and 23-26):

Direct agriculture loss will track direct loss expressed in monetary terms. The disaster loss data are significantly influenced by large-scale catastrophic events, which represent important outliers. UNISDR recommends countries to report the data by event, so complementary analysis can be done by both including and excluding such catastrophic events.

The indicator will build bridge between SDGs and the Sendai Framework for Disaster Risk Reduction. The reduction of direct economic loss is included in the Sendai Framework global targets and will also be monitored under the Sendai Framework Monitoring Mechanism. While agriculture loss reduction is not directly addressed in Sendai Framework global target, it will constitute the critical part of economic loss especially in many developing countries.

Indirect loss to agriculture (i.e. post-disaster production losses and changes in economic flows) is added in this proposal since it arises from the direct damage caused by hazardous events and provides a measure of the overall impact on farmers’ income and livelihoods under a longer time perspective, going beyond immediate damage. According to the preliminary results of a FAO study on “The Impact of Natural Hazards and Disasters on Agriculture, Food Security and Nutrition” (to be published in November 2015), agriculture absorbed about 30% of total indirect economic losses caused by disasters in developing countries between 2003 and 2013, while only 15% of the direct damage. Given the importance of indirect loss to agriculture, the indicator will track indirect loss to agriculture in all sub-

sectors (crops, livestock, fisheries, forestry), focusing on the impact of hazardous events on specific agricultural commodities produced in the affected areas.

See also the annex.

**Sources and data collection:**

Direct loss: National disaster loss database, reported to UNISDR

Indirect loss:

FAO databases on national and sub-national agriculture production, prices and trade, including FAO/GIEWS; FAOSTAT; FISHSTAT; AQUASTAT; as well as remote sensing data from FAO's Agricultural Stress Index System (ASIS).

**Disaggregation:** by country, by event, by hazard type (e.g. disaggregation by climatological, hydrological, meteorological, geophysical, biological and extra-terrestrial for natural hazards is possible following IRDR\* classification), by asset loss category.

\*Integrated Research on Disaster Risk (2014), *Peril Classification and Hazard Glossary (IRDR DATA Publication No.1)*, Beijing: Integrated Research on Disaster Risk

Ideally, in addition, by sub-national administrative unit.

In addition to the above-mentioned categories, indirect loss to agriculture will be disaggregated by agriculture sub-sectors and by selected agriculture commodities.

**Comments and limitations:**

- ✓ This is proposal by UNISDR based on our experience and knowledge built in the period under the Hyogo Framework for Action (2005-2015). The proposed indicator was further reviewed and examined by other UN agencies including FAO, GFDRR, IOM, UNCCD, UNDP, UNESCAP, UNESCO, UNFPA, UNHCR, UNOCHA, UNOOSA, UNOPS, UNU, UNWOMEN, WHO and WMO (though not all organizations listed here provided comments for this indicator) and submitted to the IAEG process in early-July 2015, then again reviewed by the Technical Expert Group consisting of more than 60 experts from UN system, academic and research, civil sector and private sector in 27-29 July 2015 and submitted and examined by the Member States in the 1<sup>st</sup> Open-ended Intergovernmental Expert Working Group on Indicators and Terminology on Disaster Risk Reduction held in 29-30 September 2015. The suggested indicator is currently under review by the Member States and UNISDR is receiving written inputs from the Member States.
- ✓ The proposed indicators will be also used to monitor Sendai Framework global targets and therefore the detailed definitions shall be discussed and agreed in Open-ended Intergovernmental Expert Working Group on Indicators and Terminology on Disaster Risk Reduction, as outlined in Sendai Framework for Disaster Reduction 2015-2030. The Working Group is likely to finalize the discussion and submit the final report to the GA in December 2016.
- ✓ Not every country has a comparable national disaster loss database that is consistent with the UNISDR guidelines (current coverage is 85 countries. Additional 32 countries are expected to be covered in 2015-16). Therefore, by 2020, it is expected that all countries will build/adjust the database according to the UNISDR guidelines and report the data to UNISDR.



- ✓ Indirect loss to agriculture is a new indicator that is being developed by FAO as part of its corporate commitment to resilience and to the SDGs and the Sendai Framework for Disaster Reduction. FAO is well placed to improve the monitoring and reporting of the impact of hazardous events on the agriculture sector and sub-sectors, by supporting member states in the collection and reporting of relevant data on agriculture losses. A set of pilot countries can be identified among those where disasters have a high impact on agriculture and livelihoods and where the governments (led by the Ministry of Agriculture) have expressed interest in expanding and improving the statistics on disaster impact on crops, livestock, fisheries/aquaculture, and forestry production, and related value chains.

**Gender equality issues:** Not included.

**Data for global and regional monitoring:** Summation of data from national disaster loss databases. The value of indirect loss to agriculture, expressed as share of total value of agricultural production, allows comparability across countries as well as aggregation at regional and global level.

**Main linkage with SDG Targets:**

This indicator is proposed to measure the resilience/adaptation dimension of Target 2.4.

“By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality”.

It thus complements the indicator “Area under sustainable agricultural practices”, also required for this target and which monitors the sustainability dimension.

The proposed indicator on agricultural damage and loss may, however, also be used as a ‘**multi-purpose indicator**’ to supplement the monitoring of related targets 15.3, 1.5, 13.1, 11.5, 14.2, 3.d, 2.1, 2.2, and 2.3.

The monitoring of the proposed indicator would allow governments to better measure and monitor the impact of hazardous events on agriculture and food security, and hence to better design policy measures and investments in the sector that help strengthen adaptive capacities to cope with climate change, reduce the impacts of extreme events and disasters on livelihoods and food production systems, build resilience, and promote more sustainable agricultural and natural resource management practices that support the achievement of the SDGs.

**Target 2.4:**

By 2030, ensure sustainable food production systems and implement **resilient agricultural practices** that increase productivity and production, that help maintain ecosystems, that strengthen capacity for **adaptation to climate change, extreme weather, drought, flooding and other disasters** and that progressively improve land and soil quality

**Target 15.3:**

By 2030, combat desertification, restore degraded land and soil, including **land affected by desertification, drought and floods**, and strive to achieve a land-degradation-neutral world

**Target 1.5:**

By 2030, build **the resilience of the poor and those in vulnerable situations** and reduce their **exposure and vulnerability to climate-related extreme events** and other economic, social and environmental shocks and **disasters**

**Target 11.5:**

By 2030, significantly reduce **the number of deaths** and **the number of people affected** and substantially decrease the direct economic losses relative to global gross domestic product caused by **disasters**, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations

**Target 13.1:**

Strengthen **resilience and adaptive capacity to climate-related hazards and natural disasters** in all countries

**Target 14.2:**

By 2020, sustainably manage and protect **marine and coastal ecosystems** to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans

**Target 3.d:**

Strengthen the capacity of all countries, in particular developing countries, for **early warning, risk reduction and management of national and global health risks**

**Target 2.1:**

By 2030, **end hunger** and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round

**Target 2.2:**

By 2030, **end all forms of malnutrition**, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 year of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons

**Target 2.3:**

By 2030, **double the agricultural productivity** and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment

**Supplementary information:**

**Related targets in the Sendai Framework for Disaster Risk Reduction 2015-2030:**

Reduce **direct disaster economic loss** in relation to global gross domestic product (GDP) by 2030.

**Sendai Framework for Disaster Risk Reduction 2015-2030:**

[http://www.preventionweb.net/files/43291\\_sendaiframeworkfordrren.pdf](http://www.preventionweb.net/files/43291_sendaiframeworkfordrren.pdf)

#### **Annex: Rationale and interpretation**

Rio+20 advocates sustainable agriculture which enhances resilience to climate change and natural disasters (The Future We Want). Rural areas around the world, as well as cities, are at growing risk from natural hazards. Impacts of climate change on sustainable development are observed through both slow-onset events (e.g. sea level rise, increasing temperatures, ocean acidification, glacial retreat and related impacts, salinization, land and forest degradation, loss of biodiversity and desertification) and extreme weather events. SIDS and coastal regions are particularly affected by sea level rise, coastal flooding and erosion, and extreme events (e.g. tsunamis and storm surges) due to the undermining natural protective barriers, low levels of development combined with rapid population growth in low lying coastal areas and inadequate capacity to adapt.

Agriculture is already adversely affected by unpredictable and extreme effects of climate change. The environment for food production is increasingly challenging, particularly for smallholders, due to environmental and climate-related factors. Similar to extreme income poverty, food insecurity continues to be predominantly concentrated in rural areas of developing countries, and disproportionately affects poor farmers, agricultural workers, pastoralists and rural communities.

To assure food security and nutrition it is important to reduce insecurity, conflict, climate vulnerability and vulnerability to shocks and crisis. Common conditions for protracted crisis situations include frequent or continued exposure to shocks that undermine livelihoods, food and market systems. Special consideration needs to be given to population living in areas prone to environmental and natural disaster shocks. They need to be more resilient to shocks and changes, better able to withstand increased climatic shocks and rising temperatures.

Large numbers of people remain perilously close to falling into poverty, experiencing shocks that they are unable to cope with. For the poor, a shock of even a relatively short impact and duration can have long term consequences. Several dimensions of poverty are closely related to environment, which is often affected by natural disasters. The poverty reduction agenda could include well-designed social protection schemes to help protecting the poor against sudden shocks and development of capacities to better predict and prepare for such shocks. Better management of natural resources can themselves strengthen the resilience of the poor, by both reducing the likelihood of natural hazard events and offering resources to help cope with them.

Desertification, land degradation and drought exacerbate climate change impacts and diminish sustainable livelihoods and socio-economic development. Biodiversity provides ecosystem resilience and contributes to the ability to respond to unpredictable global changes and natural disasters. Healthy ecosystems act as buffers against natural hazards, providing valuable yet underutilized approaches for climate change adaptation, enhancing natural resilience and reducing the vulnerability of people, for example to floods and the effects of land degradation. These ecosystem services improve the sustainability and economic efficiency of built infrastructure, and are critical for sustainable and resilient urban areas.

**Target 2.5** By 2020, maintain the genetic diversity of seeds, cultivated plants and farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at the national, regional and international levels, and ensure access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge, as internationally agreed

**Proposed Additional Indicator by FAO:** *Number/percentage of local breeds classified as being at-risk, not-at-risk and unknown-levels of risk of extinction*

### **31. Precise definition of the indicator**

The indicator presents the percentage of livestock breeds classified as being at risk, not at risk or of unknown risk of extinctions at a certain moment in time, as well as the trends for those percentages.

The indicator is based on the most up to date data contained in FAO's Global Databank for Animal Genetic Resources DAD-IS (<http://dad.fao.org/>) at the time of calculation. Risk classes are defined based population sizes of breeds reported to DAD-IS. The risk class is considered to be "unknown" if (i) no population sizes are reported or (ii) the most recent population size reported refers to a year more than 10- years before the year of calculation (10 year cut off point).

Links to official definitions/descriptions of the indicator are reported below:

The indicator is one out of a set of 3 sub-indicators which are defined in the document CGRFA/WG-AnGR-7/12/7 "Targets and indicators for animal genetic resources" (<http://www.fao.org/docrep/meeting/026/me514e.pdf>) and that are endorsed in their current form by Commission on Genetic Resources for Food and Agriculture at its the 14<sup>th</sup> Session (see par 28 CRRFA-14/13/Report at <http://www.fao.org/docrep/meeting/028/mg538e.pdf>). The indicator serves to monitor the implementation of the Global Plan of Action for Animal Genetic Resources. In this respect the indicator is presented in the "Status and Trends of Animal Genetic Resources-2014" (see <http://www.fao.org/3/a-mm278e.pdf>).

This indicator is also proposed for the Target 15.5 under SDG, and it serves also as an indicator for the Aichi Target 13 "**Genetic Diversity of Terrestrial Domesticated Animals**" under the Convention on Biological Diversity (CBD). It is described on the webpage of the Biodiversity Indicators Partnership (BIP), a network of organizations which have come together to provide the most up-to date biodiversity information possible for tracking progress towards the Aichi Targets (<http://www.bipindicators.net/domesticatedanimals>). Further, it is presented in the Global Biodiversity Outlook 4, page 91 (see <http://www.cbd.int/gbo/gbo4/publication/gbo4-en-lr.pdf>) which is an output of the processes under the CBD.

Risk classes are defined as follows<sup>61</sup>:

- **extinct:** a breed is categorized as extinct when there are no breeding males or breeding females remaining. Nevertheless, genetic material might have been cryo-conserved which would allow recreation of the breed. In reality, extinction may be realized well before the loss of the last animal or genetic material.
- **critical:** a breed is categorized as critical if the total number of breeding females is less than or equal to 100 or the total number of breeding males is less than or equal to five; or the overall population size is less than or equal to 120 and decreasing and the percentage of females being bred to males of the same breed is below 80 percent, and it is not classified as extinct.
- **critical-maintained:** are those critical populations for which active conservation programmes are in place or populations are maintained by commercial companies or research institutions.
- **endangered:** a breed is categorized as endangered if the total number of breeding females is greater than 100 and less than or equal to 1 000 or the total number of breeding males is less than or equal to 20 and greater than five; or the overall population size is greater than 80 and less than 100 and increasing and the percentage of females being bred to males of the same breed is above 80 percent; or the overall population size is greater than 1 000 and less than or equal to 1 200 and decreasing and the percentage of females being bred to males of the same breed is below 80 percent, and it is not assigned to any of above categories.
- **endangered-maintained:** are those endangered populations for which active conservation programmes are in place or populations are maintained by commercial companies or research institutions.
- **breed at risk:** a breed that has been classified as either critical, critical-maintained, endangered, or endangered-maintained.

### **32. How is the indicator linked to the specific TARGET as worded in the OWG Report?**

The indicator has a direct link to “biodiversity” as animal or livestock genetic resources represent an integral part of agricultural ecosystems and biodiversity as such.

Further there are indirect links to “malnutrition”: Animal genetic resources for food and agriculture are an essential part of the biological basis for world food security, and contribute to the livelihoods of over a thousand million people. A diverse resource base is critical for human survival and well-being, and a contribution to the eradication of hunger: animal genetic resources are crucial in adapting to changing socio-economic and environmental conditions, including climate change. They are the animal breeder’s raw material and amongst the farmer’s most essential inputs. They are essential for sustainable agricultural production.

No increase of the percentage of breeds being at risk or being extinct is directly related to “halt the loss of biodiversity”.

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<sup>61</sup> FAO. 2007. *The State of the World's Animal Genetic Resources for Food and Agriculture*, edited by Barbara Rischkowsky & Dafydd Pilling. Rome. Accessible at <http://www.fao.org/docrep/010/a1250e/a1250e00.htm>.

### **33. Does the indicator already exist and is it regularly reported?**

Yes, the indicator exists. It is calculated by FAO/AGAG and reported biannually to the Commission of Genetic Resources of Food and Agriculture. The most recent report is available at: <http://www.fao.org/3/a-mm278e.pdf>. The links to the BIP and CBD are provided above. FAO is a partner in the BIP and provides information on the indicator directly to the partnership.

The underlying data base DAD-IS is maintained by FAO/AGAG (see <http://dad.fao.org/>). The contact person for DAD-IS is Ms Roswitha Baumung. Data are officially provided by countries. Data entry is possible all over the year.

Sustainability of the indicator production and its use within a meaningful global monitoring framework is strongly dependent on the maintenance and development of DAD-IS by FAO.

### **34. Comment on the reliability, potential coverage, comparability across countries, and the possibility to compute the indicator at sub-national level.**

#### Reliability

The reliability of measures of population size for breeds varies across countries and species (similarly to what is the case for population size of livestock species provided in CountrySTAT). However, rough estimates on country level are considered to be sufficient to reliably detect global and regional trends.

#### Coverage

The Global Databank for Animal Genetic Resources currently contains data from 182 countries and 38 species. The total number of national breed populations recorded in the Global Databank has increased dramatically since 1993 (from 2 716 national breed populations to 14 869 and from 131 countries to 182). The total number of mammalian national breed populations recorded in June 2014 was 11 062. The total number of avian national breed populations recorded in 2014 was 3 807. However, breed-related information remains far from complete. For almost 60 percent of all reported breeds, risk status is not known because of missing population data or lack of recent updates. Generally data collection should be possible in all countries. Updating of population size data at least each 10 years is needed for the definition of the risk classes.

#### Comparability across countries

Completely comparable as calculation is done in the same way for all countries and the same definitions on risk classification is applied.

#### Sub-national estimates

Sub-national estimates can be obtained with regard to the risk status of each national breed population and species. Results can be presented at the national, regional and global levels.

**35. Is there already a baseline value for 2015?**

With regard to animal biodiversity, SDG target 2.5 has been formulated as “...the genetic diversity of farmed and domesticated animals is *maintained*” which is consistent with the target formulation of Aichi Target 13 under the CBD. However the future projections presented in the Global Biodiversity Outlook 4, Figure 131, page 91 (see <http://www.cbd.int/gbo/gbo4/publication/gbo4-en-lr.pdf>) suggest to maintain/halt the loss of animal biodiversity may be very challenging.

**Target 2.b Correct and prevent trade restrictions and distortions in world agricultural markets, including through the parallel elimination of all forms of agricultural export subsidies and all export measures with equivalent effect, in accordance with the mandate of the Doha Development Round.**

**Proposed Alternative Indicator from OECD: *OECD PRODUCER SUPPORT ESTIMATE (PSE)***

***Definition and method of computation***

The OECD Producer Support Estimate (PSE) indicators were developed in order to monitor and evaluate developments in agricultural policy, to establish a common base for policy dialogue among countries, and to provide economic data to assess the effectiveness and efficiency of policies. The indicators were mandated by OECD Ministers in 1987, and have since been calculated for OECD and an increasing number of non-OECD countries, and are widely referred to in the public domain.

***Rationale and interpretation***

PSE Indicators show what share of support to agriculture can be considered to be highly production and trade distorting (as opposed to be only minimally influencing markets through more decoupled measures of support). Domestic support notifications to the WTO are an obvious source for an indicator on target 2b as well; however, notifications often have a significant time lag and not all countries notify.

***Sources and data collection***

Annual data; original data is collected by the OECD secretariat in collaboration with capitals.

***Disaggregation***

Data is available at the individual country level for 49 countries. The online database provides tables to make cross-country comparisons and filter disaggregated policy-level data by commodity, policy implementation criteria and country.

***Comments and limitations***

None are identified.

***Gender equality issues***

None are identified.

***Data for global and regional monitoring***

Data are available for 49 countries (27 EU members treated as a single entity), including all OECD countries, as well as a number of non-member countries.

***Supplementary information***

PSE manual: <http://www.oecd.org/tad/agricultural-policies/psemanual.htm>



## *References*

Annual publication: [Monitoring and Evaluation of agricultural policies](#)

**Target 3.3 By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases.**

**Proposed Alternative Indicator by UNFPA: *AIDS Deaths***

Abbreviated name	<b>AIDS deaths</b>
Indicator name	AIDS related deaths (per 100,000 population)
Domain	Health status
Subdomain	Infectious disease
Associated terms	Mortality
Definition	Estimated mortality due to AIDS is the number of adults and children that have died in a specific year based in the modelling of HIV surveillance data using standard and appropriate tools.
Numerator	Number of AIDS related deaths people (adults and children) who die in a specific year.
Denominator	population
Disaggregation/ additional dimension	General population, Key populations (men who have sex with men, sex workers, people who inject drugs, transgender people, prisoners), Age groups (0–14, 15–24, 15–49, 50+ years), for key populations < 25, 25+ years), place of residence, sex. (Possibly also child mortality)
Method of measurement	AIDS deaths are modelled using the Spectrum / EPP software.
Method of estimation	Empirical data from different HIV surveillance sources are consolidated to obtain estimates of the level and trend in adults and children mortality by using standard methods and tools for HIV estimates appropriate to the level of HIV epidemic.
Measurement frequency	Spectrum/ EPP model estimates updated every year
Monitoring and evaluation framework	Impact
Preferred data sources	Spectrum/EPP modelling
Other possible data sources	Vital registration systems where existent
Further information and related links	AIDSinfo Spectrum / EPP software <a href="http://www.unaids.org/en/dataanalysis/datatools/spectrumapp">http://www.unaids.org/en/dataanalysis/datatools/spectrumapp</a>

**Target 3.7 By 2030, ensure universal access to sexual and reproductive health-care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programmes.**

**Proposed Alternative Indicator from UNFPA: *Percentage of primary health care facilities that offer essential SRH services***

<p><b>Sources and Data Collection</b></p>	<p>This composite indicator will be developed using periodic reviews of facility-based data supplemented by client surveys. Select components of the indicator are currently available in national health reporting systems, and facility-level surveys, but new data will be generated on SRH service coverage and quality.</p> <p>Likely data source will be a modification of the DHS SPA, and national HMIS where sufficiently robust.</p> <p>The number of countries having DHS SPA surveys is limited (4 countries since 2010). SPA provides national and sub-national information on the availability and quality of services from all functioning health facilities in the country, including hospitals, health centers, dispensaries, maternities, clinics, and health posts. The type of SPA varies (HIV SPA; HV/MCH SPA; MCH SPA), and services of interest include child health, family planning, maternal and newborn health care (antenatal and delivery care), sexually transmitted infections, tuberculosis, and HIV/AIDS. The full SPA assessment includes facility audit questionnaires, interviews of health service providers, observations of client-provider consultations, and exit interviews with clients.</p> <p>Other potential facility-based surveys for countries lacking sufficient HMIS include WHO SARA and UNFPA GPRHCS facility survey (the latter has comprehensive data on the types of available FP methods).</p>
<p><b>Data disaggregation</b></p>	<p>Disaggregation based on service characteristics such as facility level (health post, health center, etc.), urban/rural, and sub-national region.</p>
<p><b>Definition and Method of Computation</b></p>	<p>Specifically, it would measure the proportion of primary health service delivery points at which essential SRH services are available to clients, including referral for specialized services.</p> <p><b>Essential SRH services defined to include:</b></p> <ul style="list-style-type: none"> <li>• Maternity care – 4 components: ANC offered; post-natal care (PNC) offered; skilled birth attendance (SBA) present or on call; functioning referral and transport for BEmONC; <i>[all variables captured within DHS SPA]</i></li> <li>• Prenatal syphilis screening and treatment; <i>[ANC syphilis screening captured within DHS SPA; treatment captured in DHS SPA by availability of pre-referral medicines including injectable penicillin]</i></li> </ul>

- Availability of at least 5 types of modern contraception, with quality, counsel and non-coercion; *[availability of modern methods currently captured in DHS SPA; data on quality, counsel and non-coercion would require complementary sources (e.g. exit interviews, mystery client studies)].*
- HIV counseling and testing; *[currently captured in DHS SPA; not relevant for all countries]*
- Non-coercive counseling for women experiencing unwanted pregnancy, including options of adoption, medical abortion and referral for surgical abortion to extent of the law *[Items not captured in DHS SPA and would require additions to facility and client surveys]*

Relevant SPA Survey Questions and Corresponding Results: Kenya 2010 DHS-SPA (HIV/MCH SPA)

- Maternity care: ANC offered; PNC offered; SBA present or on call; functioning referral and transport for BEmONC
  - Q400: Does this facility offer ANC services, postnatal services, or both (2 measures)
  - Q506: Is a person skilled in conducting deliveries present at the facility or on call 24 hours a day, including weekends, to provide delivery care?
  - Q439: Does this facility have a functional ambulance or other vehicle for emergency obstetric transportation?
- Prenatal syphilis screening and treatment
  - Q409\_2: which of the following activities are performed as part of routine ANC services? Blood test for syphilis (VRDL)? Confirmed available today.
- Availability of at least 5 types of modern contraception
  - Q352: recorded LV303
- HIV counseling and testing
  - Q1800: Does this facility offer HIV counseling and testing services?
- (no abortion data available)

Kenya 2010 DHS-SPA facility-weighted results (282 weighted, 204 unweighted clinics and health centers):

- ANC & PNC offered: 41%
- SBA present or on call: 13%
- EMOC transport available: 15%
- Prenatal syphilis screening: 44%
- 4 modern methods of FP: 48%
- HIV counseling & testing: 59%

Facilities to be given an indicator value (0 or 1) for each service measure. If

	<p>indicator values are multiplied to provide an overall composite indicator value (0 or 1) of whether or not <i>all services</i> are provided, the limited availability of key maternal services in Kenya would result in a strikingly low probability of any facility scoring 1. To allow for graded results, the metric may reflect thresholds (2 or more services; 3 or more services; etc.) Percentage would be computed by divided the number of facilities with an overall indicator value by the total number of facilities sampled.</p> <p>In addition to the overall indicator value, the component service indicators can be reported, and the maternity care indicators (including prenatal syphilis) may be computed as a composite sub-score.</p> <p>In situations where the component indicator may not be relevant to the national standards (such as in countries where primary care facilities are not expected to provide HIV testing and counseling), the component indicator will be set to the value of Not Applicable (NA) and the overall indicator value will not include that component indicator in the calculation.</p>
<p><b>Entity responsible for global monitoring</b></p>	<p>UNFPA will be the lead agency for methodological development and monitoring.</p>
<p><b>Relevance, Adequacy and Measurability</b></p>	<p>The proposed indicator is the only direct indicator of Target 3.7, i.e. representing universal access to SRH-care services, and the extent to which such services are integrated into PHC; when combined with the proposed 3.7 indicator on knowledge of SRH, these two indicators measure the achievement of Target 3.7. The proposed indicator is complementary to the 3.7 indicator on demand satisfied by modern methods, allowing governments to detect where demand that is poorly satisfied reflects inadequate provision of modern methods of FP, or social factors.</p> <p>The indicator represents the delivery coverage of core SRH services that are recognized to offer universal value, in all countries, for sustainable development, including public health, and the education, empowerment, and economic inclusion of women and young persons.</p> <p>Note: all four expert groups proposing indicators for 3.7 (including UNFPA, Guttmacher Institute, Partnership for MNCH, and the High Level Task Force for ICPD), now propose and endorse such an indicator, to measure the coverage and quality of SRH services worldwide.</p> <p>When this indicator is combined with indicators 5.6.1 (women’s right to decide on using SRH care), and 5.6.2 (whether or not there are laws to allow use of services for all, including the unmarried) these 3 indicators will offer a robust indication of the extent to which countries are fulfilling the rights to access SRH as agreed to in the ICPD Programme of Action.</p>

<b>Relation to existing major indicator framework (incl. regional):</b>	The indicator will represent the more comprehensive measure of the unfulfilled MDG for universal access to SRH.
<b>Measures inequalities and special groups</b>	Yes. This is a facility-level indicator so it will measure inequalities in service provision of facilities by location (urban/rural) and sub-national region.
<b>Covers multiple targets? If yes, which?</b>	Yes, fulfillment of this indicator will contribute to the fulfillment of other Targets, including 3.1 (MMR prevention), 3.2 (newborn health), 3.3 (HIV prevention & Tx), 3.8 (universal health coverage), and 5.6 (reproductive health & rights).
<b>Gender Equality Issues</b>	Yes, universal access to SRH knowledge and quality services has been internationally recognized since 1994 ICPD POA as a prerequisite for the achievement of gender equality and women's empowerment.
<b>Rationale and Interpretation</b>	<p>This indicator would fill a critical data gap and measure availability of an essential package of sexual and reproductive health services as originally envisioned and internationally-agreed in the 1994 ICPD Programme of Action and multiple agreements since—As such, this indicator will be a direct measure of the partial fulfillment of Target 3.7, indicating the extent to which services are being delivered, with quality, to all persons with access to PHC. This will also represent an MDG that remains unfulfilled, which had only indirect indicators to date. The ICPD Beyond 2014 Framework concluded that weak health systems, weak health information systems and shortage of health professionals are a major obstacle to achieving better SRH health outcomes for all persons, including people who are marginalized or experiencing discrimination. Universal access to SRH care is a prerequisite for achieving the post-2015 agenda, with multiplier effects across the SDGs. Implementation can significantly reduce the global burden of SRH-related morbidity and mortality, while strengthening the integration, quality and coverage of primary health care systems.</p> <p>It is fully recognized that many countries are not capturing these data. The lack of data reflects weaknesses in many health information systems, and the fact that universal access to sexual and reproductive health has not been recognized as a priority for development.</p> <p>Note that in 2005, 5 years after the MDG Declaration, 61 countries still did not have national data on MMR (WHO 2005 report). By 2008, this number was down to 24 countries (WHO 2008 report). The presence of the indicator stimulated investment in measuring MMR and a greater focus on tracking its trajectory, and contributed to a notable decline in MMR over the same period.</p> <p>The proposed indicator has the potential to encourage countries to enhance routine collection of health system capacity for SRH, providing data that are essential to strengthening SRH prevention and care, and the health system overall.</p>

<p><b>Linkage to demographic dividend ( direct/ indirect)</b></p>	<p>This is an especially meaningful and strategic indicator for achieving the demographic dividend, as universal SRH-care services are a prerequisite for all people (adolescents, youth and adults), to avoid unplanned and unwanted pregnancies; such services can enable young people, especially girls, to secure higher levels of education and work experience, to balance work and family life in a manner consistent with their aspirations, enhancing their lifelong well-being and earnings.</p>
<p><b>Comments and Limitations</b></p>	<p>A key limitation is the scale (and related cost) of current health service provision surveys. This may be addressed in two stages: first, by partnering with others for more time- and cost-efficient health facility surveys; and second, by supporting countries to integrate information on the delivery of essential SRH services within routine HMIS reporting.</p>

**Target 4.3** By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university.

**Proposed Additional Indicator by UNESCO:** *Share of female tertiary graduates by field of study*

**Definition and method of computation:** The share of female graduates from tertiary education by field of study is calculated as the number of female graduates in a given field expressed as a percentage of the total number of tertiary graduates in the field. Note that the male share is 100 minus the female share.

**Rationale and interpretation:** The indicator measures the outputs of tertiary education and the extent to which men and women advance their education in different fields of study.

**Sources and data collection:** Administrative data from institutions of higher education on numbers of graduates by field of study and sex that should be compiled according to the International Standard Classification of Education - Fields of Education and Training 2013 (ISCED-F 2013) which provides clear guidelines on the consistent application of the classification across countries through specifying a number of criteria to be observed and by providing lists of inclusions and exclusions from each field of education and training.

**Comments and limitations:** Compiling information based on completion of requirements for a qualification rather than participation provides a more reliable measure of skills attained. However, there are important differences in the duration and content of different tertiary programmes.

**Gender equality issues:** The indicator will be disaggregated by field of study. The indicator measures women's relative shares amongst graduates in different fields and helps to identify the fields in which they are under-represented.

**Data for regional and global monitoring:** Data already exist for c125 countries.

**Supplementary information:** None

**References:** <http://www.uis.unesco.org/Education/Documents/isced-fields-of-education-training-2013.pdf>



**Target 4.4** By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship.

**Proposed Additional Indicator by UNESCO:** *Skills Mismatch Index*

**Definition and method of computation:** The indicator on skills mismatch between supply of labour and demand for labour is presented in the form of an index of dissimilarity based on the differences in the shares of educational attainment of the employed in comparison with the unemployed. This index captures one dimension of mismatch, namely mismatch between skills demand (defined by the skills of the employed) and skills supply (defined by the skills of the unemployed), both proxied by level of educational attainment.

**Rationale and interpretation:** Research suggests that mismatch between jobs held by workers and the qualifications they possess has negative consequences for workers, enterprises and the economy. For example, overqualified workers are less satisfied with their job than the well-matched, which in turn is likely to affect productivity. Also they are more likely to engage in job search and therefore add to turnover of staff. At the macroeconomic level, skills mismatch may raise unemployment rates, reduce labour market flexibility and reduce output and productivity growth.

**Sources and data collection:** Household surveys (LFS, HIES, LSMS, Integrated household surveys, etc.). Currently calculations are only available based on the European LFS.

**Disaggregation:** Data are available by sex and age (youth and adults).

**Comments and limitations:** There is no internationally agreed method to measure skills mismatch. Skills mismatch is an encompassing term which refers to various types of imbalances between skills offered and skills needed in the world of work, and it applies equally to the employed and the unemployed. Furthermore, in most countries skills and competencies per se are not measured by regular statistical programmes. That is why skill proxies are used, such as qualifications, years of schooling and occupations. Moreover, data available is currently limited to European countries.

**Gender equality issues:** As this indicator is disaggregated by sex, it is well-suited for analysis of gender equality issues.

**Data for global and regional monitoring:** The ILO does not currently produce global and regional estimates for skills mismatch.

**Current data availability:** The ILO's skills mismatch index is available for 33 countries.

**Supplementary information:** None

**References:** None.

**Target 4.4** By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship.

**Proposed Additional Indicator by ILO:** *Skills mismatch index*

**Definition and method of computation**

The indicator on skills mismatch between supply of labour and demand for labour is presented in the form of an index of dissimilarity based on the differences in the shares of educational attainment of the employed in comparison with the unemployed. This index captures one dimension of mismatch, namely mismatch between skills demand (defined by the skills of the employed) and skills supply (defined by the skills of the unemployed), both proxied by level of educational attainment.

**Rationale and interpretation**

Research suggests that mismatch between jobs held by workers and the qualifications they possess has negative consequences for workers, enterprises and the economy. For example, overqualified workers are less satisfied with their job than the well-matched, which in turn is likely to affect productivity. Also they are more likely to engage in job search and therefore add to turnover of staff. At the macroeconomic level, skills mismatch may raise unemployment rates, reduce labour market flexibility and reduce output and productivity growth.

**Sources and data collection**

Household surveys (LFS, HIES, LSMS, Integrated HH surveys, etc.). Currently calculations only available based on European LFS.

**Disaggregation**

Data are available by sex and age (youth and adults).

**Comments and limitations**

There is no internationally agreed method to measure skills mismatch. Skills mismatch is an encompassing term which refers to various types of imbalances between skills offered and skills needed in the world of work, and it applies equally to the employed and the unemployed. Furthermore, in most countries skills and competencies per se are not measured by regular statistical programmes. That is why skill proxies are used, such as qualifications, years of schooling and occupations. Moreover, data available is currently limited to European countries.

**Gender equality issues**

As this indicator is disaggregated by sex, it is well-suited for analysis of gender equality issues.

**Data for global and regional monitoring**

The ILO does not currently produce global and regional estimates for skills mismatch.

**Responsible entities**

ILO and partners (OECD, UNESCO).

**Current data availability**

The ILO's skills mismatch index is available for 33 countries.

**Target 4.4** By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship

**Proposed Replacement Indicator by ITU and Partnership on Measuring ICT for Development:** *Proportion of individuals with ICT skills, by type of skill*

**Definition and method of computation**

The indicator on the proportion of individuals with ICT skills, by type of skills refers to individuals that have undertaken certain computer-related activities in the last three months. Computer-related activities to measure ICT skills are as follows:

- Copying or moving a file or folder
- Using copy and paste tools to duplicate or move information within a document
- Sending e-mails with attached files (e.g. document, picture, video)
- Using basic arithmetic formulae in a spreadsheet
- Connecting and installing new devices (e.g. a modem, camera, printer)
- Finding, downloading, installing and configuring software
- Creating electronic presentations with presentation software (including text, images, sound, video or charts)
- Transferring files between a computer and other devices
- Writing a computer program using a specialized programming language

A computer refers to a desktop computer, a laptop (portable) computer or a tablet (or similar handheld computer). It does not include equipment with some embedded computing abilities, such as smart TV sets, and devices with telephony as their primary function, such as smartphones.

Most individuals will have carried out more than one activity and therefore multiple responses are expected. The tasks are broadly ordered from less complex to more complex, although there is no requirement for a respondent to select simpler tasks before selecting a more complex task.

Countries can collect data on this indicator through national household surveys, and the indicator is calculated as the proportion of in-scope computer users who have carried out each computer-related activity. The indicator is expressed as a percentage.

**Rationale and interpretation**

ICT skills determine the effective use that is made of ICTs and the lack of ICT skills continues to be one of the key barriers keeping people from fully benefitting from the potential of information and communication technologies. Currently, there is little data and even fewer gender-disaggregated data available for measuring ICT-specific skills especially in developing countries. Researchers and policy-makers continue to rely on proxy indicators to measure this important enabler of ICT development and to track gaps in ICT skills. The information derived from this

indicator will help make the link between ICT usage and impact and help measure and track the level of proficiency of ICT users, and identify differences between men and women, and people of different age groups. This information could be used, for example, to adapt ICT literacy courses in schools and for life-long education, identify barriers to certain uses of computers as well as potential applications and services that could be accessed over the Internet.

### **Sources and data collection**

This indicator is relatively new but based on an internationally agreed definition and methodology, which have been developed under the coordination of ITU, through its Expert Groups and following an extensive consultation process with countries. It is also a core indicator of the Partnership on Measuring ICT for Development's Core List of Indicators, which has been endorsed by the UN Statistical Commission (in 2014). Data on the proportion of individuals with ICT skills, by type of skills are collected through an annual questionnaire that ITU sends to national statistical offices (NSO) and the first data collection took place in 2014. In its questionnaire ITU collects absolute values. The percentages are calculated a-posteriori. The survey methodology is verified to ensure that it meets adequate statistical standards. The data are verified to ensure consistency with previous years' data and situation of the country for other related indicators (ICT and economic).

By 2015, data for this indicator were available for only 3 developing countries although OECD countries have been collecting data for this indicator for a number of years. Since this indicator was only added to the Partnership's core list of indicators in 2014, more countries are expected to collect data in the near future.

### **Disaggregation**

Since data for the indicator on the proportion of individuals with ICT skills, by type of skills are collected through a survey, classificatory variables for individuals can provide further information on the differences in ICT skills among men/women, children/adults (age groups), employed/unemployed, etc. These data may be used to inform targeted policies to improve ICT skills, and thus contribute to the development of an inclusive information society.

### **Comments and limitations**

Based on the types and number of ICT tasks that individuals have performed, it may be possible to construct a metric. For example, Eurostat categorized individuals into low, medium and high levels of computer skills depending on how many tasks individuals had performed (the level of difficulty of tasks is not taken into account). However, that categorization was under review.

### **Gender equality issues**

The indicator on the proportion of individuals with ICT skills, by type of skills can be broken down by sex to identify gender equality issues.

### **Data for global and regional monitoring**

Since the indicator on the proportion of individuals with ICT skills, by type of skills is relatively new, only few countries collect data and it is not (yet) possible to produce regional and global aggregates. More countries are expected to collect data for this indicator in the future.

**Supplementary information**

Year-end estimates are usually released in December of the following year through the ITU World Telecommunication/ICT Indicators Database.

**References**

- [ITU Manual for Measuring ICT Access and Use by Households and Individuals 2014](#)

**Targets for which indicator are relevant**

4.3, 4.5, 5.b, 8.5, 8.6, 8.b, 9.2, 9.c

**Target 4.7** By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development.

**Proposed Additional Indicator by UNESCO:** *Percentage of schools that provide life skills-based HIV and sexuality education*

**Definition and method of computation:** Percentage of schools providing life skills-based HIV and sexuality education within the formal curriculum or as part of extra-curricular activities.

**Rationale and interpretation:** To assess progress towards implementation of life skills-based HIV and sexuality education in all schools. This indicator tracks the proportion of schools that provide life skills-based HIV and sexuality education within the formal curriculum or as part of extra-curricular activities. This indicator reflects curriculum delivery in support of national HIV prevention programmes; and includes extra-curricular activities.

**Sources and data collection:** Administrative data from schools.

**Comments and limitations:** While the indicator potentially provides a good measure of coverage, considering which schools have provided life skills-based HIV and sexuality education, at the minimum required levels, due to the range of topics and the set minimum package of topics, this indicator is quite complex to calculate using the method of measurement suitable for school-based surveys. It doesn't capture how much time is actually spent on each of the topics. If only school head teachers report on this indicator, many may not know which topics are taught if life-skills based HIV and sexuality education is not a standalone and assessed subject.

**Gender equality issues:** This indicator would not directly contribute to assessment of gender equality issues.

**Data for regional and global monitoring:** Data exist through regional assessments, such as SACMEQ, and in a small number of administrative data systems.

**Supplementary information:** None

**References:** UNESCO, 2015. Measuring the education sector response to HIV and AIDS: Guidelines for the construction and use of core indicators.

**Target 4.a Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all.**

**Proposed Additional Indicator by UNESCO:** *Percentage of students experiencing bullying, corporal punishment, harassment, violence, sexual discrimination and abuse*

**Definition and method of computation:** The indicator measures the frequency of students: being physically attacked; participating in a physical fight; the circumstances surrounding serious injuries; and the nature of bullying.

**Rationale and interpretation:** This indicator provides information on the extent of self-reported violence and bullying in schools.

**Sources and data collection:** The Global School-based Student Health Survey (GSHS) was developed by the World Health Organization (WHO) and the Center for Disease Control and Prevention (CDC) in collaboration with UNICEF, UNESCO, and UNAIDS. GSHS is a school-based survey conducted primarily among students aged 13–17 years.

**Comments and limitations:**

**Gender equality issues:** The indicator will be disaggregated by sex and other relevant characteristics enabling a more thorough analysis of the disparities between the sexes.

**Data for regional and global monitoring:** Cross-nationally comparable data are available for about 80 countries (in some cases only coverage of urban areas).

**Supplementary information:** None.

**References:** None.

**Target 4.a Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all.**

**Proposed Alternative Indicator from UNISDR:** *Percentage of educational facilities that are safe with respect to a) policy planning and advocacy, b) disaster resilient learning facilities, c) school disaster management and d) risk reduction and resilience education*

***Definition and method of computation***

As per the definition from the Worldwide Initiative for Safe Schools and Comprehensive School Safety Framework, educational facilities are considered “safe” from disasters when they combine all of the following elements:

- An appropriate institutional framework through a policy, plan or legislation on school safety and advocacy activities in support of comprehensive school safety implementation (including public awareness and campaigning).
- Safe learning facilities (ie disaster resilient infrastructure) that involve safe site selection, risk assessment and mapping, the existence and enforcement of building codes.
- School disaster management and preparedness activities such as disaster situations simulation exercises, drills, standard operating procedures in place for evacuation, educational continuity plans.
- Risk reduction and resilience education with the integration of disaster risk reduction in the formal curriculum, teachers training and staff development, life-saving skills learning, informal education including community-based education, development of educational materials on multi-hazard risk reduction.

Governments are being invited to report on the percentage of educational facilities considered as safe at the country level by indicating whether:

- a) They have developed a national disaster risk reduction strategy that integrates school safety, a long-term policy, a plan or legislation for school safety implementation at the national and / or local level and any advocacy or communication activity in support of school safety implementation.
- b) They have undertaken risk assessment and mapping to ensure safe locations for the setting up of new educational facilities, specified the risk assessment methodology they may have developed or used for that purpose, strengthened the resilience of educational facilities through retrofitting or reconstruction processes including through a proper enforcement of building codes.
- c) They have developed standard operating procedures for children and students to be prepared at times of disaster situations, including for evacuation, put in place an educational continuity plan for schools, that schools principals have organized simulation exercises or drills within their school / educational facilities at local level or as a nation-wide preparedness exercise (or in conjunction with other schools)
- d) They have integrated disaster risk reduction as part of the formal school curriculum and higher education programmes, undertaken teachers and students' training on disaster risk reduction, developed community-based activities for disaster risk reduction and risk-sensitive multi-hazard-related educational materials.

### ***Rationale and interpretation***

The damage and destruction of schools caused by disasters not only leads to the loss of lives of children and teachers but also wastes valuable public investment in social infrastructure and the education sector overall and interrupts children's education with lifelong implications for future generations (educational gap, inequitable access to education opportunities and obstacle to sustainable development). In order to achieve this goal, it is crucial to ensure that educational facilities are safe from local risks and incorporate key elements of comprehensive school safety, namely disaster resilient infrastructures, disaster management and preparedness activities and provide risk reduction and resilience education as part of an appropriate institutional framework duly endorsed and implemented (national policy, plan and / or legislation for school safety). Schools not only provide space for education but also represent evacuation centres and shelters for the entire community at times of disasters. As such, they must be safe and disaster-resilient.



### ***Sources and data collection***

Progress reports will be submitted by Governments on a voluntary basis through the “Sendai Monitor” to report on progress in implementing the Sendai Framework for Disaster Risk Reduction adopted at the Third UN World Conference on Disaster Risk Reduction (including on global target (d) on “critical infrastructures including educational facilities (..)”).

Efforts are being made to align indicators between SDGs and the Sendai Framework for Disaster Risk Reduction. School safety data will be collected through the Sendai Monitor.

National indicators on comprehensive school safety are being developed and implemented by Governments in the context of the Worldwide Initiative for Safe Schools in line with global indicators for the Sendai Framework for Disaster Risk Reduction. Progress in implementing school safety will be reported against these indicators.

Comprehensive school safety data will be collected through the regular report of working groups established by the Safe School Leaders group (Tehran, October 2015) to support the implementation of the Worldwide Initiative for Safe Schools. An annual report compiling working groups information will also report on progress in implementing the “Action Plan in Support of the Worldwide Initiative for Safe Schools” as adopted at the Second meeting of Safe School Leaders, 4-5 October 2015m, Tehran, I.R. Iran).

### ***Disaggregation***

- By Institutional aspects (policy planning, legislation advocacy)
- By activities in building disaster resilient educational facilities.
- By activities in support of school disaster management and preparedness
- By the number of school curriculum and higher education programmes integrating disaster risk reduction

### ***Comments and limitations***

Percentages of safe educational facilities can be established only on the basis of information, reports and data submitted by Governments.

### ***Gender equality issues***

Data are not disaggregated by gender.

### ***Data for global and regional monitoring***

The 185 Member States who participated in the Third UN World Conference on Disaster Risk Reduction and adopted the Sendai Framework for Disaster Risk Reduction were encouraged to report on progress in implementing the framework through the “Sendai Monitor” instrument.

The Global Alliance for Disaster Risk Reduction and Resilience in the Education System will be supporting the implementation of the Worldwide Initiative for Safe Schools at country level in selected countries and will facilitate the monitoring of comprehensive school safety work in these countries.

## *Supplementary information*

### *References*

- Sendai Framework for Disaster Risk Reduction 2015-2030 ([http://www.preventionweb.net/files/43291\\_sendaiframeworkfordrren.pdf](http://www.preventionweb.net/files/43291_sendaiframeworkfordrren.pdf))
- Worldwide Initiative for Safe Schools (<http://www.unisdr.org/we/campaign/wiss>)
- Comprehensive School safety Framework ([http://www.preventionweb.net/files/31059\\_31059comprehensiveschoolsafetyframe.pdf](http://www.preventionweb.net/files/31059_31059comprehensiveschoolsafetyframe.pdf))
- Global monitoring and tracking system for school safety implementation (World Bank/Global Facility for Disaster Reduction and Recovery)

**Target 5.2 Eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking and sexual and other types of exploitation.**

**Proposed Additional Indicator by UN-WOMEN: *Proportion of girls and women (aged 15-19 and 20-24) who were subjected to sexual violence before age 15 by any persons.***

<p><b>Definition and method of computation</b></p>	<p>Number of girls and women (aged 15-19 and 20-24) who were subjected to sexual violence before age 15 by any persons, as percentage of all girls and women (aged 15-19 and 20-24).</p> <p>Sexual violence as defined in para 30 of the UN Guidelines for Producing Statistics on Violence against Women: Statistical Surveys [1]:</p> <p>“... is any sort of harmful or unwanted sexual behavior that is imposed on someone. It includes act of abusive sexual contact, forced engagement in sexual acts, attempted or completed sexual acts with a woman without her consent, sexual harassment, verbal abuse, threats, exposure, unwanted touching, incest, etc. A minimum list of acts of sexual violence, which should be expanded depending on the specific country context, consists of the following:</p> <p>(d) <i>Rape</i>: Refers to engaging in the non-consensual vaginal, anal, or oral penetration of a sexual nature of the body of another person with any bodily part or object, including through the use of physical violence and by putting the victim in a situation where she cannot say no or complies because of fear;</p> <p>(e) <i>Attempted rape</i>: Refers to attempting to have non-consensual sexual intercourse through the use of force or threats;</p> <p>(f) <i>Other sexual acts</i>: Refers to:</p> <ul style="list-style-type: none"> <li>• Intimate touching without consent</li> <li>• Sexual acts other than intercourse forced by money</li> <li>• Sexual acts other than intercourse obtained through threats of physical violence</li> <li>• Sexual acts other than intercourse obtained through threats to the well-being of family members</li> <li>• Use of force or coercion to obtain unwanted sexual acts or any sexual activity that the female partner finds degrading or humiliating</li> <li>• Other acts of sexual violence.”</li> </ul> <p>The indicator specifically considers the following: 1) sexual violence (separately from physical violence); 2) women and girls (aged 15-19 and 20-24) who were subjected to sexual violence below the age of; and 3) perpetrators, regardless of relationship to the victim.</p>
<p><b>Rationale and interpretation</b></p>	<p>Violence against women and girls is one of the most pervasive human rights abuses in the world today and takes place in all countries. In order to eradicate violence against women and girls, it is necessary to measure its prevalence in all its forms.</p>

	<p>Collecting data for girls below the age of 15 presents many technical and ethical challenges, including the fact that many countries have a legal requirement to report incidents of child abuse to authorities, which would clash with guarantees of survey confidentiality. However, it is also important to monitor violence against girls younger than 15 as their experiences during childhood or adolescence can hinder all aspects of development: physical, psychological, and social and adolescence can also increase the vulnerability of girls to sexual victimization not only at home but also among peers and strangers [2]</p> <p>Rather than directly measuring the prevalence of violence against girls less than 15 years of age, this indicator is based on a recall question asking girls 15-19 and 20-24 years old about any experience(s) of sexual violence prior to age 15. By focusing on this age group and relatively recent experiences, this indicator is likely to reduce recall bias.</p>
<p><b>Sources and data collection</b></p>	<p>Data for this indicator are not currently widely available but can be collected through violence against women modules in Demographic and Health Surveys or other specialized surveys on violence against women and girls.</p> <p>With the data that can be provided by the DHS core questionnaires, it is possible to describe the household (or non-household) context of violence, characteristics of the victim and perpetrator, and possible risk factors stemming from the individual and household-level conditions [4].</p> <p>Specialized surveys on VAW can likewise be designed. For example, the European Union (EU) Agency for Fundamental Rights conducted an EU-wide survey on the extent, nature, and consequences of violence against women in all 28 Member States of the EU [5].</p>
<p><b>Disaggregation</b></p>	<p>Recommended disaggregation for this indicator are [2]:</p> <ul style="list-style-type: none"> <li>• Location <ul style="list-style-type: none"> <li>- <i>Urban-rural location.</i></li> </ul> </li> <li>• Relationship with perpetrator (e.g. teacher, family member, stranger etc.).</li> <li>• Place of occurrence</li> <li>• Income <ul style="list-style-type: none"> <li>- <i>Income group as may be deemed relevant in the country context.</i></li> </ul> </li> <li>• Other characteristics such as disability, race, caste, ethnicity etc. as relevant</li> </ul>
<p><b>Comments and limitations</b></p>	<p>The availability of comparable data remains a challenge in this area as many data collection efforts have relied on different study methodologies. This said, existing data collection mechanisms are already in place for many countries to monitor this indicator.</p>

<b>Gender equality issues</b>	Addresses a basic human right and a key gender equality concern.
<b>Data for global and regional monitoring</b>	This indicator is currently classified as Tier II. UN Women and UNICEF would monitor this target
<b>Supplementary information</b>	The UN Guidelines for Producing Statistics on Violence against Women: Statistics Surveys have been prepared to assist countries in assessing the scope, prevalence, and incidence of violence against women. These Guidelines, in compliance with the UNGA resolution 61/143 and per request by the UN Statistical Commission at its 40 <sup>th</sup> session in 2009, respond to the need to provide methodological advice regarding selection of topics, sources of data, relevant statistical classifications, outputs, wording of questions and all other issues relevant for national statistical offices to conduct statistical surveys on violence against women. [1]
<b>References</b>	<p>[1] United Nations Department of Economic and Social Affairs, <i>Guidelines for Producing Statistics on Violence against Women: Statistical Surveys</i>, UN, New York, 2014.</p> <p>[2] United Nations Children’s Fund, <i>A Statistical Snapshot of Violence against Adolescent Girls</i>, UNICEF, New York, 2014.</p> <p>[3] UN Women, <i>Monitoring Gender Equality and the Empowerment of Women and Girls in the 2030 Agenda for Sustainable Development: Opportunities and Challenges</i>, UN Women, New York, 2015.</p> <p>[4] Kishor, Sunita, <i>Domestic Violence Measurement in the Demographic and Health Surveys: The History and the Challenges</i>, Measure DHS, ORC Macro, Switzerland, 2005.</p> <p>[5] European Union Agency for Fundamental Rights, <i>Violence against Women: An EU-wide Survey</i>, European Union, Austria, 2014.</p>

**Target 5.5 Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life**

**Proposed Alternative Indicator by UN-WOMEN: *Proportion of women in leadership positions in political, economic and public life, by level and by type***

<p><b>Definition and method of computation</b></p>	<p>The indicator proposed measures the proportion of women in leadership positions across a number of areas, including:</p> <ul style="list-style-type: none"> <li>• in the executive branch of government: <ul style="list-style-type: none"> <li>○ Number of women Heads of State and Governments as a percentage of total (Tier 1)</li> <li>○ Number of ministerial positions that are held by women as a percentage of total (Tier 1 – part of Minimum set of gender indicators)</li> <li>○ Number of leadership positions held by women in local governments as a percentage of total (Tier 3)</li> </ul> </li> <li>• in the legislative branch of government: <ul style="list-style-type: none"> <li>○ Number of seats in national parliaments held by women as a percentage of total (Tier 1 – part of Minimum set of gender indicators)</li> </ul> </li> <li>• in the judiciary branch of government and law enforcement: <ul style="list-style-type: none"> <li>○ Number of women judges as a percentage of total (Tier 2 – part of Minimum set of gender indicators)</li> <li>○ Number of women police officers as a percentage of total (Tier 2 – part of Minimum set of gender indicators)</li> </ul> </li> </ul> <p>; and</p> <ul style="list-style-type: none"> <li>• the share of managers in public and private sector enterprises that are women (Tier 1 – part of Minimum set of gender indicators).</li> </ul> <p>Some of these data are already collected while others need further development. For example, UN Women routinely collects data on women Heads of State and Government; the Inter-Parliamentary Union (IPU) regularly collects data on the proportion of women ministers and in parliaments; indicators on women in law enforcement are also readily available; and ILO regularly publishes data on women managers using data from national labour force surveys. Data on women’s political participation at the local level have not been as systematically collected at the global level. Measuring women’s participation in local government is important, however, because of the responsibilities of local governments and the significantly higher number of opportunities (that is, seats) available to women candidates at this level. To measure women’s representation in local governments, methodologies and standards are currently being developed by UN Women and United Cities and Local Governments (UCLG).</p>
<p><b>Rationale and interpretation</b></p>	<p>Women participate in politics and decision-making at all levels, in different functions and across all spheres. They participate as candidates for local, regional</p>

	and national elections, members of parliament or local council, heads of state and government, ministers, members of political parties, leaders and managers of business. Capturing an accurate assessment of women's representation across these different forms of political and economic leadership is a key marker of progress in achieving gender equality and women's empowerment.
<b>Sources and data collection</b>	Administrative and household surveys, including labour force surveys
<b>Disaggregation</b>	
<b>Comments and limitations</b>	The standard measure of women's political participation and involvement in decision-making, used to track progress for the Millennium Development Goals, was the proportion of seats held by women in national parliaments. This indicator broadens the scope to include many more areas of leadership but several of the indicators (two Tier 2 indicators and one Tier 3 indicator) will need further development.
<b>Gender equality issues</b>	Women's capacity to influence decision-making, whether in public or private institutions, is intimately linked with gender equality and empowerment. Having a voice and participating in the processes and decisions that determine their lives is an essential aspect of women's freedoms.
<b>Data for global and regional monitoring</b>	Many of the indicators are part of the minimum set of gender indicators and data are currently available for the Tier 1 components.
<b>Supplementary information</b>	
<b>References</b>	<p>IPU (Inter-Parliamentary Union). Women in national parliaments. <a href="http://www.ipu.org/wmn-e/classif.htm">www.ipu.org/wmn-e/classif.htm</a></p> <p>For data on managers, see International Standard Classification of Occupations (ISCO) and ILO KILM database for cross-country data compilation: <a href="http://www.ilo.org/empelm/what/WCMS_114240/lang--en/index.htm">http://www.ilo.org/empelm/what/WCMS_114240/lang--en/index.htm</a></p> <p>Data on judges and police force, see: UNODC compilation of national statistics: <a href="https://www.unodc.org/unodc/en/data-and-analysis/United-Nations-Surveys-on-Crime-Trends-and-the-Operations-of-Criminal-Justice-Systems.html">https://www.unodc.org/unodc/en/data-and-analysis/United-Nations-Surveys-on-Crime-Trends-and-the-Operations-of-Criminal-Justice-Systems.html</a></p>

**Target 5.5 Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life**

**Proposed Additional Indicator by UN-WOMEN and UNESCO: Target 5.5 *Share of female researchers (i.e. the percentage of researchers who are female), by seniority level***

- Definition and method of computation;

The OECD Frascati Manual provides the relevant definitions for research and experimental development, gross domestic expenditure on R&D and researchers.

*Research and experimental development (R&D)* comprise creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications. (FM §63)

*Researchers* are professionals engaged in the conception or creation of new knowledge, products, processes, methods and systems and also in the management of the projects concerned. (FM §301)

Although an OECD manual, the application is global. The Frascati Manual is currently under revision, with the next edition to be released in October 2015. The new edition of the Manual will be a truly global manual. There will be some changes to the definitions provided above, but these are not substantial.

In the new Frascati Manual, the following classification of seniority level will appear:

- A. The single highest grade/post at which research is normally conducted. Example: 'Director of research'.
- B. Researchers working in positions not as senior as top position (A) but more senior than newly qualified PhD holders (ISCED level 8). Example: 'senior researcher' or 'principal investigator'.
- C. The first grade/post into which a newly qualified PhD graduate would normally be recruited. Examples: 'researcher', 'investigator' or 'post-doctoral fellow'.
- D. Either postgraduate students not yet holding a PhD degree who are engaged as researchers, or researchers working in posts that do not normally require a PhD. Examples: 'PhD students' or 'junior researchers' (without a PhD).

- Rationale and interpretation;

The overall share of female researchers already shows a large gender gap, with less than 30% of researchers globally female. The situation deteriorates when looking at career progression, with proportionally less women at each higher level of responsibility. Therefore, the already available information on the overall share of female researchers needs to be complemented by a breakdown of seniority level. The methodology comes from the European Commission, and is already being implemented in some European countries. The Frascati Manual has now included the methodology as well. Next step will be implementation in a large number of countries.

- Sources and data collection;

Data are collected through national R&D surveys, either by the national statistical office or a line ministry (such as the Ministry for Science and Technology)

- Disaggregation;

Researchers can be broken down by seniority level, sector of employment, field of science, sex and age, all in head counts and full-time equivalent. For seniority level, the recommendation of the Frascati Manual is to implement this in the government and higher education sector alone.



- Comments and limitations;

The methodology has just been adopted by the OECD member countries. Implementation is still to follow in many countries.

- Gender equality issues;

Researcher data can be broken down by sex, allowing to track gender parity.

- Data for global and regional monitoring;

OECD and Eurostat collect data from their member countries. The UNESCO Institute for Statistics (UIS) imports these data into its global database, and collects the data directly from all other countries in the world, in partnership with RICYT in Latin America and NEPAD in Africa. Data on the share of researchers (not by seniority level) is already collected by UNESCO and available for 140 countries. For seniority level, some data are being collected at the European level, but not yet in other regions of the world.

- Supplementary information;

- References

Frascati Manual: [www.oecd.org/sti/frascati/manual](http://www.oecd.org/sti/frascati/manual) and

[http://www.uis.unesco.org/Library/Documents/OECDFrascatiManual02\\_en.pdf](http://www.uis.unesco.org/Library/Documents/OECDFrascatiManual02_en.pdf)

UIS Data centre:

[http://data.uis.unesco.org/Index.aspx?DataSetCode=SCN\\_DS&popupcustomise=true&lang=en](http://data.uis.unesco.org/Index.aspx?DataSetCode=SCN_DS&popupcustomise=true&lang=en)

**Target 5.a Undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with national laws.**

**Proposed Modified Indicator by FAO (same as proposal for Target 1.4):** *a) Percentage of people with ownership or secure rights over agricultural land (out of total agricultural population), by sex and type of tenure; and (b) Share of women among owners or rights-bearers of agricultural land”, by type of tenure*

**1. Precise definition of the indicator**

Definition of indicator:

The indicator is divided in two parts: (a) measures the incidence of people with ownership or secure rights over agricultural land among the total agricultural population; while (b) focusses on the gender parity measuring the extent to which women are disadvantaged in ownership or rights over agricultural land. Part (a) and part (b) cannot be seen as two different indicators, they rather provide two complementary information. Plus, they can be computed using (almost) the same data, the main difference between the 2 parts being only the denominator.

We propose using the ‘total agricultural population’ as denominator of part (a), instead of the total population, because ownership or right-security over agricultural land is obviously relevant only for the people whose livelihood rely on agriculture.

Part (a)

$$\left( \frac{\textit{People with ownership or secure rights over agricultural land}}{\textit{Total agricultural population}} \right) \cdot 100$$

Part (b)

$$\left( \frac{\textit{Women with ownership or rights over agricultural land}}{\textit{Total owners or rights bearers over agricultural land}} \right) \cdot 100$$

Definition of ownership and rights over land:

*The landowner is the legal owner of the land. Definitions of ownership may vary across countries and surveys. For instance, documented ownership means that ownership is verified through title or deed, while reported ownership relies on individuals’ own judgment. Reported ownership may be more appropriate in countries where a formal registration system is not in place.*

*Additionally, in some countries, particularly where land private ownership is not applicable, it is more appropriate to investigate rights over land using proxies able to capture individuals’ capability to control and take decisions over the land. Proxies of such “bundle of rights” may include the right to sell, to bequeath or the right to decide how to use the land.*

*Since the definition of ownership and land rights has to take into account what is more relevant in the country, the indicator will need to be complemented with metadata that specify what definition(s) of ownership or rights over land is/are employed.*

*Finally and most importantly, this indicator has to be disaggregated by type of tenure. Therefore, the data collection methodology should always include a question on land tenure. Land tenure refers to the arrangements or rights under which land is operated, and it is one of the key elements to tenure security. There are different formal and informal tenure systems around the world and the distinction between legal and non-legal tenure is often blurred. When available, the indicator shall also be disaggregated by documented tenure rights.*

*The FAO World Census of Agriculture encourages countries to use country-specific types of tenure whilst ensuring the possibility to classify ex-post under the following broad categories: 1) legal ownership or legal owner-like possession; 2) Non-legal ownership or non-legal owner-like possession; 3) Rented land from someone else; 4) Various other types of land tenure<sup>62</sup>.*

## **2. How is the indicator linked to the specific TARGET as worded in the OWG report and copied above?**

The indicator is related to Goal 1, target 1.4: *“By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance.”*

More specifically, this indicator monitors **“ownership and rights over land”** and it is particularly useful in terms of framing gender differences in land ownership and control whilst relating them specifically to the population of interest, namely the people who own land or with rights over land. As such it gives a clearer picture of gender and social inequalities in land ownership/control, than for instance looking at the incidence of female ownership/control over land in the entire population of a country. An increase in the percentage of women owning/controlling land indicates that, within the population of interest (i.e., the landowners/rights bearers), progress is made towards achieving equal rights over land among men and women.

Finally, the indicator focuses on **agricultural** land, because agricultural land is a productive resource, and focusing on agricultural landownership gives a clearer indication of empowerment and advancement towards poverty reduction, compared to lands used for other purposes that are not economically and livelihood-related. This is particularly true in developing countries where poverty reduction strategies are necessarily linked to agricultural development. Agriculture land includes land for crop, livestock and forestry use.

## **3. Does the indicator already exist and is it regularly reported?**

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<sup>62</sup> <http://www.fao.org/economic/ess/ess-wca/wca-guidelines/en/>

The indicator already exists. Until now, the indicator has been collected mainly through the LSMS-ISA surveys and to a smaller extent through DHS surveys in collaboration with National Institutes of Statistics. At the time of writing, the indicator is readily available for 11 countries. Additional, but yet unprocessed surveys (e.g., DHS, LSMS, national household income and expenditure surveys etc.) lead to a conservative estimate of an additional 10 countries for which the indicator could be derived. It cannot be excluded that many other surveys not currently available to FAO would be potential sources as well, for countries not covered by LSMS or DHS.

Thanks to a fruitful cooperation with IFPRI-PIM, FAO is already disseminating the available data for through the Gender and Land Rights Database (GRLD). In the next future, the same data will be also disseminated through FAO's Rural Livelihood Monitoring (RLM) platform. The new World Programme for Agricultural Census (WCA 2020) has proposed the collection of land ownership data disaggregated by sex as a supplementary item. Furthermore, the FAO Statistics Division is starting a project called AGRIS (Agricultural Integrated Surveys) through which methodological guidelines will be provided to countries on how to conduct farm surveys (i.e. key indicators to collect, definitions, methods for data collection, periodicity, etc.), and effort will also be made to support countries in the actual implementation of the farm surveys. By doing so, the availability of this indicator will increase substantially in the future.

While comparability across countries (mainly due to differing definitions) and low current availability pose a challenge to this indicator, it is still fair to consider the indicator superior to the "share of female agricultural holders" – widely available through agricultural census data- because it provides intra-holding/household information and is usually made available in a shorter time span.

It also worth mentioning that the importance of a sex-disaggregated indicator on land is acknowledged in the *Minimum Set of Gender Indicators* approved by UNSC, where a place-holder indicator 'proportion of the (adult) population who own land, by sex' figures as one of the 52 indicators. Furthermore, the EDGE (Evidence and Data for Gender Equality) initiative<sup>63</sup> is conducting methodological work on standards for the collection of reliable sex disaggregated data on land ownership.

#### **4. Comment on the reliability, potential coverage, comparability across countries, and the possibility to compute the indicator at sub-national level.**

##### Reliability

The indicator is expected to be reliable because the identification of the plot owner(s)/individual with rights over land in household surveys is a feasible task. Household surveys are usually done on a sample basis and are statistically representative at national and subnational level.

##### Coverage

The indicator is nationally representative insofar the survey data is nationally representative. The indicator can be collected periodically (about every 2-4 years) which is a reasonable frequency to capture significant changes in land ownership.

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<sup>63</sup> A joint UNWOMEN and UNSD project with the aim of accelerating existing efforts to generate comparable gender indicators on health, education, employment, entrepreneurship and asset ownership.

### Comparability across countries

Different country definitions of ownership and rights over land can be problematic. Also, the indicator is collected in different years, depending on when surveys are conducted in individual countries. This can negatively affect comparability across countries.

### Sub-national estimates

It is possible to disaggregate the indicator by geographic areas if the surveys are representative for these areas. The level of disaggregation depends on the sample design of the surveys.

#### **5. Is there a baseline value for 2015?**

We do not expect this indicator to change rapidly. It is worth highlighting that the baseline and follow-up values will be different across countries. To ensure correct comparisons linear interpolation between the actual data points will be necessary.

## **Target 5.b Enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women**

**Proposed Additional Indicator by ITU and the Partnership of Measuring ICT for Development:** *Proportion of individuals who own a mobile telephone, by sex*

### **Definition and method of computation**

This indicator is defined as the ‘proportion of individuals who own a mobile telephone, by sex’. An individual owns a mobile cellular phone if he/she has a mobile cellular phone device with at least one active SIM card for personal use. Mobile cellular phones supplied by employers that can be used for personal reasons (to make personal calls, access the Internet, etc.) are included. Individuals who have only active SIM card(s) and not a mobile phone device are excluded. Individuals who have a mobile phone for personal use that is not registered under his/her name are also included. An active SIM card is a SIM card that has been used in the last three months.

*A mobile (cellular) telephone* refers to a portable telephone subscribing to a public mobile telephone service using cellular technology, which provides access to the PSTN. This includes analogue and digital cellular systems and technologies such as IMT-2000 (3G) and IMT-Advanced. Users of both postpaid subscriptions and prepaid accounts are included.

Countries can collect data on this indicator through national household surveys. This indicator is calculated by dividing the total number of in-scope individuals who own a mobile phone by the total number of in-scope individuals.

### **Rationale and interpretation**

Mobile phone networks have spread rapidly over the last decade and the number of mobile-cellular subscriptions is quasi equal to the number of the people living on earth. However, not every person uses, or owns a mobile-cellular telephone. Mobile phone ownership, in particular, is important to track gender equality since the mobile phone is a personal device that, if owned and not just shared, provides women with a degree of independence and autonomy, including for professional purposes. A number of studies have highlighted the link between mobile phone ownership and empowerment, and productivity growth.

Existing data on the proportion of women owning a mobile phone suggest that less women than men own a mobile phone. This indicator highlights the importance of mobile phone ownership to track and to improve gender equality, and monitoring will help design targeted policies to overcome the gender divide. The collection of this indicator was proposed by the Task Group on Gender of the Partnership on Measuring ICT for Development.

### **Sources and data collection**

This indicator is a newly developed ITU indicator that was approved by the World Telecommunication/ICT Indicators Symposium (WTIS) 2014. The indicator definition and methodology were developed under the coordination of ITU, through its Expert Groups and following an extensive consultation process with countries. Data for the proportion of individuals owning a mobile phone will be collected through an annual questionnaire that ITU sends to national statistical offices (NSO), starting in 2015. In this questionnaire, through which ITU

already collects a number of ICT indicators, ITU collects absolute values. The percentages are calculated a-posteriori. The survey methodology is verified to ensure that it meets adequate statistical standards. The data are verified to ensure consistency with previous years' data and other relevant country-level indicators (ICT and economic).

Data are usually not adjusted, but discrepancies in the definition, age scope of individuals, reference period or the break in comparability between years are noted in a data note. For this reason, data are not always strictly comparable.

A number of countries already collect this indicator through official surveys but data will only be collected at the international level as of 2015.

#### **Disaggregation**

For countries that collect this indicator through a national household survey, and if data allow breakdown and disaggregation, the indicator can be broken down not only by sex but also by region (geographic and/or urban/rural), by age group, by educational level, by labour force status, and by occupation. ITU will collect data for all of these breakdowns from countries.

#### **Comments and limitations**

While the data on the 'proportion of individuals who own a mobile telephone' currently only exist for very few countries, ITU is encouraging all countries to collect data on this indicator through national household surveys and the indicator is expected to be added to the Partnership on Measuring ICT for Development's Core List of Indicators. The number of countries with official data for this indicator is expected to increase in the near future.

#### **Gender equality issues**

Discrepancies exist between the proportion of men and women that access, own, use, and benefit from ICTs and this indicator is important to track the gender digital divide. Mobile phone ownership (as opposed to shared ownership), in particular, is important for a person's independence and autonomy, and increases the potential to fully benefit from mobile communications.

#### **Data for global and regional monitoring**

Data collection for this indicator will only commence in 2015 and no regional or global figures are available (yet).

#### **Supplementary information**

Once ITU has included this indicator in its regular data collection, year-end estimates will be released in December of the following year through the ITU World Telecommunication/ICT Indicators Database.

#### **References:**

Since the definition and methodology of this indicator will only be collected as of 2015, the indicator is not yet included in the [ITU Manual for Measuring ICT Access and Use by Households and Individuals 2014](#). It will be included in the next version of the Manual.

For a discussion on the importance of this indicators, see also [UNCTAD, Measuring ICT and gender: an assessment](#).

**Target 5.c Adopt and strengthen sound policies and enforceable legislation for the promotion of gender equality and the empowerment of all women and girls at all levels.**

**Proposed Alternative Indicator by UN-WOMEN: *Expenditure on gender equality policies as a percentage of total government expenditures.***

<p><b>Definition and method of computation</b></p>	<p>This indicator measures whether government expenditure categories:</p> <ul style="list-style-type: none"> <li>a) have gender equality and/or the empowerment of women and girls as the primary or <b>principal</b> objective.</li> <li>b) result in a <b>significant</b> contribution to gender equality and/or the empowerment of women and girls;</li> <li>c) make a limited contribution or no contribution to gender equality and/or the empowerment of women and girls.</li> </ul> <p>The indicator is then calculated as <math>(a+b)/(a+b+c)</math> and is expressed in percentage terms, with the possibility to disaggregate by principal and significant.</p> <p>This indicator will build on the development of gender marker systems in order to develop a common methodology for assessing national government expenditures on gender equality and the empowerment of women and girls. In recent years, various organizations, including the UN, OECD, the World Bank and others have developed standards to assess the extent to which they invest on gender equality and women's empowerment.</p>
<p><b>Rationale and interpretation</b></p>	<p>It is widely recognized that governments play a significant role in the achievement of gender equality and the empowerment of women and girls by allocating adequate resources to support policies to achieve gender equality, therefore improving accountability systems and the efficient management of public resources.</p> <p>Financing new and existing commitments on gender equality is central to implementing and achieving all of the proposed sustainable development goals. This principle is rooted in a number of intergovernmental agreements such as the Beijing Declaration and Platform of Action and various other international commitments, including most recently, the Addis Ababa Action Agenda, where governments reiterated the need for targeted actions and investments in the formulation and implementation of all financial, economic, environmental and social policies.</p>
<p><b>Sources and data collection</b></p>	<p>Data used to calculate this indicator will be government budget expenditure categories.</p>
<p><b>Disaggregation</b></p>	<p>N/A</p>
<p><b>Comments and limitations</b></p>	<p>As a Tier III indicator, this indicator will need some methodological work to ensure that it is consistently measured and standardized across countries.</p>
<p><b>Gender equality issues</b></p>	<p>N/A</p>



<b>Data for global and regional monitoring</b>	The OECD database publishes the indicator Aid in support of Gender Equality and Women’s Empowerment, disaggregated by principal and significant based on a similar methodology. As part of its work on gender-responsive budgeting, UN Women supports member states to track such expenditure. This work will be led by UN Women, building on its current work on gender-responsive budgeting.
<b>Supplementary information</b>	N/A
<b>References</b>	<p><i>‘The Gender Equality Marker Guidance Note’</i>, prepared by the UNDG Task Team on Gender Equality, chaired by UN Women, in September 2013. It sets out common principles and standards for gender equality marker systems that track and report on allocations and expenditures for gender equality and women’s and girls’ empowerment, and aims to guide the development of an effective and coherent approach for tracking resources that support gender equality results with agreed upon parameters and standards inside the UN system. It is also intended to provide direction for individual entities instituting or improving their gender equality marker systems.</p> <p>OECD, <i>‘Development Assistance Committee (DAC) gender equality policy marker’</i>. To track aid in support of gender equality and women’s rights, the OECD uses this qualitative statistical tool to record aid activities that target gender equality as a policy objective.</p> <p>The World Bank project database contains data on World Bank lending projects from 1947 to the present. Using the gender marker, it is possible to compute the amount of lending and programming that is allocated to gender equality and women’s empowerment.</p>

**Target 6.2 By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations.**

**Proposed Additional Indicator by WHO-UNICEF/JMP: *Percentage of population with handwashing facilities with soap and water at home.***

<p><b>Definition and method of computation</b></p>	<p><b>Definition:</b> Population with a handwashing facility (a device to contain, transport or regulate the flow of water to facilitate handwashing) with soap and water in the household.</p> <p><b>Method of computation:</b> The indicator is computed as the proportion of the population who live in households with a handwashing facility with soap and water available. Household surveys increasingly include a section on hygiene practices. In this section, enumerators visit the handwashing station reportedly used by the household, and observe if water and soap are present.</p> <p><b>Predominant type of statistics:</b> national estimates adjusted for global comparison.</p>
<p><b>Rationale and interpretation</b></p>	<p>Handwashing with soap is widely agreed to be the top hygiene priority for improving health outcomes. In 2008 and 2009, the JMP supported a review of indicators of handwashing practice, and determined that the most practical approach leading to reliable measurement of handwashing in national household surveys was observation of the place where household members wash their hands and noting the presence of water and soap (or local alternative) at that location. This provides a measure of whether households have the necessary tools for handwashing and is a proxy for their behaviour. Observation by survey enumerators represents a more reliable, valid and efficient indicator for measuring handwashing behaviour than asking individuals to report their own behaviour.</p>
<p><b>Sources and data collection</b></p>	<p>Since the handwashing with soap survey questions were standardized in 2009, over 50 DHS and MICS surveys have included the module. JMP published handwashing data from 12 countries in its 2014 update report, and for 54 countries in the 2015 report.</p>
<p><b>Disaggregation/ additional dimension</b></p>	<p>Place of residence (urban/rural) and socioeconomic status (wealth) is possible for all countries. Disaggregation by other stratifiers of inequality (subnational, gender, disadvantaged groups, etc.) will be made where data permit.</p>
<p><b>Comments and limitations</b></p>	<p>Presence of a handwashing station with soap and water does not guarantee that household members consistently wash hands at key times, but has been accepted as the most suitable proxy.</p>
<p><b>Gender equality issues</b></p>	<p>In household surveys access to sanitation facilities is measured at the household level and in most cases it is not possible to disaggregate to accurately measure intra-household inequalities such as sex, age, or disability.</p>
<p><b>Data for global and regional monitoring</b></p>	<p>JMP estimates are based on fitting a regression line to a series of data points from household surveys and censuses when sufficient data are available. As the handwashing indicator has only been collected since 2009, very few countries have multiple data points and trend analysis is not currently possible. Regional and global aggregations will be made in a similar fashion as has been done for MDG reporting of improved water and sanitation.</p>

<b>Supplementary information</b>	JMP has developed a detailed statistical note which describes the questions used for making observations of handwashing facilities in household surveys.
<b>References</b>	<p>Progress on sanitation and drinking water – 2015 update and MDG assessment. New York: UNICEF/WHO, 2015.  <a href="http://www.wssinfo.org/fileadmin/user_upload/resources/JMP-Update-report-2015_English.pdf">http://www.wssinfo.org/fileadmin/user_upload/resources/JMP-Update-report-2015_English.pdf</a></p> <p>Methodological note on monitoring WASH and wastewater for the SDGs:  <a href="http://www.wssinfo.org/fileadmin/user_upload/resources/Methodological-note-on-monitoring-SDG-targets-for-WASH-and-wastewater_WHO-UNICEF_8October2015_Final.pdf">http://www.wssinfo.org/fileadmin/user_upload/resources/Methodological-note-on-monitoring-SDG-targets-for-WASH-and-wastewater_WHO-UNICEF_8October2015_Final.pdf</a>.</p> <p>WASH targets and indicators post-2015: recommendations from international consultations. Geneva: Water Supply and Sanitation Collaborative Council; 2014  <a href="http://www.wssinfo.org/fileadmin/user_upload/resources/post-2015-WASH-targets-factsheet-12pp.pdf">http://www.wssinfo.org/fileadmin/user_upload/resources/post-2015-WASH-targets-factsheet-12pp.pdf</a></p> <p>Ram, P., Practical Guidance for Measuring Handwashing Behaviour: 2013 update, World Bank Water Supply and Sanitation Programme, 2013.  <a href="http://www.wsp.org/sites/wsp.org/files/publications/WSP-Practical-Guidance-Measuring-Handwashing-Behavior-2013-Update.pdf">http://www.wsp.org/sites/wsp.org/files/publications/WSP-Practical-Guidance-Measuring-Handwashing-Behavior-2013-Update.pdf</a></p>
<b>Definition and method of computation</b>	<p><b>Definition:</b> Population with a handwashing facility (a device to contain, transport or regulate the flow of water to facilitate handwashing) with soap and water in the household.</p> <p><b>Method of computation:</b> The indicator is computed as the proportion of the population who live in households with a handwashing facility with soap and water available. Household surveys increasingly include a section on hygiene practices. In this section, enumerators visit the handwashing station reportedly used by the household, and observe if water and soap are present.</p> <p><b>Predominant type of statistics:</b> national estimates adjusted for global comparison.</p>

**Target 6.5 By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate.**

**Proposed Additional Indicator by UNECE (as Secretariat for the Water Convention) and UNEP through GEMI, on behalf of UN-Water: *Percentage of transboundary basin area with an operational arrangement for water cooperation***

<b>Definition and method of computation</b>	<p><b>Definition:</b> Proportion of surface area of transboundary basins (both surface and groundwater) that have an operational agreement/arrangement and/or institution for transboundary water cooperation, compared to total surface area of transboundary basins.</p> <p>This indicator is expressed as a percentage share of the transboundary surface area.</p> <p><b>Concepts: Integrated Water Resources Management (IWRM)</b> is an approach to managing water in a coordinated way. It takes into account the different water sources as well as various users and uses in a given situation, with the aim of maximizing positive social, economic and environmental impacts. It uses catchments and aquifers, as the principle unit of water management, and stresses decentralization of governance structures and active stakeholder participation in decision making.</p> <p><b>Transboundary basins</b> are surface or groundwater basins which mark, cross or are located on boundaries between two or more States.</p> <p><b>An agreement/arrangement and/or institution (/mechanism)</b> provides a framework for cooperation on transboundary water management. Such a framework is commonly based on an agreement covering different aspects of transboundary water management. Agreements may be interstate, intergovernmental, interministerial or interagency. In addition to an agreement (or a treaty, convention, Memorandum of Understanding), or instead of one, such framework can be provided by a bilateral or multilateral commission or other appropriate institutional arrangement for cooperation. Also multi-sectoral cooperation institutions can cover water issues.</p> <p>For a <b>cooperation framework</b> to be considered as “<b>operational</b>”, it requires that there are regular meetings of the riparian countries to discuss the integrated management of the water resource and to exchange information.</p> <p><b>Method of computation:</b> Calculated – for any spatial unit (country, region) – as the percentage that the total surface area (in square kilometres, km<sup>2</sup>) of transboundary basins that have an operational arrangement for water cooperation make up of the total surface area of transboundary basins (km<sup>2</sup>). GIS data on the extent and location of</p>
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	transboundary basins facilitates the spatial analysis (datasets available globally).
<b>Rationale and interpretation</b>	<p>Target 6.5 stresses the importance of transboundary cooperation to implement integrated water resources management of shared basins, to ensure availability and sustainable management of water resources.</p> <p>Most of the world’s water resources are shared: transboundary lake and river basins cover nearly one half of the Earth’s land surface and account for an estimated 60% of global freshwater. Approximately 40% of the world’s population lives in river and lake basins shared by two or more countries and over 90% lives in countries that share basins. However, cooperation on such waters is in most cases not advanced.</p> <p>The single most important factor enabling or providing for transboundary water cooperation is the existence of a cooperation framework (agreement, institution or other adequate arrangement) and it being operational, i.e. ensuring regular dialogue and exchange between riparian countries.</p>
<b>Sources and data collection</b>	<p>Existing data and sources for this indicator include:</p> <p>Spatial data (delineating transboundary basins) are available for all known (286) transboundary basins. Data available at global level on the 120 international river basin organisations. Spatial data (delineation of transboundary basins) are available for all known 592 transboundary aquifers.</p> <p>A global database exists of freshwater treaties and international river basin organizations, as well as several regional ones, e.g., for the Pan-European region the second Assessment under the Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Water Convention) and for the Americas, compilations by UNESCO and the Organization for American States.</p> <p>A global baseline comparative assessment of transboundary waters, including river basins (286) and aquifers (199), has been undertaken by the Transboundary Waters Assessment Project (TWAP, completed in 2014), involving generation of geo-referenced datasets. Relying to a large extent on a database which includes in total 686 international freshwater treaties (see TFDD in the reference list below), the TWAP project recorded, by (river) basin country unit, the presence of a treaty and of a basin organisation. "Treaties of limited technical scope" were excluded. The data also included coverage of selected principles of international law by the agreements as well as inclusion of selected management mechanisms. Operationally of the treaties was not considered, and neither were all types of agreements considered relevant to this indicator. Consideration of presence of institutional arrangements was limited to river basin organisations.</p> <p>For the global baseline comparative assessment for aquifers (TWAP, 2014) data were</p>

	<p>obtained through detailed questionnaires filled in by national experts. To indicate the level of arrangements (legal frameworks) the existence, status and comprehensiveness of agreement on the transboundary aquifers were measured. The data included signed and ratified agreements as well as differentiation between bilateral and multilateral agreements.</p>
<p><b>Disaggregation</b></p>	<p>Data would be most reliably collected at the national level. Basin level data can also be disaggregated to country level (for national reporting) and aggregated to regional and global level.</p>
<p><b>Comments and limitations</b></p>	<p>In line with the target, the indicator measures (and provides an incentive for) extending cooperation in transboundary basins. Without an adequate coordination at the basin level water resources management cannot be truly integrating the different water uses and ensure sustainability. Transboundary cooperation frameworks are highly diverse, differing in quality and effectiveness. At the same time, depending on the level of economic activities and the degree of development, and hence the coordination need, also vary. The monitoring can be based on general principles of cooperation.</p> <p>Eventually, if needed, the extent of application of operational arrangements for transboundary cooperation could be reviewed and measuring related progress developed.</p> <p>A part of the operational arrangements for integrated management of transboundary basin areas in place cover both surface waters and groundwaters but this is not always the case. The calculation should also take into account the present arrangements that are specific for aquifers.</p>
<p><b>Gender equality issues</b></p>	<p>Gender equity and women’s empowerment in water resources management is one of the cornerstones of the Dublin-Rio principles. Gender plays an intricate role in IWRM, not just in the planning process but also through the stakeholder consultations and in helping to secure and enforce rights and responsibilities relating to many different aspects of use. Adequate institutional frameworks help to ensure participation of relevant interest groups, social groups and genders. In addition, gender disaggregated water indicators developed by UNESCO WWAP are being tested in AMCOW countries and various transboundary basins.</p>

<p><b>Data for global and regional monitoring</b></p>	<p><b>Entity responsible for global monitoring:</b> UNECE (as Secretariat for the Water Convention) and UNEP, on behalf of UN-Water. Under the UN-Water umbrella, a partial monitoring framework is already in place, currently being finalized under the inter-agency monitoring initiative known as <a href="#">GEMI</a> (Integrated Monitoring of Water and Sanitation Related Targets). GEMI is a new coherent monitoring framework, working closely with JMP, to ensure long-term monitoring for the entire SDG 6.</p> <p>In this context, the Convention on the Protection and Use of Transboundary Watercourses and International Lakes (the “Water Convention”) is a unique legal and intergovernmental framework for transboundary water cooperation. Originally designed as an agreement for the pan-European region, the Convention was amended to open it for accession to all UN Member States. The amendments entered into force in February 2013. As of 2015, more than 100 countries participate in the Convention’s activities. Reporting on transboundary water cooperation is currently being developed under the Convention. The reporting proposed for adoption in November 2015 includes questions by transboundary basins, rivers, lakes and aquifers (as appropriate) about existence, scope and features of agreements and arrangements for transboundary water cooperation. Both Parties and non-Parties are invited to report. UNECE acts as secretariat for the Convention.</p> <p>Spatial data (delineating transboundary basins) are available for all known (286) transboundary basins. Data available at global level on the 120 international river basin organisations. UNESCO and IGRAC’s Global Groundwater Information System (GGIS) is a web-based portal to groundwater-related information and knowledge. It includes spatial data for all known 592 transboundary aquifers.</p> <p>Each country has information about which basins are covered by operational arrangements for transboundary water cooperation, and what is the corresponding area share.</p>
<p><b>Supplementary information</b></p>	<p>(Blank)</p>
<p><b>References</b></p>	<p>Convention on the Protection and Use of Transboundary Watercourses and International Lakes: a globalizing framework</p> <p><a href="http://www.unece.org/env/water.html">http://www.unece.org/env/water.html</a></p> <p>GEMI – Integrated Monitoring of Water and Sanitation-related SDG Targets. Internet site.</p> <p><a href="http://www.unwater.org/gemi/en/">http://www.unwater.org/gemi/en/</a></p>

Global Environment Facility's Transboundary Waters Assessment Project

<http://www.geftwap.org/>

[Treaties on transboundary waters :](#)

[Transboundary Freshwater Dispute Database \(TFDD\) at Oregon State University](#)

<http://www.transboundarywaters.orst.edu/publications/atlas/index.html>

River Basin Organisations

<http://www.transboundarywaters.orst.edu/research/RBO/index.html>

[A regional example: Status of transboundary water cooperation in the pan-European region:](#)

[http://www.unece.org/env/water/publications/pub/second\\_assessment.html](http://www.unece.org/env/water/publications/pub/second_assessment.html)

Internationally Shared Aquifer Resources Management (UNESCO's International Hydrological Programme): Regional inventories of transboundary groundwaters

<http://www.isarm.org/>



**Target 6.a By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies.**

**Proposed Modified Indicator by WHO through UN-Water GLAAS, supported by UNEP through GEMI (target 6.5), on behalf of UN-Water, in collaboration with OECD: *Amount of water and sanitation related ODA: ODA for water and sanitation related activities and programmes that is part of a government coordinated spending plan***

<p><b>Definition and method of computation</b></p>	<p>“International cooperation and capacity-building support” implies aid (most of it quantifiable) in the form of grants or loans by external support agencies. The amount of water and sanitation-related Official Development Assistance (ODA) can be used as a proxy for this, captured by the Creditor Reporting System (CRS) of the Organisation for Economic Co-operation and Development (OECD).</p> <p>Realising that the role of ODA in international cooperation is evolving and that a broad range of stakeholders is involved in “international cooperation and capacity development support”, it is envisaged that this indicator will evolve and will be further qualified during the SDG period.</p> <p>UN-Water is working together with OECD to align the proposed indicator and methodology with OECD work.</p> <p>Official Development Assistance (ODA) is defined as flows of official financing administered with the promotion of the economic development and welfare of developing countries as the main objective, and which are concessional in character with a grant element of at least 25 per cent (using a fixed 10 per cent rate of discount). By convention, ODA flows comprise contributions of donor government agencies, at all levels, to developing countries (“bilateral ODA”) and to multilateral institutions. ODA receipts comprise disbursements by bilateral donors and multilateral institutions. Lending by export credit agencies—with the pure purpose of export promotion—is excluded (OECD source IMF 2003).</p> <p>A government coordinated spending plan is defined as a financing plan/budget for the water and sanitation sector, clearly assessing the available sources of finance and strategies for financing future needs</p> <p>The indicator is computed as the proportion between the amount of water and sanitation related Official Development Assistance a government receives, and the total amount budgeted for water and sanitation in a government coordinated spending plan.</p>
<p><b>Rationale and interpretation</b></p>	<p>Target 6.a includes many elements. The amount of water and sanitation-related Official Development Assistance (ODA) is a quantifiable measurement as a proxy for “international cooperation and capacity development support” in financial terms,</p>

	<p>because this data are readily available from the Creditor Reporting System (CRS) of the Organisation for Economic Co-operation and Development (OECD).</p> <p>It is essential to be able to assess ODA in proportion with information about the government coordinated spending plan in proportion of ODA to gain a better understanding of how much countries depend/rely on ODA and highlighting countries total water and sanitation budgets over time.</p>
<p><b>Sources and data collection</b></p>	<p>The monitoring of the Means of Implementation of SDG 6 builds directly on the UN-Water Global Analysis and Assessment of Sanitation and Drinking-Water (GLAAS) (for drinking water, sanitation and hygiene issues) financial information, complemented by the TrackFin initiative that aims to track financial information in the WASH sector and the Integrated Water Resources Management (IWRM) reporting in SDG target 6.5 (for wastewater and water quality, water efficiency, water resource management, and the status of water-related ecosystems).</p> <p>The main data source is the Creditor Reporting System of the Organisation for Economic Co-operation and Development, in particular the reporting on “Water Supply and Sanitation”. UN-Water is working together with OECD to align the proposed indicator and methodology with OECD work.</p> <p>The analysis of these data is currently done on a biennial basis by the UN-Water GLAAS, led by WHO, for drinking water, sanitation and hygiene matters collected biennially (in 94 countries in 2013/2014) that collects financial information, including the specific initiative “Tracking financing to sanitation, hygiene and drinking-water” (TrackFin).</p> <p>The analysis of the data on water resources management was done by UN-Water in 2008 (led by UN-DESA) and in 2012 (led by UNEP, UNDP, GWP and SIWI) as requested by the UN Commission for Sustainable Development</p>
<p><b>Disaggregation</b></p>	<p>By disaggregating ODA according to the CRS Purpose Codes (<a href="http://www.oecd.org/dac/stats/49819385.pdf">www.oecd.org/dac/stats/49819385.pdf</a>), specific information can be obtained on the level of international cooperation in water and sanitation related activities, including infrastructure development, policies, and capacity development.</p> <p>The “Water Supply and Sanitation” CRS Purpose Codes are:</p> <ul style="list-style-type: none"> <li>14010 Water sector policy and administrative management</li> <li>14015 Water resources conservation (including data collection)</li> <li>14020 Water supply and sanitation - large systems</li> <li>14021 Water supply - large systems</li> <li>14022 Sanitation - large systems</li> <li>14030 Basic drinking water supply and basic sanitation</li> </ul>

	<p>14031 Basic drinking water supply</p> <p>14032 Basic sanitation</p> <p>14040 River basins' development</p> <p>14050 Waste management / disposal</p> <p>14081 Education and training in water supply and sanitation</p>
<p><b>Comments and limitations</b></p>	<p>“International cooperation and capacity-building support” implies aid (most of it quantifiable) in the form of grants or loans by external support agencies, for which ODA can be considered a best available proxy. ODA does however not capture all types of support in this regard.</p> <p>The UN-Water Global Analysis and Assessment of Sanitation and Drinking-Water (GLAAS) results indicate that there are substantial gaps in our understanding and tracking of financing to the WASH sector. Financial reporting is often insufficient to make sound and evidence-based planning and budgeting decisions. To help address the issue, WHO lead the “TrackFin” initiative under the UN-Water GLAAS project, which complements financial information collected in more than 90 countries in 2013/2014 through its GLAAS survey. Although many gaps still remain, the evidence base is growing incrementally and reporting such information will help improve understanding of how financial resources for WASH are allocated both at national and at global levels.</p> <p>GLAAS information aims to assess whether there is a financing plan or budget for WASH, the extent of its implementation and whether it includes all main areas (water/sanitation/hygiene, urban/rural). In some countries there may be several plans each covering a specific area e.g. separate plans for drinking-water, sanitation and hygiene, separate plans for urban and rural areas, even sometimes different plans for urban differentiating according to utility boundaries and urban areas not covered by the national utility for example. Although plans and budgets may both exist in countries and present different figures/estimates, the aim of this information is to identify if there is an agreed allocation for WASH.</p>
<p><b>Gender equality issues</b></p>	<p>Both UN-Water GLAAS and IWRM work includes information about inequality issues, which can be directly used to support indicator analysis in this regard.</p>
<p><b>Data for global and regional monitoring</b></p>	<p>WHO, through the UN-Water GLAAS and with the support of UNEP through the reporting in SDG target 6.5, on behalf of UN-Water.</p>
<p><b>Supplementary information</b></p>	<p>The proposed indicator can also be used to report on the following targets:</p>

	<p>7.a (enhance international cooperation to facilitate access to clean energy research and technology)</p> <p>13.b (mechanisms for raising capacity for climate change-related planning and management, focusing on women, youth and local and marginalized communities)</p> <p>15.9 (integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts).</p>
<b>References</b>	See above

## **Target 8.2 Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value-added and labour-intensive sectors.**

**Proposed Additional Indicator by ITC and UNCTAD: *Export diversification in terms of products and markets***

### **Definition and method of computation**

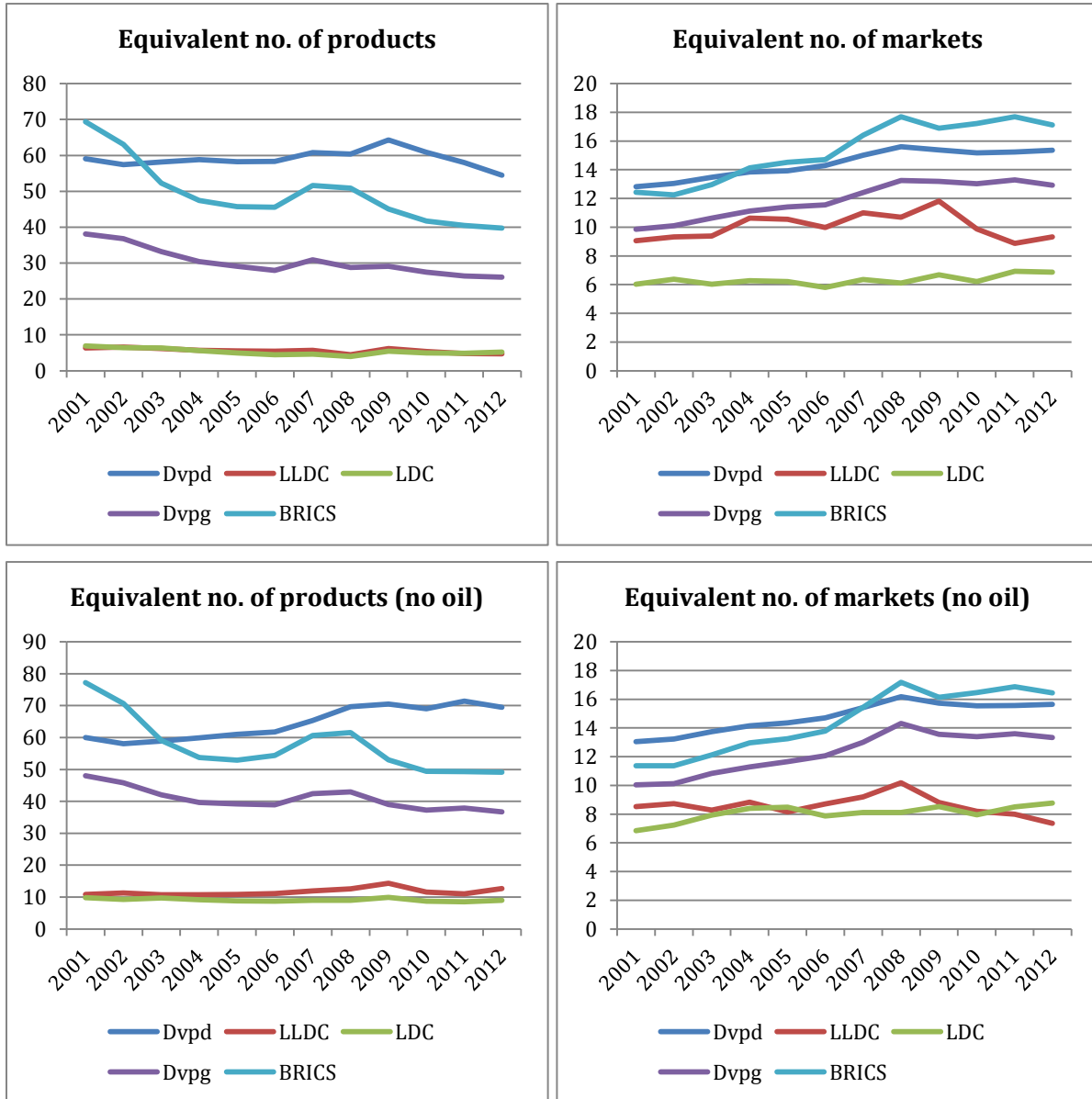
The number of equivalent products and markets is calculated as the inverse of the Herfindahl index (which measures concentration) to derive the number of markets and products assuming that each market and product absorbs the same share of total trade of a country. The higher the concentration on a few markets and products, the lower will be the number of equivalent markets and products, and the lower will hence be the diversification of that country.

Diversification will be calculated at the country-level and for various country groups (LDCs, LLDCs, developing countries, BRICs, etc.) over time (starting from 2001) as well as compared to a benchmark group (developed countries). Calculations can be done overall as well as separately for each product sector (e.g. agriculture, clothing, textiles and manufacturing).

Table 1: Evolution of diversification over time

<b>Indicator</b>	<b>Description</b>	<b>Mathematical definition</b>
1a-Product diversification	<p>N° of equivalent products* (inverse of the <i>Herfindahl Index for products (HIP<sup>t</sup>)</i>)</p> <ul style="list-style-type: none"> <li>• <i>p</i>- product</li> <li>• <i>t</i>- time</li> </ul>	$N^{\circ} \text{ eq. products}^t = \frac{1}{HIP^t}$ $HIP^t = \sum_{p=1}^P \left( \frac{X_p^t}{X^t} \right)^2$
1b-Market diversification	<p>N° of equivalent markets* (inverse of the <i>Herfindahl Index for markets (HIM<sup>t</sup>)</i>)</p> <ul style="list-style-type: none"> <li>• <i>m</i>- market</li> </ul>	$N^{\circ} \text{ eq. markets}^t = \frac{1}{HIM^t}$ $HIM^t = \sum_{m=1}^M \left( \frac{X_m^t}{X^t} \right)^2$

Figure: Example of results for diversification indicator (1a and 1b)



**Rationale and interpretation**

The indicator would allow inferring a country's degree of diversification of its production from the composition of its export sector.

The target is broad in scope and a single indicator wouldn't allow capturing all the nuances of economic productivity. The concept of "diversification" is clearly mentioned in the target but is not captured by the Growth rate of GDP per employed person). Diversification will be instead at the core of the proposed indicator. In addition to that, the final version of the background paper for the interactive dialogue on ***Fostering sustainable economic growth and transformation and promoting sustainable consumption and production*** also refers explicitly to export diversification: "Sustained growth can only be realized through structural transformation, i.e. the ability of an economy to constantly diversify into new rapidly expanding activities characterized by higher technological intensity, greater value added and productivity, **export diversifying potential** and increasing returns to scale."

Sustainable growth demands for increasing and predictable incomes resulting from diversified products instead of from finite natural resources or raw commodities that are often subject to volatile prices and revenues.

#### **Sources and data collection**

ITC (Trade Map) and UNSD (COMTRADE) databases.

Trade data are collected yearly.

This indicator can generally compiled around March of each year. At that time (say year y), the indicator is compiled for (y-2), corresponding to the availability of detailed bi-lateral trade flows.

#### **Disaggregation**

The indicator lends itself to disaggregation by group of products and group of countries.

#### **Comments and limitations**

This indicator could be usefully cross linked with Goal 17 (i.e. 17.11) resulting, therefore, as multipurpose indicator that could enhance synergies among different goals.

#### **Gender equality issues**

Gender equality issues cannot be captured by this indicator

#### **Supplementary information and references**

#### **Responsible entities**

ITC/UNCTAD

#### **Current data availability**

Indicators of export diversification are already available and widely used. Further refinement of the methodology should, however, be required.

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The following three indicators on export/import diversification are available in UNCTADStats

<http://unctad.org/en/Pages/Statistics.aspx>):

- (1) Concentration and diversification indices of merchandise exports and imports by country, annual, 1995-2013  
<http://unctadstat.unctad.org/wds/TableViewer/tableView.aspx?ReportId=120>
- (2) Bilateral concentration indices of merchandise exports and imports, annual, 1995-2012  
<http://unctadstat.unctad.org/wds/TableViewer/tableView.aspx?ReportId=34508>
- (3) Concentration and structural change indices of merchandise exports and imports by product, annual, 1995-2013  
<http://unctadstat.unctad.org/wds/TableViewer/tableView.aspx?ReportId=121>

**Target 8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services.**

**Proposed Additional Indicator by ITC:** *Number of policies dedicated to the enhancement of MSMEs that have been implemented at national/regional level*

**Definition and method of computation**

Rolling out a country survey that would allow calculating the N° of policies dedicated to the enhancement of MSMEs that have been implemented at national/regional level. The survey could target governmental institutions as well as trade support institutions.

Further methodological work would be needed to identify a list of criteria that have to be satisfied in order to attribute a value to the relevant development-oriented policy (i.e. policies supporting job creation, innovation, etc.).

**Rationale and interpretation**

Differently from the other measurements proposed, the above mentioned indicator would be closer to and address directly the prescriptions of the target, i.e. *“Promote development-oriented policies”*.

**Sources and data collection**

A source for this indicator does not yet exist.

The survey should be rolled out in more than 100 countries every year or every 2 years to allow for effective monitoring.

**Disaggregation**

Policies could be further disaggregated by economic sector.

**Comments and limitations**

A new data set will have to be created and challenges related to data collection should still be assessed.

The survey should be rolled out in more than 100 countries every year or every 2 years.

**Gender equality issues**

Gender equality issues could be captured through tailored questions in the survey questionnaire.

**Data for global and regional monitoring**

National data collected through the survey questionnaire could be further aggregated at the regional and global

**Supplementary information and references**

**Responsible entities**

ITC

**Current data availability**

This data are not currently available



**Target 8.5 By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value**

**Proposed Additional Indicator by ILO:** *Employment to working-age population (15 years and above) ratio by sex and age group*

**Definition and method of computation**

The employment-to-population ratio is the proportion of a country's working-age population that is employed. Employed persons are defined as all those of working age who, during a short reference period, were engaged in any activity to produce goods or provide services for pay or profit. For most countries, the working-age population is defined as persons aged 15 years and older, although this may vary slightly from country to country.

**Rationale and interpretation**

The employment-to-population ratio provides information on the ability of an economy to create employment. The concept that employment – specifically, access to decent work – is central to poverty reduction was firmly acknowledged in the MDG framework with the adoption of an employment-based target (1b) under the goal of halving the share of the world's population living in extreme poverty.

**Sources and data collection**

Household surveys (LFS, HIES, LSMS, Integrated HH surveys, etc.).

**Disaggregation**

Data are currently available by sex and age.

**Comments and limitations**

There are a variety of issues affecting cross-country comparability, including but not limited to differences in the definition of working-age, different sources, measurement differences, conceptual variation, survey coverage and collection methodology.

**Gender equality issues**

As this indicator is disaggregated by sex, it is well-suited for analysis of gender equality issues.

**Data for global and regional monitoring**

The ILO has estimates of the employed (number and employment-to-population ratio) disaggregated by sex and age (youth and adult) for the world as a whole and by (flexible) regional groupings. The global and regional estimates are based on both real and imputed values.

**Supplementary information and references**

For details, refer to the *Resolution concerning statistics of work, employment and labour underutilization*, available at:

[http://www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/normativeinstrument/wcms\\_230304.pdf](http://www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/normativeinstrument/wcms_230304.pdf)

**Responsible entities**

ILO.

**Current data availability**

The ILO has data for 181 countries. Very few countries compute the indicator for people with disabilities).

**Target 8.9** By 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products.

**Proposed Additional Indicator by ICAO:** *Connectivity Opportunities Utilisation*

**Definition and method of computation**

**Definition** The 'Connectivity Opportunities Utilisation Indicator' is defined as the proportion of the number of those markets having actual air services (real connectivity) with the number of available markets created by air transport liberalization policies (available or reserved connectivity). The indicator is expressed as a percentage.

**Concepts** The ICAO Statistics Programme which is part of the Air Transport Bureau of ICAO generates indicators that monitors the effectiveness of a State in translating available connectivity opportunity to real connectivity. The methodologies, definitions and metadata are endorsed by the Statistics Division of ICAO and approved by the Council of ICAO.

**Method of computation** The connectivity opportunities utilisation indicator is calculated using data collected through the ICAO Statistics Programme. The indicator is calculated at the level of a State.

The formula used to calculate the indicator is as follows:

Where, UC is the utilization rate of connectivity;

R, is markets having actual air services

A, is available markets created by air transport liberalization policies

**Rationale and Interpretation**

The 'Connectivity Opportunities Utilisation Indicator' is a representation of the efficacy of a Member State of ICAO to translate available connectivity opportunity to real connectivity through appropriate policy framework and policy mechanisms. Applying the indicator metric is recognized to be essential in determining the level of real connectivity, identify gaps and take appropriate policy measures to translate available connectivity opportunity to real connectivity. The indicator values range from 0 (no real connectivity is implemented) to 100 (all available connectivity opportunities are fully utilised).

This indicator has been presented and disseminated to ICAO Member States as being an important metric in increasing real connectivity and promoting sustainable tourism that creates jobs and economic growth.

**Sources and Data Collection**

The main source is the information collected by ICAO from its Member States through its regular Statistics Programme. The collection of data is approved by the ICAO Statistics Division and the Council of ICAO. Data is received from the Member States of ICAO electronically in conformity with the requirements, definitions and methodologies approved by the ICAO Statistics Division and the Council.

The detailed metadata, definitions and methodologies used by the Statistics Programme relevant to the 'Connectivity Opportunities Utilisation Indicator' is available in Appendix 1 of this paper.

**Disaggregation**

The lowest level of aggregation for this indicator is at State level. It cannot be further disaggregated.

**COMMENTS AND LIMITATIONS**

The utilization rate of connectivity (UC) is a useful tool for States, other agencies like UNWTO, UNCTAD, ILO as well as multilateral banks, industry regional and other organisations to target development policies essential in increasing air connectivity and tourism. This is crucial since more than half of the tourists arrive by air. It allows States to benchmark themselves with other States in their region or worldwide. It provides information for those who wish to perform analysis on factors constraining the development of air connectivity so that appropriate policy actions could be taken to increase connectivity, promote tourism, jobs and economic growth.

**GENDER EQUALITY ISSUES**

Not applicable

**DATA FOR GLOBAL AND REGIONAL MONITORING**

The utilization rate of connectivity (UC) is available for all ICAO Member States.

**EXAMPLES**

More information and examples are available on the ICAO website under the following link:

<http://www.icao.int/sustainability/Pages/Connectivity.aspx3>

**Target 9.1** Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.

**Proposed Additional Indicator by ITU and Partnership on Measuring ICT for Development:** *Proportion of households with broadband Internet access, by urban/rural*

**Definition and method of computation**

This indicator *proportion of households with broadband Internet access, by urban/rural* is defined as the proportion of households with broadband Internet access using different types of broadband services. Broadband is defined as technologies that deliver advertised download speeds of at least 256 kbit/s. The main types of broadband services are:

- Fixed (wired) broadband network, such as DSL, cable modem, high speed leased lines, fibre-to-the-home/building, powerline and other fixed (wired) broadband
- Terrestrial fixed (wireless) broadband network, such as WiMAX, fixed CDMA
- Satellite broadband network (via a satellite connection)
- Mobile broadband network (at least 3G, e.g. UMTS) via a handset
- Mobile broadband network (at least 3G, e.g. UMTS) via a card (e.g. integrated SIM card in a computer) or USB modem

The *Internet* is a worldwide public computer network. It provides access to a number of communication services including the World Wide Web and carries e-mail, news, entertainment and data files, irrespective of the device used (not assumed to be only via a computer – it may also be by mobile telephone, tablet, PDA, games machine, digital TV etc.). Access can be via a fixed or mobile network.

Data for this indicator can be collected through an official national household survey, by asking about household access to the Internet, broken down by type of Internet service (which can also include narrowband Internet access). The number of in-scope households with Internet access by a given type of service is calculated by aggregating the weighted responses for each type of service. Proportions are expressed as percentages and are calculated by dividing the number of in-scope households with a given type of Internet service by either the total number of in-scope households with Internet or by the total number of in-scope households, and then multiplying the result by 100.

**Rationale and interpretation**

Internet access, and in particular broadband Internet access, has become a key infrastructure, a key pillar to industrialization and a fundamental driver for innovation. It is an important driver for economic growth and development and can help foster well-being, in particular by delivering a growing number of services and applications, including in the areas of business, health, education and governance. The number of Internet users has increased substantially over the last decade and access to the Internet has changed the way people live, communicate, work and do business. Internet uptake is a key indicator tracked by policy makers and others to measure track development.

Despite growth in networks, services and applications, information and communication technology (ICT) access and use is still far from equally distributed, and many people cannot yet benefit from the potential of the Internet. By 2015, less than 50 per cent of households in the world had access to the Internet, and thus limiting the benefits that Internet access can deliver. The indicator highlights the importance of Internet use as a development enabler and helps to measure the digital divide, which, if not properly addressed, will aggravate inequalities in all development domains.

A breakdown of this indicator by urban/rural households can help identify digital divides between urban and rural areas. This information can contribute to the design of targeted policies to overcome those divides.

### **Sources and data collection**

The indicator on *proportion of households with broadband Internet access, by urban/rural* is based on an internationally agreed definition and methodology, which have been developed under the coordination of ITU, through its Expert Groups and following an extensive consultation process with countries. It is also a core indicator of the Partnership on Measuring ICT for Development's Core List of Indicators, which has been endorsed by the UN Statistical Commission (last time in 2014). The *percentage of households with Internet access* is also included in the ITU ICT Development Index, and thus considered a key metric for international comparisons of ICT developments.

Data on the *proportion of households with broadband Internet access, by urban/rural* are collected through an annual questionnaire that ITU sends to national statistical offices (NSO). In this questionnaire ITU collects absolute values. The percentages are calculated a-posteriori. The survey methodology is verified to ensure that it meets adequate statistical standards. The data are verified to ensure consistency with previous years' data and situation of the country for other related indicators (ICT and economic).

Some countries conduct a household survey where the question on *households with broadband Internet access* is included every year. For others, the frequency is every two or three years. Overall, the indicator is available for 53 countries at least from one survey in the years 2011-2014.

ITU produces data on the *proportion of households with Internet access* (not broken down by narrowband/broadband) for almost 200 economies. Survey data for the *proportion of households with Internet access* is available for 101 countries. For the other countries, ITU estimates the *proportion of households with Internet access* based on other (mainly subscription) data.

### **Disaggregation**

For countries that collect this indicator through an official survey, and if data allow breakdown and disaggregation, the indicator can be broken down by the following household characteristics:

- Breakdown by region, such as geographical areas, urban/ rural.

- Breakdown by household characteristics, such as household composition and size, and whether the household has access to electricity.
- Breakdown by characteristics of the head of the household/household reference person, such as sex, level of education, occupation or status in the labour force.
- Other breakdowns or classifications, where relevant variables or questions are used in the questionnaire, such as household income.

### **Comments and limitations**

Proposed categories of broadband and technical terms will probably vary between countries and therefore questions included in national household surveys/questionnaires must be adapted to the local context. For further information, see the [ITU Manual for Measuring ICT Access and Use by Households and Individuals 2014](#).

### **Gender equality issues**

Information can be produced on the breakdown by characteristics of the head of the household/household reference person, including sex, but ITU does not collect this information at the international level.

### **Data for global and regional monitoring**

Regional and global aggregates can be produced for the *proportion of households with Internet access* since ITU produces data for this indicator for almost 200 economies. In cases where these data are not produced through official household surveys, ITU estimates the *proportion of households with Internet access* based on subscription data. Recent data for the *proportion of households with broadband Internet access* is available for 53 countries and regional and global estimates cannot be produced, although more countries are expected to collect data for this indicator in the future.

### **Supplementary information**

Year-end data on the *proportion of households with Internet access* are usually released in June of the following year through the ITU World Telecommunication/ICT Indicators Database. Data are also available at no cost through the ITU ICT Eye, see: <http://www.itu.int/ITU-D/ict/>.

### **References**

- [ITU Manual for Measuring ICT Access and Use by Households and Individuals 2014](#)

### **Targets for which indicator is relevant**

1.4, 5.b, 9.c, 11.1, 16.10, 17.8

**Target 9.1 Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.**

**Proposed Additional Indicator by ICAO: *Percentage of effective implementation in the infrastructure development of aerodromes and ground aids (AGA EI)***

**Defintion and method of computation**

**Definition** The *percentage of effective implementation in the infrastructure development of aerodromes and ground aids (AGA EI)* is defined as the proportion of satisfactory protocol questions versus the total number of applicable and reviewed protocol questions in the area of aerodromes and ground aids.

The indicator is expressed as a percentage.

**Concepts** The ICAO Universal Safety Oversight and Audit Programme (USOAP), certified to the ISO 9001 standard, continuously monitors the effectiveness of a State's aviation safety oversight system. One of the areas monitored by USOAP is States' level of compliance with and effective implementation of Standards related to aerodromes and ground aids (AGA). Effective implementation scores are well known and accepted throughout the global aviation system and used to assess different aspects of civil aviation.

**Method of computation** The percentage of effective implementation in the infrastructure development of aerodromes and ground aids is calculated using data collected through the USOAP Continuous Monitoring and Audit (CMA) program. The indicator is calculated on the level of a State.

The formula used to calculate the indicator is as follows:

Where S is the sum of all protocol questions (PQs) with status satisfactory and U is the sum of all PQs with status unsatisfactory with respect to the set of aerodrome and ground aid related PQs (176).

**Rationale and Interpretation**

The PQs are a representation of the main ICAO provisions, thus their implementation is a measure of implementation of all main ICAO provisions. Applying the various ICAO provisions is recognized to be a prerequisite to sustainable and safe aviation in a country. The AGA EI indicator related to aerodromes and ground aids therefor helps identify the countries which lack the basic aerodrome infrastructure to support their economic development.

The indicator values range from 0 (no PQ is satisfactorily implemented) to 100 (all PQs are fully implemented)

**Target 9.1 Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.**

**Proposed Additional Indicator by UNISDR: *Damage to critical infrastructure due to hazardous events***



**Definition:**

**Disaster damage:** Total or partial destruction of physical assets existing in the affected area.

**Critical infrastructure:** The physical structures, facilities, networks and other assets that support services that are socially, economically or operationally essential to the functioning of a society or community. In this indicator framework, it consists of healthcare, education, and roads from the perspective of availability of good quality of historic data for establishing baseline.

Note: Expert Group recommends widening the scope of critical infrastructure beyond education, healthcare and roads.

**Health facilities damaged or destroyed:** The number of health centres, clinics, local and regional hospitals, outpatient centres and in general facilities used by primary health providers damaged or destroyed by the hazardous event.

**Educational facilities damaged or destroyed:** The number of play schools, kindergartens, primary, secondary or middle schools, technical-vocational schools, colleges, universities, training centres, adult education, military schools and prison schools damaged or destroyed by the hazardous event.

**Roads damaged or destroyed:** The length of road networks damaged or destroyed due to the hazardous event, in kilometres.

**Hazardous event:** The occurrence of a natural or human-induced phenomenon in a particular place during a particular period of time due to the existence of a hazard.

**Hazard:** A potentially damaging physical event, phenomenon or human activity that may cause the loss of life or injury, property damage, social and economic disruption or environmental degradation.

UNISDR recommends setting NO threshold for recording hazardous event in order to monitor *all* hazardous events. Small-scale but frequent hazardous events that are not registered in international disaster loss databases account for an important share of damages and losses when they are combined, and often go unnoticed by the national and international community. These events, when accumulated, are often a source of poverty in developing countries but can be effectively addressed by well-designed policies. The scope of the Sendai Framework for Disaster Risk Reduction 2015-2030 is “the risk of small-scale and large-scale, frequent and infrequent, sudden and slow-onset disasters, caused by natural or man-made hazards as well as relate environmental, technological and biological hazards and risks”.

Note: Terminology will be discussed and finalized in the Open-ended Intergovernmental Working Group for Sendai Framework for Disaster Risk Reduction.

**Method of computation:**

Summation of data from national disaster loss databases to summarize the physical damage. Methodology to create composite index should be developed by UNISDR. Conversion from physical value to monetary value (in constant USD) according to the UNISDR methodology possible.

**Rationale and interpretation** (mainly based on TST Issue Brief 2, 5, 9, 12, 20 and 23-26):

Cities around the world, as well as rural populations, witness growing disaster risks. Impacts of climate change on sustainable development are observed through both slow-onset events (e.g. sea level rise, increasing temperatures, ocean acidification, glacial retreat and related impacts, salinization, land and forest degradation, loss of biodiversity and desertification) and extreme weather events.

Cities are some of the most vulnerable areas to natural hazards. Unplanned urban development (e.g. informal settlements, overcrowding, inadequate infrastructures) exacerbates urban vulnerability to climate change impacts and hydro-meteorological and geological hazards. Over half of all coastal areas are urbanized and 21 of the world's 33 mega cities lie in coastal flood zones. Poor urban populations must often resort to unsustainable coping strategies and mechanisms.

Large number of people remains perilously close to falling into poverty, experiencing shocks that they are unable to cope with. For the poor, a shock of even a relatively short impact and duration can have long term consequences. Several dimensions of poverty are closely related to environment, which is often affected by natural disasters. The poverty reduction agenda could include well-designed social protection schemes to help protecting the poor against sudden shocks and development of capacities to better predict and prepare for such shocks. Better management of natural resources can themselves strengthen the resilience of the poor, by both reducing the likelihood of natural hazard events and offering resources to help cope with them.

Located in places where disadvantaged groups are situated and when affordable access is addressed, infrastructures such as health, education, road and other critical infrastructures will have direct impact on reducing inequality and making growth more inclusive. To ensure environment sustainability, infrastructure development should take into account the carbon constraint, energy security and the need for climate change adaptation and disaster risk reduction.

Especially, exclusion from education occurs most often among persons living in conflict and disaster contexts. Provision of quality education remains a challenge in disasters and conflict or post-conflict contexts, with children from these contexts comprising around 40% of out of school children. It is necessary to ensure safe and healthy learning environments, inclusive of safe, disaster-sensitive school buildings and classrooms.

SIDS and coastal regions are particularly affected by sea level rise, coastal flooding and erosion, and extreme events (e.g. tsunamis and storm surges) due to the undermining natural protective barriers, low level s of development combined with rapid population growth in low lying coastal areas and inadequate capacity to adapt.

The critical infrastructure loss will influence the scope of economic loss and livelihood loss. While there are many kinds of critical infrastructures such as health, education, Information and Communication Technologies (ICT), transportation, energy, agriculture and sanitation, currently health, education and road are the most standardized in terms of definition and data collecting methodology.

The indicator will build bridge between the SDGs and the Sendai Framework because the reduction of infrastructure loss is one of Sendai Framework global targets and will be also monitored under the Sendai Framework Monitoring System. The infrastructure loss will also constitute the critical part of economic loss, the reduction of which is a Sendai Framework global target. It will also affect people via

disruption of basic service provision. In this regard, this indicator also relates with the reduction of affected people, which is also a Sendai Framework global target.

The disaster loss data are significantly influenced by large-scale catastrophic event, which represent important outliers. UNISDR recommends countries to report the data by event, so complementary analysis can be done by both including and excluding such catastrophic events.

*Note: This indicator can be divided into several indicators, one for health goal (Goal 3), second for education goal (especially proposed target 4.a).*

**Sources and data collection:** National disaster loss database, reported to UNISDR

**Disaggregation:** by country, by event, by hazard type (e.g. disaggregation by climatological, hydrological, meteorological, geophysical, biological and extra-terrestrial for natural hazards is possible following IRDR\* classification), by asset loss category.

\*Integrated Research on Disaster Risk (2014), *Peril Classification and Hazard Glossary (IRDR DATA Publication No.1)*, Beijing: Integrated Research on Disaster Risk

Ideally, in addition, by sub-national administrative unit.

**Comments and limitations:**

- ✓ This is proposal by UNISDR based on our experience and knowledge built in the period under the Hyogo Framework for Action (2005-2015). The proposed indicator was further reviewed and examined by other UN agencies including FAO, GFDRR, IOM, UNCCD, UNDP, UNESCAP, UNESCO, UNFPA, UNHCR, UNOCHA, UNOOSA, UNOPS, UNU, UNWOMEN, WHO and WMO (though not all organizations listed here provided comments for this indicator) and submitted to the IAEG process in early-July 2015, then again reviewed by the Technical Expert Group consisting of more than 60 experts from UN system, academic and research, civil sector and private sector in 27-29 July 2015 and submitted and examined by the Member States in the 1<sup>st</sup> Open-ended Intergovernmental Expert Working Group on Indicators and Terminology on Disaster Risk Reduction held in 29-30 September 2015. The suggested indicator is currently under review by the Member States and UNISDR is receiving written inputs from the Member States.
- ✓ The proposed indicators will be also used to monitor Sendai Framework global targets and therefore the detailed definitions shall be discussed and agreed in Open-ended Intergovernmental Expert Working Group on Indicators and Terminology on Disaster Risk Reduction, as outlined in Sendai Framework for Disaster Reduction 2015-2030. The Working Group is likely to finalize the discussion and submit the final report to the GA in December 2016.
- ✓ Not every country has a comparable national disaster loss database that is consistent with the UNISDR guidelines (current coverage is 85 countries. Additional 32 countries are expected to be covered in 2015-16). Therefore, by 2020, it is expected that all countries will build/adjust the database according to the UNISDR guidelines and report the data to UNISDR.

**Gender equality issues:** Not included.

**Data for global and regional monitoring:** Summation of data from national disaster loss databases

## Main linkage with SDG Targets:

*This indicator is proposed as “multi-purpose indicator”.*

### Target 9.1:

Develop quality, reliable, sustainable and **resilient infrastructure**, including regional and trans border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all

### Target 1.5:

By 2030, build **the resilience of the poor and those in vulnerable situations** and reduce their **exposure and vulnerability to climate-related extreme events** and other economic, social and environmental shocks and **disasters**

### Target 11.5:

By 2030, significantly reduce **the number of deaths** and **the number of people affected** and substantially decrease the direct economic losses relative to global gross domestic product caused by **disasters**, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations

### Target 13.1:

Strengthen **resilience and adaptive capacity to climate-related hazards and natural disasters** in all countries

### Target 1.4:

By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to **basic services**, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance

### Target 11.1:

By 2030, ensure access for all to adequate, **safe** and affordable housing and **basic services** and upgrade slums

### Target 4.a:

Build and upgrade **education facilities** that are child, disability and gender sensitive and provide **safe**, non-violent, inclusive and effective learning environments for all

### Target 3.6:

By 2020, halve the number of **global deaths and injuries from road traffic accidents**

### Target 11.2:

By 2030, provide access to **safe**, affordable, accessible and **sustainable transport systems** for all, improving **road safety**, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons

**Target3.c:**

Substantially increase **health financing** and the recruitment, development, training and retention of the health workforce in developing countries, especially in least developed countries and small island developing States

**Target 3.d:**

Strengthen the capacity of all countries, in particular developing countries, for **early warning, risk reduction and management of national and global health risks**

**Supplementary information:**

**Related targets in the Sendai Framework for Disaster Risk Reduction 2015-2030:**

Substantially reduce *disaster damage to critical infrastructure and disruption of basic services*, among them health and educational facilities, including through developing their resilience by 2030.

**Sendai Framework for Disaster Risk Reduction 2015-2030:**

([http://www.preventionweb.net/files/43291\\_sendaiframeworkfordrren.pdf](http://www.preventionweb.net/files/43291_sendaiframeworkfordrren.pdf))

**Target 9.1 Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.**

**Proposed Additional Indicator by UNISDR:** *Number of countries that adopt and implement critical infrastructure protection plan*

**Definition:**

**Critical infrastructure protection plan:** Plan or programme to enhance the resilience of new and existing critical infrastructure systems, including water, transportation and telecommunications infrastructure, educational facilities, hospitals and other health facilities, to ensure that they remain safe, effective and operational during and after disasters and other contingencies in order to provide live-saving and essential services (Developed based on the Sendai Framework)

**Critical infrastructure:** The physical structures, facilities, networks and other assets that support services that are socially, economically or operationally essential to the functioning of a society or community.

**Country:** A nation with its own government, occupying a particular territory (Oxford Dictionary)

Note: Terminology will be discussed and finalized in the Open-ended Intergovernmental Working Group for Sendai Framework for Disaster Risk Reduction.

**Method of computation:**

Summation of data from National Progress Reports of the Sendai Monitor.

**Rationale and interpretation** (mainly based on TST Issue Brief 2, 5, 9, 12, 20 and 23-26):

The Sendai Framework for Disaster Risk Reduction 2015-2030 (SFDRR) calls for measures to enhance the resilience of new and existing critical infrastructure, including water, transportation and telecommunications infrastructure, educational facilities, hospitals and other health facilities, to ensure that they remain safe, effective and operational during and after disasters and other contingencies in order to provide life-saving and essential services (SFDRR, para 33(c)).

Cities around the world, as well as rural populations, witness growing disaster risks. Impacts of climate change on sustainable development are observed through both slow-onset events (e.g. sea level rise, increasing temperatures, ocean acidification, glacial retreat and related impacts, salinization, land and forest degradation, loss of biodiversity and desertification) and extreme weather events.

Cities are some of the most vulnerable areas to natural disasters. Unplanned urban development (e.g. informal settlements, overcrowding, inadequate infrastructures) exacerbates urban vulnerability to climate change impacts and hydro-meteorological and geological hazards. Well over half of all coastal areas are urbanized and 21 of the world's 33 mega cities lie in coastal flood zones. SIDS and coastal regions are particularly affected by sea level rise, coastal flooding and erosion, and extreme events (e.g. tsunamis and storm surges) due to the undermining natural protective barriers, low levels of development combined with rapid population growth in low lying coastal areas and inadequate capacity to adapt.

Poor populations must often resort to unsustainable coping strategies and mechanisms. Large numbers of people remain perilously close to falling into poverty, experiencing shocks that they are unable to cope with. For the poor, a shock of even a relatively short impact and duration can have long term consequences. Several dimensions of poverty are closely related to environment, which is often affected by natural disasters.

The critical infrastructure loss will influence the scope of economic loss and livelihood loss. Located in places where disadvantaged groups are situated and when affordable access is addressed, infrastructures such as health, education, road and other critical infrastructures will have direct impact on reducing inequality and making growth more inclusive. To ensure environment sustainability, infrastructure development should take into account the carbon constraint, energy security and the need for climate change adaptation and disaster risk reduction.

Especially, exclusion from education occurs most often among persons living in conflict and disaster contexts. Provision of quality education remains a challenge in disasters and conflict or post-conflict contexts, with children from these contexts comprising around 40% of out of school children. It is necessary to ensure safe and healthy learning environments, inclusive of safe, disaster-sensitive school buildings and classrooms.

The indicator will build bridge between the SDGs and the Sendai Framework because the reduction of infrastructure loss is one of Sendai Framework global targets and will be also monitored under the Sendai Framework Monitoring System. The infrastructure loss will also constitute the critical part of economic loss, the reduction of which is a global Sendai Framework target. Resilient infrastructure

building will be highly related and constitute critical part of national strategies for DRR, which is also a global Sendai Framework target.

**Sources and data collection:** National Progress Reports of the Sendai Monitor, reported to UNISDR

**Disaggregation:** by country

**Comments and limitations:**

- ✓ This is proposal by UNISDR based on our experience and knowledge built in the period under the Hyogo Framework for Action (2005-2015). The proposed indicator was further reviewed and examined by other UN agencies including FAO, GFDRR, IOM, UNCCD, UNDP, UNESCAP, UNESCO, UNFPA, UNHCR, UNOCHA, UNOOSA, UNOPS, UNU, UNWOMEN, WHO and WMO (though not all organizations listed here provided comments for this indicator) and submitted to the IAEG process in early-July 2015, then again reviewed by the Technical Expert Group consisting of more than 60 experts from UN system, academic and research, civil sector and private sector in 27-29 July 2015 and submitted and examined by the Member States in the 1<sup>st</sup> Open-ended Intergovernmental Expert Working Group on Indicators and Terminology on Disaster Risk Reduction held in 29-30 September 2015. The suggested indicator is currently under review by the Member States and UNISDR is receiving written inputs from the Member States.
- ✓ The proposed indicators will be also used to monitor Sendai Framework global targets and therefore the detailed definitions shall be discussed and agreed in Open-ended Intergovernmental Expert Working Group on Indicators and Terminology on Disaster Risk Reduction, as outlined in Sendai Framework for Disaster Reduction 2015-2030. The Working Group is likely to finalize the discussion and submit the final report to the GA in December 2016.
- ✓ Reporting of the HFA Monitor and the succeeding SFDRR Monitor under development is not mandatory but it is only global database collecting DRR policy information. The HFA Monitor started in 2007 and over time, the number of countries reporting to UNISDR increased from 60 in 2007 to 133 in 2013. Because there is no specific data addressing this indicator at this moment, a baseline as of 2015 should be created through a questionnaire to all countries in order to monitor both the Sendai Framework and the SDGs.

**Gender equality issues:** Not included.

**Data for global and regional monitoring:** Summation of data from the Sendai Monitor

**Main linkage with SDG Targets:**

*This indicator is proposed as “multi-purpose indicator”.*

**Target 9.1:**

Develop quality, reliable, sustainable and **resilient infrastructure**, including regional and trans border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all

**Target 13.2:**

Integrate **climate change measures** into national policies, strategies and planning

**Target 1.5:**

By 2030, build **the resilience of the poor and those in vulnerable situations** and reduce their **exposure and vulnerability to climate-related extreme events** and other economic, social and environmental shocks and **disasters**

**Target 11.5:**

By 2030, significantly reduce **the number of deaths** and **the number of people affected** and substantially decrease the direct economic losses relative to global gross domestic product caused by **disasters**, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations

**Target 13.1:**

Strengthen **resilience and adaptive capacity to climate-related hazards and natural disasters** in all countries

**Target 11.1:**

By 2030, ensure access for all to adequate, **safe** and affordable housing and **basic services** and upgrade slums

**Target 1.4:**

By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to **basic services**, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance

**Target 4.a:**

Build and upgrade **education facilities** that are child, disability and gender sensitive and provide **safe**, non-violent, inclusive and effective learning environments for all

**Target 14.2:**

By 2020, sustainably manage and protect **marine and coastal ecosystems** to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans

**Target 15.3:**

By 2030, combat desertification, restore degraded land and soil, including **land affected by desertification, drought and floods**, and strive to achieve a land-degradation-neutral world

**Target 3.9:**

By 2030, substantially reduce the number of **deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination**

**Target 3.d:**

Strengthen the capacity of all countries, in particular developing countries, for **early warning, risk reduction and management of national and global health risks**



**Target3.c:**

Substantially increase **health financing** and the recruitment, development, training and retention of the health workforce in developing countries, especially in least developed countries and small island developing States

**Target 3.6:**

By 2020, halve the number of **global deaths and injuries from road traffic accidents**

**Target 11.2:**

By 2030, provide access to **safe**, affordable, accessible and **sustainable transport systems** for all, improving **road safety**, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons

**Supplementary information:**

**Related targets in the Sendai Framework for Disaster Risk Reduction 2015-2030:**

- ✓ Substantially reduce ***disaster damage to critical infrastructure and disruption of basic services***, among them health and educational facilities, including through developing their resilience by 2030.
- ✓ Substantially increase the number of countries with ***national and local disaster risk reduction strategies*** by 2020.

**Sendai Framework for Disaster Risk Reduction 2015-2030:**

([http://www.preventionweb.net/files/43291\\_sendaiframeworkfordrren.pdf](http://www.preventionweb.net/files/43291_sendaiframeworkfordrren.pdf))

**Target 9.3 Increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets.**

**Proposed Additional Indicator by UNIDO:** *Percentage of small scale industries receiving loan or in line of credit*

#### **Definition and method of computation**

Number of small industries receiving financial services is presented in percentage of the total number of small industries.

#### **Rationale and interpretation**

Small scale industries have limited access to financial services, whereas their need to loan is acute. This indicator shows how widely financial institutions are serving the small industries. This indicators together with suggested indicator 1 reflects the main message of target 9, 3 which intends to balance the contribution of small industry to their access to financial services.

#### **Sources and availability**

Data are not readily available with international sources. Limited data can be derived from the World Bank enterprise survey but there is no data available in regular time series.

NSOs can compile the indicator from the survey data and records of the financial institutions.

#### **Disaggregation**

Data can be presented by region

## **Target 9.c Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020**

### **Proposed Additional Indicator by ITU and Partnership on Measuring ICT for Development: *Broadband Internet prices***

#### **Definition and method of computation**

The indicator *broadband Internet prices* refers to the price of a monthly subscription to an entry-level (fixed or mobile) broadband plan, based on the offer by the operator with the largest market share in the country. The price is based on a monthly data usage of (a minimum of) 1 Gigabyte (GB). The minimum speed of a broadband connection is 256kbit/s.

ITU collects data for this indicator (in the currency in which prices are advertised) through an annual questionnaire from national regulatory authorities or Information and Communication Technology (ICT) Ministries, who collect the data from national operators/Internet service providers. Prices are collected based on a set of clear rules to ensure the comparability between countries. For countries that do not respond to the questionnaire, ITU collects data on the broadband Internet prices directly from operators/Internet service providers' websites.

To compare prices across countries, fixed- and mobile-broadband plans should be collected and compared, separately. In addition to the local currency, the price of a monthly subscription will be shown as follows:

- In USD, converted (from local currency), using the IMF's average annual rate of exchange
- In PPP\$ using the World Bank's conversion factors
- As a percentage of Gross National Income per capita (GNI p.c.), using GNI p.c. values from the World Bank (Atlas Method)

#### **Rationale and interpretation**

Target 9.c recognizes that the price, and affordability, of ICT services remains a determining factor for ICT uptake, particularly in the world Least Developed Countries. There is ample evidence that the relatively high price of ICT services remains a major barrier to ICT usage. Policy makers in most countries regulate wholesale prices, and retail prices are regulated in some countries. In addition, countries, as well as international and regional organizations, are monitoring the price of ICT services. To increase the level of broadband uptake and allow more people to benefit from the information society, the Broadband Commission for Digital Development has highlighted the importance of making broadband more affordable and set a clear target to bring down prices.

Broadband Internet prices remain particularly high and unaffordable in the large majority of LDCs and policies must be geared towards bringing down prices if more people are to join the information society.

### **Sources and data collection**

The indicator on *broadband Internet prices* is based on an internationally agreed definition and methodology, which have been developed under the coordination of ITU, through its Expert Groups and following an extensive consultation process with countries. It is also a core indicator of the Partnership on Measuring ICT for Development's Core List of Indicators, which has been endorsed by the UN Statistical Commission (last time in 2014). Data on *broadband Internet prices* are also included in the ITU ICT Price Basket (IPB) and published yearly in the ITU's *Measuring the Information Society Report*, and thus considered a key metric for international comparisons of ICT developments.

ITU collects data for this indicator through an annual questionnaire from national regulatory authorities or Information and Communication Technology Ministries, who collect the data from operators/Internet service providers. By 2014, data were available for 160 economies, from developed and developing regions, and covering all key global regions.

### **Disaggregation**

Not applicable to this indicator.

### **Comments and limitations**

There are some comparability issues linked to the indicator on *broadband Internet prices* since some operators offer broadband Internet services that include other services (for example free telephone calls). In addition, the indicator is not always comparable because the speed of the minimum broadband entry-level plan (the cheapest plan with a download speed of at least 256 kbit/s) varies between countries. Another factor that may affect comparability is the practice in some countries or operators of separating the broadband access charge from the Internet access charge. The data should refer only to the price of the Internet access. For mobile broadband prices, the data volume included in the monthly allowance (the data cap) may vary between countries, and not always correspond to exactly 1GB (but include more than 1GB).

### **Gender equality issues**

Data cannot be broken down by gender.

### **Data for global and regional monitoring**

Data for the indicator *broadband Internet prices* are available for about 160 economies and ITU produces regional and global aggregates, annually.

### **Supplementary information**

Year-end data are released in June of the following year through the ITU World Telecommunication/ICT Indicators Database.

### **References**

- [ITU Handbook for the Collection of Administrative Data on Telecommunications/ICT, 2011 \(and revisions and new indicators\)](#)
- [ITU ICT Price Basket Rules](#)
- [ITU Measuring the Information Society Report](#)

**Targets for which indicator are relevant**  
9.1

**Target 10.1** By 2030, progressively achieve and sustain income growth of the bottom 40 per cent of the population at a rate higher than the national average.

**Proposed Additional Indicator by OHCHR:** *Income inequality pre- and post-social transfers/tax at national, regional and global levels*

<p><b>Goal and target addressed</b></p>	<p>This indicator is proposed to monitor the following targets:          10.1 (income growth of lowest 40%)          10.2 (inclusion)          10.3 (equal opportunities)</p>
<p><b>Definition and method of computation</b></p>	<p>Income inequality refers to the extent to which income is distributed in an uneven manner among a population. A variety of measurement methodologies exist, including the Gini index, the Palma ratio, the Theil index, the Hoover index and the income quintile share ratio. The decision as to which measure to prefer should be taken by the IAEG based on considerations of validity and feasibility. The indicator should be calculated separately for gross income, and income after social transfers and tax.</p>
<p><b>Rationale and interpretation</b></p>	<p>Deepening income inequalities accompany and exacerbate other kinds of inequalities that exist as a result of structural disadvantage and historical patterns of discrimination, including pervasive gender inequalities and inequalities between ethnic groups. For example, women’s literacy rates are well below men’s, and women’s salaries remain lower than men’s in many countries, while extensive disparities in outcomes in health, education and in access to justice persist for different ethnic groups.</p> <p>Inequality in individuals’ incomes can impact on access to resources, services and power, and is a potential cause of grievance which can lead to increases in violence, crime and conflict. Research suggests that ‘vertical’ inequality among individuals in society as a whole does not appear to have a significant effect on the likelihood of conflict, but ‘horizontal’ inequality among groups does. When one group is deprived relative to another, it can create a sense of social injustice and frustration which may in turn be triggered into conflict, particularly where State discrimination lies behind the inequality.</p> <p>If no one is to be left behind, and if underlying causes of social unrest are to be addressed, it is vital that data for this indicator be disaggregated by population group. Inter-group Gini, Theil or coefficient of variance could also be measured.</p> <p>It is important to record both pre- and post-tax income, given that high levels of pre-tax income inequality can be moderated post-facto by social transfers and a progressive tax system, resulting in lower levels of post-tax inequality. The gap between the two helps to measure the government’s efforts at dealing with income inequality.</p>

<b>Sources and data collection</b>	Data on income are generally collected in household surveys conducted at the national level.
<b>Disaggregation</b>	This indicator should be disaggregated by ethnicity, sex, age, geographic location, disability, religion, migratory or displacement status, civil status, and other statuses relevant at the national level, which may for example include minority or indigenous status, language spoken at home, etc.
<b>Comments and limitations</b>	In many national contexts, household surveys, which are the main data source for this indicator, exclude the homeless or low-income groups without access to telephones. Face-to-face surveys often exclude non-urban populations or members of linguistic minorities.
<b>Gender equality issues</b>	In many instances, household surveys are conducted only with the 'head' of the household, who answers for other persons living at the same address. As this is most often the oldest male resident, the indicator may not fully capture the experience of women or give a picture of women's control over their income and resources. Where it is not feasible for this reason to disaggregate by sex, the indicator should be disaggregated for female-headed households.
<b>Data for global and regional monitoring</b>	Among the indices, data at the national level are currently most widely available for the Gini index, which is collected by the World Bank, but not at the level of disaggregation required to measure this indicator.  At the regional level, the EU collects data on the income quintile share ratio.
<b>Supplementary information</b>	
<b>References</b>	World Bank data and methodology on the Gini <a href="http://data.worldbank.org/indicator/SI.POV.GINI">http://data.worldbank.org/indicator/SI.POV.GINI</a>  On the Palma ratio: <a href="https://www.kcl.ac.uk/aboutkings/worldwide/initiatives/global/intdev/people/Sumner/Cobham-Sumner-15March2013.pdf">https://www.kcl.ac.uk/aboutkings/worldwide/initiatives/global/intdev/people/Sumner/Cobham-Sumner-15March2013.pdf</a>

**Target 10.2 By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status.**

**Proposed Additional Indicator from OHCHR: *Inequality gaps under other SDGs***

<p><b>Goal and target addressed</b></p>	<p>This indicator is proposed to monitor the following targets:          10.2 (inclusion)          10.3 (equal opportunities)          It can measure inequalities for any indicator that is based on survey data, e.g.:          3.1 + 3.2 (infant and child mortality)          2.2 (malnutrition)          6.1 + 6.2 (water and sanitation)          7.1 (energy)          16.9 (birth registration).</p>
<p><b>Definition and method of computation</b></p>	<p>The indicator should be computed as a weighted average of the deviation between the value of a specific indicator for specific population groups and the average value for the whole population.</p> <p>A suggested formula for measuring the indicator is:</p> $I = \sqrt{\frac{\sum_{k=0}^n (V_k - V)^2 \frac{P_k}{P}}{V}}$ <p>I = Inequality measure;          V<sub>k</sub> = Value of indicator within subset k (defined by region, income, social group);          V = National mean of indicator;          P<sub>k</sub> = Population in subset k (defined by region, income, social group);          P = National population.</p> <p>The value of the indicator for the nation is between 0 (complete equality) and 1 (complete inequality).</p> <p>The measure can be applied to any indicator, including GDP per capita, child mortality rates, underweight children and pupil-to-teacher ratios, but is especially easy to calculate for survey-based data because sub-national values can be used.</p>
<p><b>Rationale and interpretation</b></p>	<p>This is a very easy measure to apply to many different indicators and gives a very good indication of inequalities among groups or regions within a country. Value is between 0 (complete equality) and 1 (complete inequality).</p>



<b>Sources and data collection</b>	The primary data source is surveys conducted to gather other indicators (e.g. 3.1 + 3.2 (infant and child mortality), 2.2 (malnutrition), 6.1 + 6.2 (water and sanitation), 7.1 (energy), birth registration (16.9) at the national and sub-national level.
<b>Disaggregation</b>	Data for this indicator should be disaggregated by age and sex. It is based on disaggregated data by social group or region.
<b>Comments and limitations</b>	It is an indicator very easy to calculate based on already existing survey data, and does not require any additional questions or additions to any survey.
<b>Gender equality issues</b>	The inequality measure could be calculated separately for men and women.
<b>Data for global and regional monitoring</b>	Data for this indicator are collected through existing surveys.
<b>Supplementary information</b>	
<b>References</b>	Henk-Jan Brinkman (UN/PBSO), Larry Attree (Saferworld) and Saša Hezir (Columbia University), “Addressing horizontal inequalities as drivers of conflict in the post-2015 development agenda”, February 2013 ( <a href="http://www.saferworld.org.uk/resources/view-resource/725">http://www.saferworld.org.uk/resources/view-resource/725</a> ).

**Target 10.4 Adopt policies, especially fiscal, wage and social protection policies, and progressively achieve greater equality.**

**Proposed Additional Indicator by OHCHR: *Average tax rate by income quintile***

<p><b>Goal and target addressed</b></p>	<p>This indicator is proposed to monitor the following targets:          1.3 (social protection systems and measures)          10.1 (income growth of bottom 40%)          10.2 (economic inclusion)          10.4 (fiscal policy)          17.1 (domestic resource mobilisation)</p>
<p><b>Definition and method of computation</b></p>	<p>“Tax rate” is defined as the sum of income tax, social contributions, capital gains taxes and other personal taxes less any benefits received from government, expressed as a percentage of gross income.</p> <p>The indicator is calculated as the average tax rate of each income quintile.</p>
<p><b>Rationale and interpretation</b></p>	<p>This indicator provides a measure of progressivity of tax. In a progressive tax system, the higher a person's level of income, the higher a tax rate that person pays, though there may be deductions based on personal circumstances (dependents, disability, etc.). Where individual or total household income is insufficient for a minimum standard of living, such individuals should not be required to pay income taxes and social protection floors in the form of economic and/or social benefits should raise them to a minimum standard of living.</p>
<p><b>Sources and data collection</b></p>	<p>The main source of data is household surveys conducted at national level. In some countries, data may also be available from administrative and tax records.</p>
<p><b>Disaggregation</b></p>	<p>This indicator is based on averages to determine the level of progressivity of tax regimes as a whole, and so does not require disaggregation. Over-representation of particular population groups among lower income quintiles is measured in other indicators under this Goal.</p>
<p><b>Comments and limitations</b></p>	<p>The indicator is based on income taxes, so does not include the full range of taxes that an individual will pay. Taxes on goods and services generally account for a higher proportion of the expenditures of the poorest than of the richest.</p>
<p><b>Gender equality issues</b></p>	<p>The indicator does not capture information about the gender of individuals. Over-representation of particular population groups among lower income quintiles, and in</p>

	particular insufficient social protection for particular groups, is measured in other indicators under this Goal.
<b>Data for global and regional monitoring</b>	Specific data on this indicator are not currently collated at the global level. OECD collects relevant data for developed countries, but it is not systematically published by income quintile. Data on tax revenues are collected by the World Bank. A number of private companies collect and publish data on personal tax rates worldwide, but often methodologies are not publicly available.
<b>Supplementary information</b>	
<b>References</b>	OECD indicators on tax burden on wage income: <a href="http://www.oecd.org/ctp/tax-policy/taxing-wages-comparative-tax-burden-indicators.htm">http://www.oecd.org/ctp/tax-policy/taxing-wages-comparative-tax-burden-indicators.htm</a>

**Target 10.7 Facilitate orderly, safe, regular and responsible migration and mobility of people, including through the implementation of planned and well-managed migration policies.**

**Proposed Additional Indicator by OHCHR: *Number of migrants killed, injured or victims of crime while attempting to cross maritime, land or air borders***

<p><b>Goal and target addressed</b></p>	<p>This indicator is proposed to monitor the following targets:          10.7 (migration)          16.1 (violence and death)          16.2 (violence against and trafficking of children)          16.3 (rule of law)          16b (non-discriminatory laws and policies)</p>
<p><b>Definition and method of computation</b></p>	<p>For the purposes of this indicator, ‘migrant’ is defined as a person who does not hold citizenship of the country he or she is attempting to enter.</p> <p>For this indicator, ‘killed’ includes loss of life through intentional and unintentional acts of third parties, as well as negligent or accidental loss of life, for example through drowning. ‘Injured’ refers to any physical wound, harm or damage sufficient to be ranked 2-6 (moderate, serious, severe, critical or maximal) on the injury severity scale (see references). ‘Crime’ refers to any an action or omission which constitutes an offence and is punishable by law.</p>
<p><b>Rationale and interpretation</b></p>	<p>International human rights law provides that all migrants, regardless of their legal status, how they arrive at the border, where they come from or what they look like, are entitled to enjoy their human rights. States are entitled to exercise jurisdiction at their international borders, but they must do so in light of their human rights obligations. This means that the human rights of all persons at international borders must be respected in the pursuit of border control, law enforcement and other State objectives, regardless of which authorities perform border governance measures and where such measures take place.</p>
<p><b>Sources and data collection</b></p>	<p>This indicator may be compiled from a variety of data sources, including:</p> <ul style="list-style-type: none"> <li>- Administrative records at the national level maintained by border agencies, medical facilities, police, social services and other government institutions;</li> <li>- Records maintained by National Human Rights Institutions or ombudspersons;</li> <li>- Data collected by the members Red Cross and Red Crescent Movement working at borders;</li> <li>- Data collected by UN Country Teams;</li> <li>- Data collected by national and international NGOs.</li> </ul> <p>The data could also be collected through targeted surveys of recently arrived migrants.</p>

	<p>Some regional data is already collected, including:</p> <ul style="list-style-type: none"> <li>- Eurostat figures. As an example, the forced migration questionnaire includes a question on difficulties confronted during the migration journey (arrest/detention, refoulement, maltreatment including rape, extortion by border officials, smuggling and trafficking, other)</li> <li>- the European Observatory on Access to Healthcare, an initiative of Médecins du monde, collects quantitative and qualitative data from their service users, including on experiences of violence in origin, transit and destination – haven't seen the questionnaires but this probably provides info on migrants injured or victims of crime</li> <li>- The Migrant Files: a database on migrants deaths on their way to Europe (with data collected by United –covering over 550 NGOs- and Fortress Europe)</li> <li>- The European Union Agency for Fundamental Rights produced reports on the treatment of third-country nationals during entry checks to the EU at five large international airports, selected EU border crossing points and southern seas borders. The reports use primary data collection consisted of in-depth interviews, non-participatory observation, and questionnaires, see: <a href="http://fra.europa.eu/en/publication/2014/fundamental-rights-land-borders-findings-selected-european-union-border-crossing">http://fra.europa.eu/en/publication/2014/fundamental-rights-land-borders-findings-selected-european-union-border-crossing</a></li> </ul>
<b>Disaggregation</b>	<p>Data should be disaggregated by characteristics of the person including ethnicity, sex, age, income, disability, religion, migratory or displacement status (including refugee status), sexual orientation and gender identity.</p> <p>Data should also be disaggregated by geographic location, type of incident (killing, injury or crime) and, where relevant, characteristics of the perpetrator (public official/private individual, sex, age, etc.).</p>
<b>Comments and limitations</b>	<p>Estimates of the number of violations are particularly sensitive to the completeness of reporting of individual events. Such data may underestimate (or sometimes, though more rarely, overestimate) the true number of cases. In most instances, the number of cases reported will depend on the access to information, motivation and perseverance of civil society organizations and the media.</p>
<b>Gender equality issues</b>	<p>Women migrants are often particularly vulnerable to certain types of crime and abuse of authority, in particular sexual offences and trafficking for the purposes of sexual orientation. All such crimes should be specifically included in surveys of recent arrivals, which should be conducted in private and by appropriately trained staff.</p>
<b>Data for global and regional monitoring</b>	<p>For regional monitoring in Europe, see above.</p> <p>At global level, UNHCR collects some relevant data regarding refugees, and IOM collects relevant data for all migrants, <a href="http://missingmigrants.iom.int/">http://missingmigrants.iom.int/</a>.</p>

<b>Supplementary information</b>	
<b>References</b>	Baker, S.P.; B. O'Neill, W. Haddon Jr., W.B. Long (1974). "The Injury Severity Score: a method for describing patients with multiple injuries and evaluating emergency care". <i>The Journal of Trauma</i> (Lippincott Williams & Wilkins) 14 (3): 187–196

**Target 10.7 Facilitate orderly, safe, regular and responsible migration and mobility of people, including through the implementation of planned and well-managed migration policies.**

**Proposed Indicator Framework for Migration Policies by the International Organization of Migration (IOM)**

**Abstract**

Migration is broadly represented in the 2030 Agenda for Sustainable Development, for instance, on decreasing inequalities, decent work, gender equality and peaceful societies. Migration, therefore, needs to be well-reflected in the framework for Sustainable Development Goal (SDG) follow-up and review.

The International Organization for Migration (IOM) suggests as global indicator for SDG target 10.7, on facilitating safe and orderly migration the following: *Number of countries that have implemented well-managed migration policies in relation to inward and outward migration as well as development policy and planning.*

This suggested indicator will also be relevant for tracking global progress on all other areas in the SDGs where migration is mentioned. The method for analysing global progress on well-managed migration policies is collating information on nationally adopted conventions, laws, government programs, and other initiatives that comprise a comprehensive migration policy, most of which is readily available. The analysis will cover the following broad domains:

- Government capacity, including whole-of-government approach
- Migrant rights and integration
- Migration control measures
- Approaches to migrant labour and remittance investment
- Regional and international co-operation

As the indicator tracks the global number of countries adoption of comprehensive migration policies, it will neither entail any judgement of any individual state's policies nor will it produce any ranking.

The information gathering should be carried out primarily by national administrations, but initially with substantial support from IOM and UN- and other international organizations.

Apart from being used to give a general assessment on global advancement regarding *well-managed migration policies*, information gathered for the indicator can be used for gap analysis and sharing among countries good practices, with a view toward providing to the High-Level Political Forum actionable recommendations for broad stake-holder engagement.

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The insertion of migration into the Sustainable Development Goals (SDGs) is one of the key innovations of the 2030 Agenda for Sustainable Development. Several SDG targets mention or are relevant for migration, such as SDG 8 as it relates to decent work, SDG 10 on reducing inequalities and SDG 16 in relation to the issue of trafficking in persons (see full illustration in annex I).

**SDG Target 10.7** *Facilitate orderly, safe, regular and responsible migration and mobility of people, including through the implementation of planned and well-managed migration policies.*

The centrepiece for migration in the 2030 Agenda for Sustainable Development is target 10.7 on facilitating safe and orderly migration. Target 10.7 places human mobility and in particular the upholding of dignity of migrants, at the centre of reducing inequality within and across countries, a fundamental endeavour of the 2030 agenda. Therefore, it would not go unnoticed if migration was not covered or well-captured in the list of global indicators.

**Migration and the fight against inequalities** - For hundreds of millions of international migrants, migrating to a richer country immediately increases expendable incomes. Furthermore, it affects poverty levels of the additional hundreds of millions of family members of migrants who remain in the country of origin. Remittances to developing countries have over the last decade and a half increased five-fold to almost USD 500 billion. These are significant funds for many developing countries' economies. In 2014, there were 9 countries for which remittances were between 10% and 45% of their total GDP.

Remittances typically go to poor family members, giving them more room to invest in their children's human capital through health services and education. Remittances also act as an "insurance" against unforeseen illness, price increases, and other shocks. In addition, opportunities to find work abroad ease unemployment at home, and when migrants return to their country of origin (as they often do), they come back with professional skills that are in short supply. Migrants also create networks between countries of origin and reception, which spurs trade and foreign direct investment.

*Unfortunately, far too much of migrants' hard earned income is currently squandered by high remittance costs and exorbitant recruitment fees. The SDGs, therefore, focus on improving good migration governance that can safeguard the well-being and productivity of migrants.*

As the IAEG-SDG looks to define a limited list of global indicators, a migration-related indicator needs to be straightforward to apply but at the same time demonstrate how migration is contributing to the realization of the SDGs in a large number of areas. It would be desirable that the migration indicator could cover aspects of migration beyond target 10.7.

The political guidance of the OWG is clear that the indicators need to “...directly respond to the goals and targets agreed in the Open Working Group and their level of ambition; [they] must not undermine or reinterpret the targets...” The indicators hitherto suggested, such as “the number of migrants who have died or have been injured” or “recruitment fees paid by migrant labourers” clearly do not capture the breadth of target 10.7.

IOM's suggests the following indicator for 10.7: *Number of countries that have implemented well-managed migration policies in relation to inward and outward migration as well as development policy and planning.*

The concept “well-managed migration policy” is defined by IOM's Migration Governance Indicator (MGI), which has been established for the purpose of the 2030 SDG Agenda follow-up and review. The MGI examines five essential domains of contemporary migration policies which finds its authority in the international consensus building around the Migration Governance Framework (MiGOF, see fact box below). The five domains are in turn broken down into a number of sub-indicators that broadly encompasses the respective domains. The meaning of “implemented” in the indicator will be that a country has taken action in all domains and in at least half of the respective sub-indicators.

All elements will relate to objective facts of governance, including ratified conventions, laws passed, existing government office institutions and capacity, and budgetary spending and reporting. For most of these, the data is readily available for governments, even if the compilation and assessment will entail some technical assistance. Nevertheless, this will ensure an objective, consistent and methodologically robust analysis of countries' migration policies.

In order to assess and improve the MGI framework, results will be studied with regard to correlation with migrants' well-being in the countries assessed, based on data taken from IOM's partnership with the Gallup World Poll. The MGI has been developed by an independent academic expert panel which will continue to keep the framework under constant review.

***Background on the concept of “well-managed migration policies”*** – Superficially, migration policies could be perceived as countries' border control and entries procedures. However, by 1990, as international migration became part of globalization, one dimensional policy has become obsolete. A clear signal of the failure of one-sided control policies was the recurrence of “migrant amnesties”; thus, governments looked toward comprehensive approaches to labour migration, irregular migration and the protection of refugees, including partnerships with countries of origin and transit. Ultimately, governments introduced policies in relation to development outcomes of migration, both at home and in developing counties (e.g. through transfer of skills and remittances).



*Intergovernmental consultations were dedicated to defining more comprehensive migration governance, for instance, within the Berne Initiative and the yearly meetings of the Global Forum on Migration and Development, the latter a state-led, informal consultation on migration policies and practices of the participating States. Lately, the IOM Council has discussed the establishment of a Migration Governance Framework (MiGOF) that builds on such multilateral processes. IOM Member States are set to formally adopt a resolution endorsing the MiGOF at the IOM Council in November 2015.*

Importantly, the MGI will **not** establish a global ranking of states on migration policy. Comparisons of states' performances would not only be controversial, but would also have limited meaning as countries face different challenges and opportunities in relation to migration governance even if a common feature remains the need to apply multi-disciplinary approaches. Rather, the idea of "ladders of progress" will be applied in that countries at different stages of development and facing different migration challenges and opportunities can climb individual ladders and thus demonstrate progress.

Furthermore, the MGI results will be a tool to assist governments in looking at how comprehensive their migration policies are, helping them identify gaps and to prioritise when building institutional capacity and devising programmes.

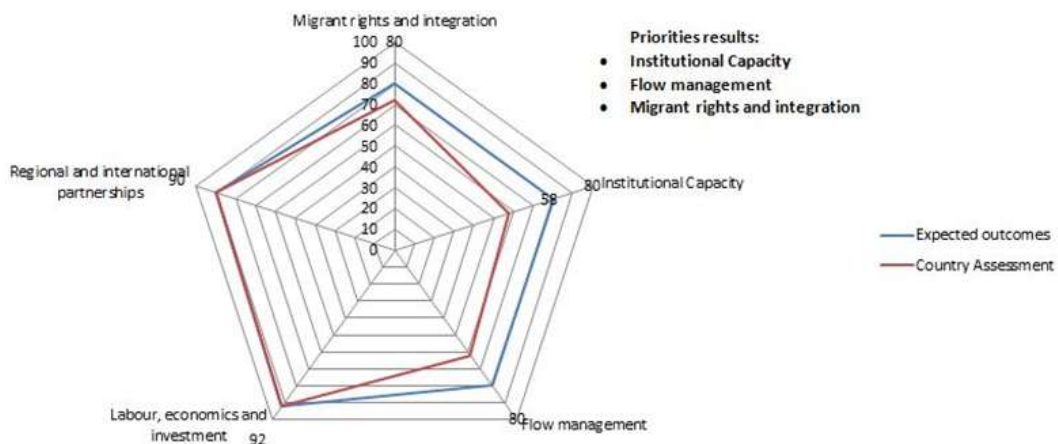
More specifically, MGI will cover five domains of migration governance. As mentioned, the basis for these domains is IOM's Migration Governance Framework, the most recent international consensus on the definition of "well-managed migration policies". The MGI has been specifically adapted to the context of SDG monitoring and provides a simple and straightforward review mechanism. The five domains are:

1. Institutional capacity: Indicators in this area will analyse countries' institutional, legal and regulatory frameworks for the effective design and implementation of migration policies. This area also looks at the existence of a national migration strategy in line with development objectives and overseas development efforts, as well as institutional transparency and coherence in relation to migration management.
2. Migrant rights: This indicator collects the laws and programs related to migrants' access to healthcare, education, social security equal pay etc. in a non-discriminatory manner and the human rights and protection of migrants in general.
3. Safe and orderly migration: This area will assess countries' approach to migration management in terms of border control and enforcement policies, admission criteria for migrants, preparedness and resilience in case of significant and unexpected migration flows, as well as the fight against modern day slavery.
4. Socioeconomic elements of migration: Indicators in this area will look at countries' policies for managing labour migration, including recognition of migrants' qualifications, provisions regulating student migration and the existence of bilateral labour agreements between countries. Aspects of diaspora engagement in the country of origin and migrant remittances also come under this domain.

5. Regional and international cooperation and partnerships: This category includes elements such as the signature and ratification of international conventions, countries' efforts in establishing inter-state cooperation on migration-related issues and collaboration with relevant non-governmental actors, including civil society organisations and the private sector.

As mentioned supra, these five domains will be complemented by a number of sub-policy areas in the form of sub-indicators, the existence which can be objectively asserted in laws, policies and programs. The results of a review of the domains and the sub-policies will then be the indicator which will, over time, show to what extent countries are moving towards “well-managed migration policies” and, more importantly, will make visible where there are gaps and where engagement of various stakeholders can be directed.

*Visualization of analysis of a given country's migration policy through the MGI method:*



Moving forward, IOM and the Economist Intelligence Unit will initially apply the MGI in 15 pilot countries, selected on the basis of regional balance, migration trends and economic performance. A rigorous weighting and scoring system aimed at ensuring validity of the indicator and consistency across countries is currently being developed and will be tested in following pilot countries: Bahrain, Bangladesh, Canada, Costa Rica, Germany, Ghana, Italy, Mexico, Moldova, Morocco, South Africa, South Korea, Sweden, Philippines and Turkey. The full draft MGI assessment framework containing the five domains and the relevant sub-policies is attached in annex III.

The main findings for the 15 pilot project countries will be presented in a report due to be published in early 2016. The aim is to have surveyed enough countries by summer 2016 to be able to report to the UN High Level Political Forum on Sustainable Development (HLPF) a first set of findings from all regions. The intention is to create a yearly report on the state of *well-managed migration policies* and to consolidate and improve the MGI's method, with the sight set towards HLPF in 2019.

*IOM HQ, October 2015*



## Annex II: Meta data note for indicator for SDG target 10.7

Label	Description	Specification	Data source	Entity responsible for global monitoring	Priority	Interlinkages
Target 10.7						
Goal 10						
Indicator 10.7.1	Number of countries that have implemented well-managed migration policies in relation to inward and outward migration as well as development policy and planning.	Analysis of countries migration policy by assessing five broad policy domains of a comprehensive migration policy, namely: institutional capacity, migrant rights, migration management, socio-economics and regional and international cooperation. Each policy domain is comprised of a number of sub-indicators encompassing broadly the aspects of its domain. Each sub-indicator will be analysed in relation to objective facts of governance, including ratified conventions, laws passed, existing government office institutions and capacity, and budgetary spending and reporting. The analysis will mainly arrive at three main findings; (i) Inexistent, (ii) Partly adopted or (iii) Fully adopted.	Government reports, laws, national programs, national policies, official national strategies, ratification of international conventions, government structures, government information platforms, membership in international migration and membership in regional consultative processes. Government agencies, including reporting to follow-up mechanisms of relevant human rights instruments. UN Desa inquiry among 196 govts on migration policy on a biannual basis. "Migration profiles" covering 71 countries.	IOM, supported by GMG agencies	1	<p>Suggested indicator for SDG target 10.7 can also serve as indicator for migration aspects of the following targets:</p> <p>8.8 protect labour rights and promote safe and secure working environments of all workers, including migrant workers, particularly women migrants, and those in precarious employment</p> <p>8.7: Take immediate and effective measures to eradicate forced labour, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labour, including recruitment and use of child soldiers, and by 2025 end child labour in all its forms</p> <p>10.c by 2030, reduce to less than 3% the transaction costs of migrant remittances and eliminate remittance corridors with costs higher than 5%</p> <p>5.2 eliminate all forms of violence against all women and girls in public and private spheres, including trafficking and sexual and other types of exploitation</p> <p>16.2 end abuse, exploitation, trafficking and all forms of violence and torture against children</p> <p>13.1 strengthen resilience and adaptive capacity to climate related hazards and natural disasters in all countries</p> <p>11.b by 2020, increase by x% the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, develop and implement in line with the forthcoming Hyogo Framework holistic disaster risk management at all levels</p> <p>1.5 by 2030 build the resilience of the poor and those in vulnerable situations, and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters</p>

# Annex 1: Compilation of Metadata for Additional and Replacement Indicators proposed by International Organisations and Entities

Annex III: Proposed migration governance indicator frame-work for SDG target 10.7 - “Well-managed migration policies”

## 1 Institutional capacity – whole of government approach

This domain is comprised of 4 indicators and 11 sub indicators

Indicator	Rationale	Sub-indicators and scoring scheme
1.1 Institutional framework	An institutional framework is needed for a country to generate and implement policies. The existence of a well-structured, comprehensive, and operational institutional framework allows for effective adoption of measures to address migration issues. This indicator looks at the institutional framework tasked with the design and the operational implementation of inward and outward migration policies.	<p><b>(a) Institutional structure</b>                      - The entities responsible for the formulation and tracking of migration policy</p> <p>Scoring:                      (a.1) - Is there a dedicated government entity responsible for designing an overall migration policy?                      [Yes/No/Somewhat]</p> <p>Example: UK                      [Yes] The Home Office</p> <p>(a.2) - Is there a dedicated government agency responsible for issuing periodic reports on inward and outward migration?                      [Yes/No/somewhat]</p> <p>Example: UK                      [Yes] The Home Office</p> <p><b>(b) Operational structure for inward migration</b>                      The entities responsible for the practical implementation of inward migration policy</p> <p>Scoring:                      - Is there a dedicated government entity or agency responsible for implementing inward migration policy?                      [Yes/No/somewhat]</p>

## Annex 1: Compilation of Metadata for Additional and Replacement Indicators proposed by International Organisations and Entities

	<p>Example: UK [Yes] UK Border Agency (UKBA)</p> <p><b>(c) Operational structure for outward migration</b> The entities responsible for the practical implementation of outward migration policy</p> <p>Scoring: - Is there a dedicated government entity or agency responsible for implementing outward migration policy? [Yes/No/Somewhat]</p> <p>Example: UK</p> <p>[No]</p> <p>(d) Operational structure for large-scale migratory movements in terms of both contingency and long-term planning</p> <p>Scoring: (d.1)- Is there operational structures on stand-by in the event of mass-influx situations (d.2)- Is there urban planning in place to be prepared for foreseeable future migratory movements caused by climate change? (d.3) - Is this strategy aligned with national economic development strategies? [Yes/No/somewhat] (d.4) Is the strategy coherent with and supportive of overseas development efforts</p>
<p><b>1.2 Migration strategy</b></p> <p>Having a designated migration strategy signals a shift from reactive to a more proactive and comprehensive migration policy framework in the respective countries. This indicator assesses whether there is a national migration strategy and whether such strategy is coherent with the national economic development strategy</p>	<p><b>(a) National migration strategy</b> The foundation of the migration framework of a given country</p> <p>Scoring: - Is there a national migration strategy defined in a programmatic document or manifesto? [Yes/No/somewhat]</p> <p>Example: UK</p>

## Annex 1: Compilation of Metadata for Additional and Replacement Indicators proposed by International Organisations and Entities

	<p>[Yes] The Immigration Bill (2014)</p> <p><b>(b) Strategy interconnectedness</b> The connection between the migration strategy and other sectoral strategies</p> <p>Scoring: - Is this strategy aligned with national economic development strategies? [Yes/No/ somewhat]</p> <p>Example: UK [Yes]</p> <p><b>c) Diaspora engagement</b> How governments are facilitating diaspora contributions which bring value to development efforts at home through direct and indirect investments which specifically target diasporas as development actors.</p> <p>Scoring: - Does the country have a national strategy to engage with its diaspora population? [Yes/No/ somewhat] Example: UK [ - ]</p>
<p><b>1.3 Legal framework</b></p> <p>A well-established and coherent migration policy addresses all aspects of migration through a sound legal and regulatory framework. This indicator assesses the presence and sophistication of an inward and outward migration policy legal framework.</p>	<p><b>(a) Policy establishment – 1: inward migration</b> - Legal framework for managing inward migration</p> <p>Scoring: - Is there a national migration law regulating inward migration? [Yes/No/Somewhat]</p> <p>Example: UK [Yes] Immigration Act 1971 and the Immigration Rules made under it, the British Nationality Act 1981</p> <p><b>(b) Policy establishment – 2: framework sophistication</b> - Existence of specific provisions for special migrant types</p>

## Annex 1: Compilation of Metadata for Additional and Replacement Indicators proposed by International Organisations and Entities

### Scoring:

- Are there encompassing provisions regulating migrant groups according to reason for migrating or migrant characteristics such as age and gender?

[All of the above/Some of the above/None of the above]

### Example: UK

[Some of the above] UK has a points-based immigration system with five tiers of immigration types

### **(c) Policy establishment - 3: outward migration**

- Legal framework for managing outward migration

### Scoring:

(c.1) - Are there specific policies regarding outward migration?

[Yes/No/Somewhat]

### Example: UK

[No]

(c.2)

- Are there any provisions to assist nationals residing abroad?

[Yes/No/Somewhat]

### Example: UK

[Yes] UK embassies and consulates



## Annex 1: Compilation of Metadata for Additional and Replacement Indicators proposed by International Organisations and Entities

### **Institutional 1.4 transparency and coherence**

Operationalising migration policies requires transparency and coherence across all relevant government entities and policies. This indicator measures the level of transparency of migration regulation and policy coherence across different domains.

#### **(a) Transparency**

- Assessing transparency to promote openness and accountability

Scoring:

- Does the country have a clear and transparent set of rules and regulations to manage migration?

[Yes/No/Somewhat]

Example: UK

[Yes] UK Visas and Immigration website

#### **(b) Coherence**

- Assessing coherence to promote efficiency and decrease overlapping efforts

Scoring:

Is policy coherence a priority for the government; are there specific measures taken in this regard.

[Yes/No/Somewhat]

# Annex 1: Compilation of Metadata for Additional and Replacement Indicators proposed by International Organisations and Entities

## 2 Migrant rights

This domain is comprised of 4 indicators and 10 sub indicators

Indicator	Rationale	Sub-indicators and scoring scheme
<b>2.1 Access to basic social services and social security</b>	<p>Access to basic social services and social safety nets is important for well-being and inclusion of migrants into society, especially for refugees and forced migrants. This indicator assesses the extent to which migrants accessing healthcare, education, social security equal pay etc. in a non-discriminatory manner.</p>	<p><b>(a) Access to healthcare</b>            - Access to health services</p> <p>Scoring:            - Do <b>all</b> migrants have the same status as citizens in accessing health services?            [Yes, to all services regardless of their legal status/To all services depending on their legal status/To some services/No]</p> <p>Example: UK            [ To all services depending on their legal status]            * By law, only those who have been living in the UK for at least six months are eligible for hospital treatment on the NHS.            * Temporary non-European Economic Area (EEA) migrants who come to the UK for more than 6 months are likely to qualify for the same access to the NHS as a person who is permanently resident, either upon their arrival in the UK or very shortly after.            * However, there are also be more restrictions of the limited rights of some undocumented migrants - including UK-born children of undocumented parents - to some services, such as free access to Accident and Emergency hospital services, that have so far been granted on humanitarian and public health protection grounds.</p> <p><b>(b) Access to education</b>            - Access to primary, secondary and tertiary education</p> <p>Scoring:            - Do <b>all</b> migrants have the same status as citizens in accessing education?            [Yes to all three levels of education/Yes, to two out of three/To less than two out of three/To None]</p>

## Annex 1: Compilation of Metadata for Additional and Replacement Indicators proposed by International Organisations and Entities

Example: UK

[Yes – two out of three]

The children of asylum seekers and irregular immigrants are not entitled to a post-16 education (the school leaving age).

### (c) Access to social security

- Access to unemployment benefits, old age pension, invalidity benefits, maternity leave, family benefits, social assistance. This indicator is scored through the MIPEX framework. Categories

- a. Long-term residents
- b. Residents on temporary work permits (excluding seasonal)
- c. Residents on family reunion permits (same as sponsor)

Scoring:

(a)- What categories of third country nationals (TCNs) have equal access to social security?

[All of them/A and (C or certain categories of B)/Only A or none]

Example: UK

[Only A or None]

- a. Yes
- b. No
- c. No

(b) can migrant workers ensure that benefits accrued under contributory social security schemes can be accessed on other countries?

[yes/no]

### 2.2 Family rights

This indicator gauges the rights of migrants at birth in a host country as well as provisions around family reunification.

#### a Family reunification

- Family reunification is a recognized reason for immigration in many countries because of the presence of one or more family members in a certain country. Reunification enables the rest of the family to immigrate to that country as well.

## Annex 1: Compilation of Metadata for Additional and Replacement Indicators proposed by International Organisations and Entities

### Scoring:

- Family reunification is possible for:  
[All types of migrants/Some types of migrants/Not regulated]

### Example: UK

[Some types of migrants]

Partners or children can apply to join a resident to stay with you in the UK under certain conditions (<https://www.gov.uk/settlement-refugee-or-humanitarian-protection/family-reunion>)

## Annex 1: Compilation of Metadata for Additional and Replacement Indicators proposed by International Organisations and Entities

### 2.3 Right to work

This indicator measures whether legal migrant workers and their families can access and change jobs in all sectors like nationals.

#### **(a) Access to private sector:**

This indicator is scored based on the MIPEX framework.

##### Scoring:

Are foreign residents able to accept any private-sector employment under equal conditions as nationals?

[Yes. There are no additional restrictions than those based on type of permit mentioned in 1/Other limiting conditions that apply to foreign residents, e.g. linguistic testing/Certain sectors and activities solely for nationals]

#### **(b) Access to public sector:**

This indicator is scored based on the MIPEX framework.

##### Scoring:

Are foreign residents able to accept any public-sector employment under equal conditions as nationals? (excluding exercise of public authority e.g. police, defence, heads of units/divisions but not excluding civil servants and permanent staff)?

[Yes. Only restriction is exercise of public authority and safeguarding general state interest/Other restrictions (please specify)/Only for nationals]

#### **(c) Immediate access to self-employment:**

This indicator is scored based on the MIPEX framework.

##### Scoring:

What categories of foreign residents have equal access to self-employment as nationals?

- a. Permanent residents
- b. Residents on temporary permits (excluding seasonal) within period of  $\leq 1$  year
- c. Residents on family reunion permits (same as sponsor)

[All of them/A and (C or certain categories of B/Only A or none)]

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### **(d) Access to self-employment:**

This indicator is scored based on the MIPEX framework.

#### Scoring:

Are foreign residents able to take up self-employed activity under equal conditions as nationals?

[Yes. There are no additional restrictions than those based on type of permit mentioned in A/Other limiting conditions that apply to foreign residents, e.g. linguistic testing (please specify)/ Certain sectors and activities solely for nationals (please specify)]

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### **2.4 Long term residency and path to citizenship**

This indicator measures the possibility for non-national migrants to acquire residency and citizenship.

#### **(a) Permanent residency access**

- Migrant access to permanent residency (access)

Scoring:

- Do temporary legal residents have access to a long-term residence permit (e.g. like EU nationals)?

[Yes/No/Somewhat]

#### **(b) Access to nationality**

- Can migrants become nationals?

Scoring:

[Yes/No]

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## 3 safe and orderly migration

This domain is comprised of 5 indicators and 11 sub indicators

	Indicator	Rationale	Sub-indicators and scoring scheme
3.1	<b>Border control and enforcement</b>	<p>Border agencies – notably customs, border police and immigration services - are primarily responsible for the processing of people and goods at points of entry and exit, as well as for the detection and regulation of people and goods attempting to cross borders illegally. This indicator assesses whether there are mechanisms to gather information on migrants, whether there is a body tasked with border control and security, and whether it is effectively trained.</p>	<p><b>(a) Border monitoring</b>                      - A clear understanding of irregular migration offers a basis for devising appropriate response strategies</p> <p>Scoring:                      - Does the country have a system to monitor and report irregular entries and visa overstays?                      [Yes/No/Partially]</p> <p>Example: UK                      [Partially] The ONS does not produce estimates on the size of the irregular migrant population. In June 2005, the Home Office published the outcome of an assessment of whether methods used in other countries to estimate the size of the undocumented population could be applied to the UK. Sporadic reports attempt to quantify this number, but this is not done in a systematic manner.</p> <p><b>(b) Border security</b>                      Border security</p> <p>Scoring:                      - Is there a dedicated body tasked with integrated border control and security and high-volume facilitation?                      [Yes/No/Somewhat]</p> <p>Example: UK                      [Yes] The Border Force is a law enforcement command within the Home Office. They secure the UK border by carrying out immigration and customs controls for people and goods entering the UK</p> <p><b>(c) Border control staff training</b></p>



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		<p>- Border control staff training is essential to allow for adequate handling of migrant entry</p> <p>Scoring: - Are border staff specifically and regularly trained (think of specific training as well as languages and cultural aspects) [Yes/No/Partially]</p> <p>Example: UK [Yes] New entrants to the UK Border Agency receive specialist training, lasting nine weeks and involving classroom-based training and operational coaching. On-the-job training then continues. New officers need a good working knowledge of immigration and customs legislation and associated rules and instructions. They also receive instruction in interviewing techniques.</p>
3.2	<p><b>Admission and eligibility criteria</b></p> <p>Having clear admission and eligibility criteria allows for clarity and enables migrants to comply with law. This indicator measures whether admission and eligibility criteria are clear and accessible to potential migrants and whether pre-departure planning is possible.</p>	<p><b>(a) Visa policy clarity</b></p> <p>- Clear and encompassing information is essential to enable legal migration</p> <p>Scoring: - Does the government have a platform clearly outlining visa options? [Yes /No/Partially]</p> <p>Example: UK [Yes] The government website offers detailed information, based on the country of origin</p> <p><b>(b) Visa processing efficiency</b></p> <p>- Awarding visas prior to arrival enables migrants to gain clarity and information on their status</p> <p>Scoring: - Is there a formal system to apply for specific visa types prior to arrival? [Yes, a fully online process/Yes, a paper-based process/Somewhat/No, there is only visa on arrival]</p>
3.3	<p><b>Re-integration</b></p> <p>Reintegration is an essential part of return migration,</p>	<p><b>(a) Reintegration policies for returning citizens</b></p>

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3.4	<p><b>policies</b></p>	<p>as it empowers and protects returnees by providing them with the necessary tools and assistance for their reinsertion into the society of their country of origin, while generally contributing to the sustainability of return. This indicator measures the existence of active reintegration policies, either for nationals residing abroad or for residing migrants who want to return to their home country.</p>	<p>- Active reintegration policies encourage the return of citizens who emigrated, facilitating circular migration</p> <p>Scoring: - Is there a formal governmental programme targeted to attracting citizens who migrated from the country of origin (e.g. tax breaks)? [Yes/No/Somewhat]</p> <p>Example: UK [No]</p> <p><b>(b) Return and reintegration assistance policies for immigrants returning to their countries of origin</b> - Policies to support immigrants wishing to return to their home countries</p> <p>Scoring: - Is there a formal governmental programme targeted to facilitating migrants reintegration in their home country? [Yes/No/Somewhat]</p> <p>Example: UK [Yes] The UK is active in supporting the return of foreign migrants to their home countries through assisted voluntary return (AVRR) schemes. In the UK, AVRR is principally delivered through two programmes, both operated by the International Organization for Migration (IOM): The Voluntary Assisted Return and Reintegration Programme (VARRP) and the Assisted Voluntary Return for Irregular Migrants (AVRIM) programme</p> <p>.</p> <p><b>a) National strategy to combat human trafficking</b></p> <p>Scoring: (a.1) - Does the country have an agency or strategy to combat human trafficking? [Yes/No/Somewhat]</p>
	<p><b>Measures to combat human trafficking and smuggling</b></p>		

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3.5	<p>Eradicating modern day slavery (this may include forced labour, human trafficking or smuggling) is a key priority in ensuring that migration is safe and orderly. This is also referenced in the Sustainable Development goals.</p>	<p>(a.2) – Does the country regularly publish information about its counter-trafficking activities [Yes/No/Somewhat]</p> <p>(a.3) How does the country fare on the US States Department’s annual Trafficking in Persons Report? [1/2/3]</p>
3.6	<p><b>Data gathering and information availability</b></p> <p>In order to ensure that migration is safe and orderly, it is important to have a better understanding of migration trends worldwide. For this, it is important to have better data on migration, including on the number of migrant’s deaths. This information must be made available to the wider public.</p>	<p><b>a) Migration data</b></p> <p>Scoring: (a.1.) The country collects and publishes data on a wide range of migration issues. [Yes/No/Somewhat]</p> <p><b>b) migrants deaths</b></p> <p>Scoring: (b.1)The country collects and publishes data on migrant’s deaths.</p>

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## 4 Socioeconomic elements of migration

This domain is comprised of 6 indicators and 9 sub indicators

Indicator	Rationale	Sub-indicators and scoring scheme
<b>4.1 Labour migration management</b>	<p>Every country has policies for managing labour migration to meet demand for skills – from high-level to low-level skills – and to support economic growth. Government intervention in both sending and receiving countries through transparent and appropriate regulatory institutions and measures is essential if labour markets are to function in a way that is efficient and equitable. This indicator measures the level of labour demand management and the policies in place to monitor demand.</p>	<p><b>(a) Labour demand and supply monitoring</b>            Assessing labour demand and supply management reflects the country’s orderly labour migration flow and the needs of business and the economy.</p> <p>Scoring:  <b>(a.1)</b>            - Is there a national assessment for monitoring labour market demand for inward migrants?            [Yes/No/Partially]</p> <p>Example: UK            [Yes]            The UK Migrants Advisory Committee produces a shortage occupation lists for UK and Scotland only (Tier 2 skilled employment). These lists comprise occupations where, in the MAC’s view, there are shortages which can sensibly be filled by enabling employers to recruit migrants.</p> <p><b>(a.2)</b>            - Is there a national assessment for monitoring labour market supply in relation to the effects of outward migrants?            [Yes/No/Partially]</p> <p><b>(b) Labour demand management</b></p> <p>Scoring:  <b>(b.1)</b> - Is there an existing, defined program for managing labour migration into the country?</p>

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[Yes/No/Partially]

Example: UK  
[Yes] Points Based System

**(b.2)**

- Does the country have different measures for different labour skills?

Example: UK

[Yes]

- Tier 1: Highly skilled migrants, including entrepreneurs and investors
- Tier 2: Medium and highly skilled workers with a job offer
- Tier 3: Quota based low-skilled migrants to fill specific temporary labour shortages.
- Tier 5: Youth mobility and temporary workers, for primarily non-economic objectives, or to satisfy the UK's obligations under certain international treaties.

### 4.2 Skills and qualification recognition schemes

Recognition of migrants' qualifications is a form of skills assessment, which explores policy approaches to ensure eligibility of migrants and also counteract brain waste of different groups of migrants. This indicator investigates the existing national practices for assessing, validating and recognising skills and qualifications of migrants based on selected experiences within and outside the country of destination. This indicator reviews national practices or requirements for labour markets and differing needs of various skill groups of migrants.

**(a) Recognition of Qualifications**

Recognition of qualifications and competences of migrants and measures for skills assessment procedures.

Scoring:

(a.1)

- Does the country have clear qualification criteria for labour migrants' admission?

[Yes/No/Partially]

Example: UK

[Yes] The Points Based System, in which a minimum threshold of points must be met based on various qualitative criteria including, skill, and linguistic

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competence

(a.2)  
National Recognition Criteria  
Eligibility criteria for prospective migrants

Scoring:  
- Does the country have formalised criteria (accreditation) for recognition of foreign qualification? (Degrees/Skills/Competencies)  
[Regional criteria/Bilateral criteria/Multilateral criteria/No criteria]

(a.3) Does the country have national vocational qualification frameworks  
[Yes/No/Partially]

### 4.3 Student migration regulation

There is a growing trend for international students to remain in the country in which they study after graduation. Governments should formulate policies that take advantage of the positive consequences of increased student mobility associated with it. This indicator assesses access to education in terms of acceptance, equal opportunities, and post-graduation labour market opportunities.

#### (a) Access to education

Programmes allowing student migrants to apply for education in country of destination

Scoring:  
- Does the country have programme for admitting international students from developing countries?  
[Yes/No/Partially]

Example: UK  
[Yes] The Points Based System – Tier 4

#### (b) Equal opportunities for education

Providing equal opportunities for foreign students in terms of access and number of accepted students

Scoring:  
- Does the country allow equal access to education for foreign students?

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[Yes/No/Partially]

Example: UK

[No] EU students have same fees as UK students, whereas non-EEA students are charged almost triple the fees

### **(b.2)**

- Does the country enforce quotas limiting the number of foreign students it can accept?

[Yes/No/Partially]

Example: UK

[Yes] Visa quotas for overseas students

### **(c) Access to labour**

Providing opportunities for foreign students to work in the country post-graduation

Scoring:

- Does the country have a scheme for allowing international students to work at the country post-graduation?

[Yes/No/Partially]

Example: UK

[No]

(d) Are there provisions allowing a student, and his/her family members to work during the course of study?

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4.4

### **Bilateral Labour Agreements**

Labour migration between states are governed by the admission and post admission policies of the migrant receiving country. Labour agreements formalise each side's commitment to ensure that migration takes place in accordance with agreed principles and procedures. This indicator measures the availability of formal/less-formal/and consultative processes as well as the ethics of labour migration.

#### **(a) Bilateral Labour Agreements**

An effective collaboration mechanism between countries of origin and destination

Scoring:

- Does the country have any formal Bilateral Labour Agreements (BLAs) in place?

[Yes/No]

Example: UK

[Yes] Seasonal Agricultural Worker Scheme (SAWS) with Poland, Lithuania, Bulgaria and Ukraine.

#### **(b) decent work conditions for migrant workers**

Ensuring that no labour migrant is exposed to forced labour, working in extreme conditions (heat/cold/radiation...etc.) undue recruitment fees or earning below-minimum-wage

Scoring:

- Has the receiving country developed measures that promote ethical recruitment labour for labour migrants

[Yes/No/Partially]

Example: UK

[Partially]

UK established the Coroners and Justice Act (2009), which came into force on 6 April 2010 and established that forced labour is a problem in the UK. A new criminal offence was created for subjecting an individual to forced labour or domestic servitude and carries the same sentence as trafficking



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4.5

### Migrant Remittances

Migrant economic remittances are an important and growing source of foreign funds for some developing countries. They represent a major source of income for millions of families globally, and are an important avenue to greater financial inclusion. This indicator measures the availability of remittance schemes and the cost of transferring remittances.

#### (a) Remittance Schemes

Personal transactions from migrants to their friends and families.

Scoring:

- Does the country have an established remittances scheme?

[Yes/No/Partially]

Example: UK

[Partially] UK-Nigeria remittance corridor

#### (b) Remittance transfer costs

Average cost of transferring remittances from country of destination to country of origin

Scoring:

- What is the average cost of transferring remittances to or from the country?

[Less than 3% / Between 3-7% / More than 7%]

Example: UK

[Between 5-10%]

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## 5. Regional and international cooperation and other partnerships

This domain is comprised of 4 indicators and 10 sub indicators

Indicator	Rationale	Sub-indicators and scoring scheme
<p><b>5.1 Signature and ratification of international conventions</b></p>	<p>International conventions, treaties and laws build the basis for efficient migration governance. Once a treaty has been signed, each state will deal with it according to its own national procedures. Ratifying international conventions indicates a state's willingness to act according to international agreements. This indicator measures the signature and ratification of the main international treaties pertaining to migration: the UN International Covenant on Economic, Social and Cultural Rights, the International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families, the Convention relating to the Status of Refugees, the Convention on the Rights of the Child, the ILO Migration for Employment Convention (Revised), 1949 (No. 97), and the ILO Migrant Workers (Supplementary Provisions) Convention, 1975 (No. 143).</p>	<p><b>(a) International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families</b></p> <p>This convention transcends a simple application of existing human rights legislation to a specific category of individuals and advances how the international community conceives of the application of human rights in its provisions for "equality of treatment" between female and male migrant workers, between documented and undocumented workers, and between nationals and non-nationals. It seeks to establish a framework for migration management through the promotion of equitable, humane and lawful conditions for international migration. It inter-alia requires cooperation between states in order to prevent and eliminate illegal movement and employment of migrants in an irregular situation.</p> <p>Scoring:  <b>(b.1)</b> - Is the country a signatory of the ICRMW? If yes, when?                      [Yes/No]</p> <p>Example: UK                      [No]</p> <p><b>(b.2)</b> - Has the country ratified the ICRMW? If yes, when?                      [Yes/No]</p> <p>Example: UK                      [No]</p> <p><b>(b) Convention relating to the Status of Refugees</b></p> <p>This convention was the first international agreement covering the most fundamental aspects of a refugee's life. It spelled out a set of human rights</p>

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that should be at the very least equivalent to the freedoms enjoyed by foreign nationals living legally in a given country and in many cases those of citizens of that state. It recognized the international scope of refugee crises and the necessity of international cooperation in tackling the problem, including burden-sharing among states.

Scoring:

**(c.1)** - Is the country a signatory of the Convention relating to the Status of Refugees? If yes, when?  
[Yes/No]

Example: UK  
[Yes] 28 Jul 1951

**(c.2)** - Has the country ratified the Convention relating to the Status of Refugees? If yes, when?  
[Yes/No]

Example: UK  
[Yes] 11 Mar 1954

### **(c) Convention on the Rights of the Child**

"State Parties shall take appropriate measures to ensure that a child who is seeking refugee status or who is considered a refugee ... shall ... receive appropriate protection and humanitarian assistance in the enjoyment of ... rights.... State Parties shall provide ... cooperation in ... efforts ... to protect and assist such a child and to trace the parents or other members of the family of any refugee child ... for reunification with his or her family. In cases where no parents or other members of the family can be found, the child shall be accorded the same protection as any other child ... deprived of his or her family environment...." [See: Article 22.]

Scoring:

**(d.1)** - Is the country a signatory of CRC? If yes, when?  
[Yes/No]

Example: UK  
[Yes] 19 Apr 1990

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**(d.2)** - Has the country ratified the CRC? If yes, when?  
[Yes/No]

Example: UK  
[Yes] 16 Dec 1991

**(d) ILO Migration for Employment Convention (Revised), 1949 (No. 97)**

This is one of ILO's two legally binding instruments relating to migrant workers: Convention No. 97 of 1949 concerning Migration for Employment and Convention No. 143 of 1975 on Migrant Workers. Both are complemented by non-binding recommendations. This Convention applies to the whole labor migration continuum from entry to return, including the conditions governing the orderly recruitment of migrant workers. It also articulates the principle of their equal treatment with national workers regarding working conditions, trade union membership and enjoyment of the benefits of collective bargaining, accommodation, social security, employment taxes and legal proceedings relating to matters outlined in the convention.

Scoring:

- Has the country ratified the revised ILO Migration for Employment Convention? If yes, when?  
[Yes/No]

Example: UK  
[Yes] 22 Jan 1951

**(f) ILO Migrant Workers (Supplementary Provisions) Convention, 1975 (No. 143)**

This Convention complements Convention No. 97 of 1949 by addressing migration in abusive conditions, including irregular migration, and the promotion of equality of opportunity and treatment of migrant workers.

Scoring:

- Has the country ratified the Supplementary Provisions of ILO Migrant Workers Convention? If yes, when?  
[Yes/No]

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	<p>Example: UK [No]</p> <p><b>(g) Conventions on Statelessness</b> The 1954 Convention relating to the Status of Stateless Persons and the 1961 Convention on the Reduction of Statelessness are key instruments for the protection of stateless people's rights as well as the reduction and prevention of statelessness.</p> <p>Scoring: (g.1) Has the country ratified the Conventions on Statelessness? If yes, when? [Yes/No]</p>
<p><b>5.2 Regional cooperation</b></p> <p>The regional level has emerged as an intermediate layer of governance, which is perceived as being situated between national policy-making and global attempts to achieve closer inter-state cooperation. This indicator measures whether the country is part of any regional consultative process.</p>	<p><b>(a) Regional Consultative Processes (RCPs)</b> Inter-governmental fora promoting dialogue and cooperation on international migration at the regional level.</p> <p>Scoring: (a.1) - Is the country part of any official RCPs? [Yes/No/Somewhat]</p> <p>Example: UK [Yes] The Budapest Process</p> <p>(a.2) – Are there any reported instances of any formal intra-regional mobility that have been achieved as a result? [Yes/No/Somewhat]</p> <p>Example: UK [Yes]</p>
<p><b>5.3 Bilateral agreements</b></p> <p>There are a number of ways to achieve cooperation between sending and receiving countries, including bilateral agreements and efforts mounted under international organisations to ensure that migration takes place in</p>	<p><b>(a) Formal bilateral agreements</b> A formal bilateral agreement that sets out each side's commitments and may provide for quotas to ensure that migration takes place in accordance with agreed principles and procedures</p>

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accordance with agreed principles and procedures. This indicator assesses the presence of formal or semi-formal bilateral labour agreements and the presence of bilateral migration consultations.

Scoring:

- Does the country have any formal bilateral agreements with other sending/receiving countries?

Example: UK

[Yes] UK-Australia bilateral National Security agreement

### **(b) Semi-formal bilateral agreements**

Non-binding agreements that are easier to negotiate and implement (MOUs)

Scoring:

- Does the country have a Memorandum of Understanding (MOU) with other sending/receiving countries?

Example: UK

[Yes] UK-Nigeria 2011 Memorandum of Understanding (MOU) on Immigration Returns

### **(c) Bilateral migration consultation**

Open platforms for review, discussion and exchange of good practices and ideas between sending and receiving countries

Scoring:

- Does the country participate in bi-lateral migration negotiations, discussions or consultations with corresponding sending/receiving countries?

Example: UK

[Yes] UK-South Africa visa negotiations at the UK/SA Bilateral Forum

## 5.4 Global Cooperation

Efforts have been mounted through international organisations to ensure that migration takes place in accordance with agreed principles and procedures. This indicator assesses the country's active contribution in ensuring that all efforts are made to secure fair and orderly migration.

### **(a) Participation in Global Forum on Migration & Development**

GFMD is a voluntary, informal, non-binding and government-led process open to all States Members and Observers of the United Nations, to advance understanding and cooperation on the mutually reinforcing relationship between migration and development and to foster practical and action-oriented outcomes.

Scoring:

- Is the country a participant in the GMFD?

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[Yes/No/Somewhat]

**(b) Membership of “Friends of Migration” group or other facilitation of UNGA resolutions relevant for migration**

Scoring:

- Is the country chair or playing an active role in the ‘Friends of Migration’ group? or similar groupings or facilitation?

[Yes/No/Somewhat]

(c) Countries degree of participation and engagement in IOM/UNHCR governing bodies (including chairing and membership of bureau)

[None/Somewhat/Fully engaged]

(



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### 5.4 Other partnerships

Countries also collaborate with non-governmental actors such as the private sector and civil society on migration-related issues.

#### (a) Regional Consultative Processes (RCPs)

Inter-governmental fora promoting dialogue and cooperation on international migration at the regional level.

Scoring:

- Is the country part of RCPs?

None/Some/All relevant

Example: UK

[Yes] The Budapest Process

#### a) Partnerships with civil society organizations (CSOs)

Scoring: Non-binding agreements that are easier to negotiate and implement (MOUs) with civil society organizations on migration related issues

[Yes/No/Somewhat]

#### b) Partnerships with private sector

Scoring: Non-binding agreements that are easier to negotiate and implement (MOUs) with the private sector on migration related issues

[Yes/No/Somewhat]

#### (c) Regional agreements/economic communities that promote labour mobility

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### **Target 10.a Implement the principle of special and differential treatment for developing countries, in particular least developed countries, in accordance with World Trade Organization agreements**

**Proposed Alternative Indicator by ITC and UNCTAD:** *Proportion of developed-country imports from developing countries admitted duty free*

#### **Definition and method of computation**

The calculation of this indicator is a straightforward ratio of the value (current US dollar) of those developed countries duty free imports from least developed and developing countries, compared with the total value of imports from these respective country groups.

This indicator was already calculated under MDG 8.6. For reference purposes see The Millennium Development Goals Report 2015 available at [http://www.un.org/millenniumgoals/2015\\_MDG\\_Report/pdf/MDG%202015%20rev%20\(July%201\).pdf](http://www.un.org/millenniumgoals/2015_MDG_Report/pdf/MDG%202015%20rev%20(July%201).pdf) (p. 64)

#### **Rationale and interpretation**

The proportion of imports admitted duty free can be considered a good proxy of the level of the effective implementation of special and differential treatment

#### **Sources and data collection**

Tariff data for the calculation of this indicator are retrieved from ITC (MAcMap, <http://www.macmap.org/>) and WTO (IDB) databases. Data from these 2 databases are also displayed on the World Integrated Trade Solution application <http://wits.worldbank.org/>

Tariff data (MFN and preferences) are collected every year for more than 130 countries and territories. WTO data are received directly from WTO Members and are processed and verified. They are jointly validated by the members themselves. Calculations of ad valorem equivalents are provided by ITC.

Trade data are retrieved from ITC (Trade Map, <http://www.trademap.org/>), WTO (IDB) and UNSD (COMTRADE, <http://comtrade.un.org/>) databases. Trade data has at least a one-year lag in terms of availability compared to tariffs.

This indicator can generally be compiled around March of each year. At that time (say year y), the indicator is compiled for (y-2), corresponding to the availability of detailed bi-lateral trade flows.

#### **Disaggregation**

Disaggregation is possible by group of countries (geographical and by income level) and by group of products

#### **Comments and limitations**

This indicator could be linked to targets 17.10 and 17.12.

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In terms of limitations:

- WTO disagrees with the usage of this indicator as it refers more to flexibilities in the rules of the multilateral trading system instead of preferential market access. As an alternative indicator WTO would propose to provide an inventory of the number of S&D provisions resulting from the Doha Round negotiations and the number of recommendations resulting from the Monitoring Mechanism on S&D that was adopted at the Bali Ministerial Conference.
- Accurate estimates on special and differential treatment for developing countries do not exist, thus the calculations are limited to tariffs only. These are only part of the trade limitation factors, especially when looking at exports of developing or least developed countries under non-reciprocal preferential treatment that set criteria for eligibility.
- A full coverage of preferential schemes of developed countries are used for the computation, but preferential treatment may not be fully used by developing countries' exporters for different reasons such as the inability of certain exporters to meet eligibility criteria (i.e., complying with rules of origin). As there is no accurate statistical information on the extent of the actual utilisation of each of these preferences, it is assumed that they are fully utilised.
- Duty free treatment is an indicator of market access, but is not always synonymous with preferential treatment for beneficiary countries, because a number of MFN tariffs are already at, or close to, zero, especially for fuels and minerals. International agreements on IT products also offer duty-free treatment for components and equipments used for production purpose

### **Gender equality issues**

Gender equality issues cannot be captured by this indicator

### **Data for global and regional monitoring**

### **Supplementary information and references**

### **Responsible entities**

ITC/UNCTAD

### **Current data availability**

This indicator was already calculated under MDG 8.6. For reference purposes see the Millennium Development Goals Report 2015 available at

[http://www.un.org/millenniumgoals/2015\\_MDG\\_Report/pdf/MDG%202015%20rev%20\(July%201\).pdf](http://www.un.org/millenniumgoals/2015_MDG_Report/pdf/MDG%202015%20rev%20(July%201).pdf) (p. 64)

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**Target 10.b Encourage official development assistance and financial flows, including foreign direct investment, to States where the need is greatest, in particular least developed countries, African countries, small island developing States and landlocked developing countries, in accordance with their national plans and programmes.**

**Proposed Additional Indicator by OHCHR: *Proportion of international trade/investment agreements with explicit human rights safeguards***

<p><b>Goal and target addressed</b></p>	<p>This indicator is proposed to monitor the following targets:</p> <ul style="list-style-type: none"> <li>1.a (resource mobilization)</li> <li>1.b (sound policy framework at international level)</li> <li>2.b (prevention of trade restrictions and distortions)</li> <li>8.a (increase aid for trade)</li> <li>9.a (facilitate sustainable infrastructure development)</li> <li>10.a (special and differential treatment for developing countries)</li> <li>10.b (ODA and financial flows)</li> <li>16.3 (rule of law at the international level)</li> <li>17.5 (investment promotion)</li> <li>17.7 (technology transfer)</li> <li>17.10 (equitable multilateral trading system)</li> <li>17.12 (market access)</li> <li>17.14 (policy coherence for sustainable development)</li> <li>17.16 (global partnership for sustainable development)</li> </ul>
<p><b>Definition and method of computation</b></p>	<p>An international trade/investment agreement refers to an agreement for trade or investment concluded between two or more States.</p> <p>The indicator is calculated as the number of international trade/investment agreements concluded during the reporting period which include explicit human rights safeguards to the total number of international trade/investment agreements concluded during the same period.</p>
<p><b>Rationale and interpretation</b></p>	<p>The global, bilateral and regional trade regimes have a profound impact on human rights, given that the promotion of economic growth in itself may not lead to inclusive, sustainable and equitable development outcomes. There has on occasion been widespread criticism of, and mobilization against, trade agreements and investment treaties, particularly where governments concluding such agreements have focussed exclusively on commercial interests in negotiations, without taking into account their obligations to address human rights, the environment and development.</p> <p>Specifically, trade agreements could potentially have positive and adverse effects on the right to food, the right to water and sanitation, the right to education, the right to health, the right to an adequate standard of living, the right to work and the right to development. These human rights are recognized in international and regional treaties; and consequently, human rights obligations can be enforced through a variety of means, including domestic courts, national human rights institutions, and international</p>

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	<p>mechanisms such as regional courts and commissions and United Nations treaty bodies.</p> <p>Greater attention to human rights in the negotiation and implementation of trade and investment agreements can improve the substantive outcomes- particularly for the people who are most likely to be affected by them in a negative manner. This approach shifts the perspective from economic benefits of trade for the country as a whole, to inequalities in the distribution of economic benefits across and within countries. In line with the aim of Goal 5, this approach focuses on protecting vulnerable individuals and groups at the national level, and developing countries which may have weaker negotiating positions at the international level.</p> <p>The three levels of human rights obligations - respect, protect and fulfil – apply to trade agreements (See A/HRC/19/59/Add.5, 2011). Given their duty of respect, States must not ratify any trade agreements obliging them to implement measures that would impact negatively on human rights. Such measures may include excessive tariff reductions where this would lead to the destruction of the livelihoods of small producers, and overly strict intellectual property rights if this were to make it more difficult to gain access to seeds. Given their duty of protection, States must not ratify any agreements making it more difficult for them to ensure that private actors comply with human rights, for instance by introducing protection for foreign investors that could negatively impact upon the human rights of domestic constituencies. Finally, given their duty to fulfil human rights, States must refrain from ratifying any agreements that make it more difficult for them to fully uphold human rights, for instance through customs and taxation losses that might lead to an underfunding of social security systems. Consequently, States must not ratify any agreement that impedes another State's ability to uphold its human rights obligations.</p>
<b>Sources and data collection</b>	As regards trade agreements, these are registered with WTO. On investment, agreements may be registered with the UN, and UNCTAD maintains a list of such agreements.
<b>Disaggregation</b>	Data for this indicator should be disaggregated by State.
<b>Comments and limitations</b>	Where bilateral or multilateral trade and investment agreements are not registered, they will not be captured by this indicator. The indicator does not capture agreements with transnational corporations, which may also have positive or negative human rights impacts.
<b>Gender equality issues</b>	Gender issues should be included within the human rights safeguards in the agreement.
<b>Data for global and regional monitoring</b>	<p>UNCTAD International Investment Agreements Navigator:  <a href="http://investmentpolicyhub.unctad.org/IIA">http://investmentpolicyhub.unctad.org/IIA</a></p> <p>WTO regional trade agreements gateway:</p>

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	<a href="https://www.wto.org/english/tratop_e/region_e/region_e.htm">https://www.wto.org/english/tratop_e/region_e/region_e.htm</a>
<b>Supplementary information</b>	
<b>References</b>	<p>Commission on Human Rights, Economic, Social and Cultural Rights: Globalization and its impact on the full enjoyment of human rights (E/CN.4/2002/54), Geneva;</p> <p>Commission on Human Rights, Economic, Social and Cultural Rights: Liberalization of trade in services and human rights (E/CN.4/Sub.2/2002/9), Geneva; Commission on Human Rights, Economic, Social and Cultural Rights: Human rights, trade and investment (E/CN.4/Sub.2/2003/9), Geneva; Commission on Human Rights, Economic, Social and Cultural Rights: Analytical study of the High Commissioner for Human Rights on the fundamental principle of non-discrimination in the context of globalization (E/CN.4/2004/40), Geneva; Commission on Human Rights, Economic, Social and Cultural Rights: Mainstreaming the right to development into international trade law and policy at the World Trade Organization (E/CN.4/Sub.2/2004/17), Geneva;</p> <p>Commission on Human Rights, Economic, Social and Cultural Rights: Analytical study of the High Commissioner for Human Rights on the fundamental principle of participation and its application in the context of globalization (E/CN.4/2005/41), Geneva; OHCHR, 5th WTO Ministerial Conference Cancún, Mexico 10-14 September 2003: Human Rights and Trade, 2003, Geneva; OHCHR, Human Rights and World Trade Agreements: Using General Exception Clauses to Protect Human Rights, 2005, Geneva; Pacific Trade and Human Rights, UNDP, WHO &amp; OHCHR, 2014, Suva (Pacific trade and human rights, 2014); Commission on Human Rights, Economic, Social and Cultural Rights: Liberalization of trade in services and human rights (E/CN.4/Sub.2/2002/9), Geneva; Commission on Human Rights, Economic, Social and Cultural Rights: Globalization and its impact on the full enjoyment of human rights (E/CN.4/2002/54), Geneva.</p>

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**Target 10.c** By 2030, reduce to less than 3 per cent the transaction costs of migrant remittances and eliminate remittance corridors with costs higher than 5 per cent.

**Proposed Alternative Indicator by OHCHR:** *Global average total cost of sending \$200 (or equivalent in local sending currency, adjusted for inflation) with the three cheapest remittance services available in each market and accessible to the large majority of senders and recipients*

<b>Goal and target addressed</b>	This indicator is proposed to monitor the following targets: 1.b (pro-poor policies) 10.5 (regulation and monitoring of financial markets) 10.7 (migration) 10.c (remittance costs)
<b>Definition and method of computation</b>	This indicator is calculated as the simple average of the three cheapest available services in each corridor meeting requirements of availability and reach.
<b>Rationale and interpretation</b>	Migrants, in particular undocumented migrants, often experience discrimination in or lack of access to banking services. The current global average price of sending \$200 remittances is 7.9% (source: World Bank). This high cost is particularly expensive relative to the often low incomes of migrant workers, the amounts sent, and the income of remittance recipients. A reduction in remittance transfer price would result in a significant effect on the income levels of remittance families.  While they improve the income of individual recipients, remittances are private financial flows and should not under any circumstances be included in general calculations of development assistance.
<b>Sources and data collection</b>	The main data source is the Remittance Prices Worldwide database of the World Bank. Surveys may also be conducted in sending countries.
<b>Disaggregation</b>	While the global average provides important information on global trends, data should be disaggregated for each sending and receiving country and for each remittance corridor.  Where possible, data should also be disaggregated at the sub-national level to reflect availability of cheaper services in rural areas or to particular populations, including undocumented migrants.
<b>Comments and limitations</b>	This indicator allows for monitoring of the cost of services that are available to senders for a minimum price, regardless of the presence in the market of other more expensive services. However, it focusses only on corridors where official remittance services exist,

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	and does not capture the often higher costs of unofficial services where there is no formal corridor.
<b>Gender equality issues</b>	Female-headed households generally have higher rates of poverty, and where they are dependent on remittances, may be particularly affected by high transaction costs.
<b>Data for global and regional monitoring</b>	The main data source is the Remittance Prices Worldwide database of the World Bank.
<b>Supplementary information</b>	
<b>References</b>	World Bank Remittance Prices Worldwide database: <a href="http://remittanceprices.worldbank.org">http://remittanceprices.worldbank.org</a>



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### Target 11.4 Strengthen efforts to protect and safeguard the world's cultural and natural heritage

#### Proposed Additional Indicator by UNESCO: *Number and percentage of the labour force that holds a heritage occupation or is employed in the heritage sector*

**Definition and method of computation:** The number and percentage of persons aged 15 years and older employed in a cultural and natural heritage occupation for pay or profit by sex.

$$X_H = \sum_N^{i=1} \frac{x_m + x_f}{X_C}$$

$X_H$  = Percentage of persons aged 15+ years employed in a cultural and natural heritage occupation by sex

$N$  = Total number of persons aged 15+ years employed

$x_m$  = Total number of males aged 15+ years employed in a cultural and natural heritage occupation

$x_f$  = Total number of females aged 15+ years employed in a cultural and natural heritage occupation

$X_C$  = Total number of persons aged 15+ years employed in a culture occupation

**Rationale and interpretation:** This indicator provides insight into whether or not countries are strengthening their efforts in safeguarding their cultural and natural heritage by creating employment in the sector. Monitoring employment is a direct measure of the investment in the sector and a measure over time of whether the sector is declining, stable or growing.

**Sources and data collection:** National sources include labour force surveys, census or other household surveys.

**Comments and limitations:** Data availability will depend on the level of coding used in data collection. In order to measure at the level of the culture domain, 3 and preferably 4 digit ISCO coding is required. Ideally the measurement of the entire heritage sector should be measured using ISIC classification. Unfortunately, the heritage sector is not identifiable in ISIC Rev. 4.

**Gender equality issues:** This indicator will be disaggregated by sex. This will allow insights to be made into the over or under-representativeness of women in heritage occupations. The composition of the employed population specialised in cultural and natural heritage will be monitored.

**Data for regional and global monitoring:** Internationally comparable data will be available from the UNESCO Institute for Statistics (UIS) starting in early 2016 via the new UIS Survey of Cultural Employment. The cultural and natural heritage sector will be defined according to the 2009 UNESCO Framework for Cultural Statistics (FCS) methodology (Domain A: Cultural and Natural Heritage). It is expected that data will be available for between 50 and 60 countries during the initial survey cycle. The table below shows an example of the proposed indicators for selected countries:

% of total persons having a cultural and natural heritage occupation		% of persons having a cultural and natural heritage occupation that are female	
Qatar	30.1%	Russian Federation	85.4%
Sri Lanka	16.1%	Serbia	83.9%
Serbia	5.0%	Brazil	72.6%
Australia	4.5%	Australia	58.6%
Russian Federation	3.4%	Turkey	41.9%

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South Africa	3.3%	South Africa	36.1%
Brazil	0.8%	Qatar	35.5%
Turkey	0.5%	Sri Lanka	28.4%

Source: UIS Cultural Employment Pilot Survey (2014)

**Supplementary information:** None

**References:** <http://www.uis.unesco.org/culture/Pages/cultural-employment.aspx>

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**Target 11.5** By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations.

**Proposed modified indicator from Joint submission by DESA, Internal Displacement Monitoring Centre, IOM, Joint IDP Profiling Service, OCHA, UNHCR, UNRWA, Special Rapporteur on the Human Rights of Internally Displaced Persons: *Number of deaths, missing people, injured, displaced (including relocated or evacuated) due to disasters, conflict or other economic, social and environmental shocks [a multi-purpose indicator covering 1.5, 10.7, 11.5, 13.1 and 16.1]***

Other targets for which this indicator is relevant	<p>11.5: By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations;</p> <p>10.7: <i>Facilitate orderly, safe, regular and responsible migration and mobility of people, including through implementation of planned and well-managed migration policies;</i></p> <p>13.1: <i>Strengthen resilience and adaptive capacity to climate related hazards and natural disasters in all countries;</i></p> <p>16.1: <i>Significantly reduce all forms of violence and related death rates everywhere.</i></p>
Comments	<p>Rationale for proposed modification regarding <b>displaced</b> and <b>conflict</b> : The proposal expands the revised indicator for 11.5 to include also other shocks (in line with the formulation of target 1.5) that would expand the coverage of the indicator to conflicts/complex humanitarian emergencies as well as other social, economic and environmental, thus establishing a multi-purpose indicator</p> <p>This presumes and may involve the ‘detachment’ of the indicator from individual indicators and the usage of such indicator as a genuinely multi-purpose indicator linked and contributing to multiple other goals and targets. Hence a multi-purpose global indicator covering the number of people killed, injured, displaced (including evacuated and relocated) or otherwise affected by disasters, conflicts, or other social, economic and environmental shocks would link targets 1.5, 11.5, 13.1, 10.7 as well as 16.1. This is recommend for optimal coverage and monitoring of the human impact of disasters, conflicts, complex humanitarian emergencies, or other social, economic and environmental shocks. The proposal is compatible with the joint proposal submitted by UNISDR and expands its coverage beyond disasters and includes a more comprehensive monitoring of displacement.</p> <p><u>With reference to joint proposal submitted by UNISDR, "displaced" encompasses both "evacuated" and "relocated" as data on displacement per se more readily available at global level than in the case of evacuations and relocations. However, should be noted that the effectiveness of evacuations and resulting reduced loss of lives is one of the main ways to confirm reduced disaster risk/impacts. At the same time, while evacuations are mostly temporary and often coordinated, displacement encompasses the more longer-term forced uprooting of people and resulting impacts on their lives and vulnerability. In addition, the category and definition of "affected" needs to be clarified and, where possible, harmonized.</u></p>
Rationale	<p>According to the United Nations High Commissioner for Refugees (UNHCR), global forced displacement reached unprecedented levels on record in 2014. By end of 2014, 59.5 million individuals were forcibly displaced worldwide as a result of persecution,</p>

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	<p>conflict, generalized violence, or human rights violations. This is 8.3 million persons more than the year before (51.2 million) and the highest annual increase in a single year. The 59.5 million forcibly displaced persons include 19.5 million refugees, 38.2 million internally displaced persons (see below) and 1.5 million asylum-seekers.</p> <p>According to IDMC, as of the end of 2014, 38.2 million people around the world had been forced to flee their homes by armed conflict and generalised violence, and were living in displacement within the borders of their own country. This represents a 15 per cent increase on 2013, and includes 11 million people who were newly displaced during the year, the equivalent of 30,000 people a day.</p> <p>In addition to the above figures, according to the Internal Displacement Monitoring Centre (IDMC), more than 19.3 million people were displaced by disasters in at least 100 countries in 2014. Since 2008, an average of 26.4 million people have been displaced by disasters each year - equivalent to one person every second. Major disasters are irregular and relatively infrequent, but they cause displacement on a vast scale when they do occur. Thirty-five disasters that each forced more than a million people to leave their homes accounted for 70 per cent of all displacement between 2008 and 2013. Although disaster-induced displacement is usually of shorter duration than those caused by conflict, it often has long-lasting repercussions and can become protracted. Latest IDMC analysis highlights the plight of people who have been living in protracted displacement following disasters for up to 26 years.</p> <p>Also according to IDMC, historical models suggest that even after adjusting for population growth, the likelihood of being displaced by a disaster today is 60 per cent higher than it was in the 1970s. The primary drivers of this increase have been rapid unplanned urbanization, population growth and economic development in hazard-prone areas. Climate change may further increase displacement risk in the future by increasing the frequency and intensity of some weather-related hazards and the vulnerability of communities. The number of mega-events that displace more than 3 million people has been increasing. These mega-events are responsible for the overall increase in displacement risk. Displaced persons are increasingly living in urban settings. In fact, the primary driver of increase in exposure to natural hazards since the 1970s has been rapid, unplanned urbanization, population growth and economic development in hazard-prone areas in developing countries. These drivers concentrate large numbers of vulnerable people in dangerous locations. Weak governance structures can further exacerbate this dangerous process by creating incentives for people to move into hazard-prone areas – or forcing them to live there. Conflict and generalised violence affects several of the most at-risk countries, further increasing the vulnerability of communities, undermining their ability to resist and cope with natural hazards.</p>
Method of computation	The number of refugees and IDPs who have been forcibly displaced by disasters, conflict or other economic, social and environmental shocks during a calendar year.
Data sources and number of countries for which data is currently available	<p>Existing/developing (national level) Government statistics and population data. National disaster loss databases and other government data and statistics. Data sources include administrative data maintained by host countries (ministries and agencies in charge of adjudication of refugee status, immigration authorities in charge of refugee resettlement, interior ministries in charge of issuing work and residents permits and naturalization procedures)</p> <p>Registration and documentation of IDPs and refugees, in particular UNHCR registration (figures disaggregated by age, gender and disabilities – AGD mainstreaming) and profiling exercises, annual refugee flow and stock figures and number of asylum applications, participatory needs assessments and population surveys by humanitarian actors.</p> <p>Internal Displacement Monitoring Centre (IDMC) IDP Database and Annual Global Estimates Reports for displacement induced by conflict/generalized violence and disasters, as well as UN Population Fund (UNFPA) figures to normalize displacement</p>

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	<p>estimates.</p> <p>Centre for Research on the Epidemiology of Disasters (CRED) EM-DAT International Disaster Database</p> <p>OCHA situation reports (in ongoing humanitarian emergencies)</p> <p>IOM Displacement Tracking Matrix</p> <p>Joint IDP Profiling Service (JIPS) (collects data disaggregated by sex, age, location and diversity)</p> <p>Uppsala Conflict Data Programme (counts annual number of people killed as a result of conflict, wars etc.)</p>
Responsible entity	<p>UNHCR, Internal Displacement Monitoring Centre, CRED EM-DAT, IOM, OCHA, UNRWA, JIPS, Uppsala Conflict Data Programme, Global Migration Group</p>

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**Target 11.6** By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management.

**Proposed Modified Indicator for 2<sup>nd</sup> Suggested Indicator by WHO:** *Annual mean levels of fine particulate matter (i.e. PM<sub>2.5</sub>) air pollution in cities (population weighted)*

### **Rationale:**

**Mean or average:** Levels of air pollution can vary drastically from day to day based on local weather conditions, geography, economic output, etc. Articulating the indicator as annual mean is a more specific indicator for monitoring the health and environmental impacts of sustainable growth and development in cities over time. WHO air quality guidelines provide specific recommendations on the mean levels of fine particulate matter which can support measuring the per capita health impacts related to any improvements or degradation in air quality in cities. Incidents of high air pollution levels also have health impacts, but these are less important than longer term exposures, and related statistics are less reliable in view of greater variability due to external factors, we therefore do recommend a more specific articulation of this indicator to as annual means as a way to monitor SDG achievement.

**Fine particulate matter:** Fine particulate matter (i.e. PM<sub>2.5</sub>) can be directly linked to estimates of health risks. Coarse particulate matter (i.e. PM<sub>10</sub>) measurements can be converted to PM<sub>2.5</sub>, but will inherently introduce additional uncertainty to estimates of impacts (e.g. health). Articulating this indicator to fine particulate matter increases its specificity and its relevance for monitoring the health impacts of sustainable development policies.

**Population weighted:** The population size of cities vary within a country. Weighting annual mean air quality measurements of fine PM by the city population size relative to other cities in a country increases the suitability and measurability of this indicator at a national scale. Furthermore it makes estimating the related impacts on health and other sustainable development issues (e.g. improvements in energy efficiency from sustainable transport) more feasible and accurate for monitoring progress.

### **Data sources:**

**WHO Ambient Air Pollution in Cities Database<sup>64</sup>:** As part of its core functions, WHO monitors and assesses trends in major health risk factors including ambient air pollution. The WHO's Ambient air pollution database provides annual mean concentrations of particulate matter based on daily air measurements of particulate matter (PM<sub>10</sub> or PM<sub>2.5</sub>) or data which could be aggregated into annual means. In a few exceptional cases, where annual means could not be calculated, measurements covering a more limited part of the year were used.

The primary source of data are official national/sub-national reports, national/sub-national web sites containing measurements of PM<sub>10</sub> or PM<sub>2.5</sub> and the relevant national agencies. Furthermore, measurements reported by the following regional networks are used: the Asian Clean Air Initiative for Asia<sup>65</sup>, and Airbase<sup>66</sup> for Europe. In the absence of data

<sup>64</sup> WHO Ambient Air Pollution in Cities Database; [http://www.who.int/phe/health\\_topics/outdoorair/databases/cities/en/](http://www.who.int/phe/health_topics/outdoorair/databases/cities/en/)

<sup>65</sup> Clean Air Asia; <http://cleanairasia.org/portal/knowledgebase/cities>

<sup>66</sup> AirBase – European Air Quality database; <http://acm.eionet.europa.eu/databases/airbase>

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from the previous sources, data from (a) UN Agencies, (b) Development agencies and (c) articles from peer reviewed journals are used.

In order to present air quality that is largely representative for human exposure, only measurements characterized as urban background, residential areas, commercial and mixed areas are used. Stations characterized as particular "hot spots" or exclusively industrial areas were excluded, unless they were contained in reported city means and could not be dissociated.

Currently the WHO database houses data from over 1,600 cities, from 91 countries for the years 2008 to 2013 inclusive (Figures 1 and 2).

This database is updated on a regular basis can be released annually to support monitoring of this SDG target.

Figure 1: Total number of cities in AAP database, 2014 version, by WHO region

Region	Number of cities	Number of countries
Africa (Sub-Saharan)	16	6
America, LMI	88	13
America, HI	535	4
Eastern Mediterranean, LMI	14	6
Eastern Mediterranean, HI	12	5
Europe, LMI	109	8
Europe, HI	461	29
South-East Asia	167	9
Western Pacific, LMI	133	5

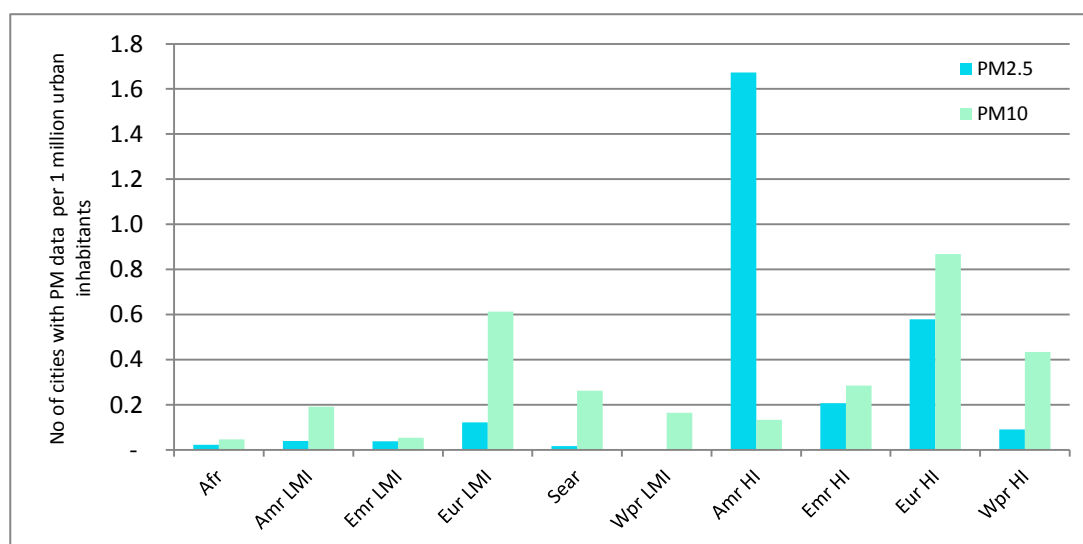


Figure 2: Number of cities with accessible PM<sub>10</sub> and PM<sub>2.5</sub> data in 2014 per urban population  
Amr: America, Afr: Africa; Emr: Eastern Mediterranean, Sear: South-East Asia, Wpr: Western Pacific; LMI: Low- and middle-income; HI: high-income.

**WHO Global Health Observatory:** The WHO Global Health Observatory (GHO) houses information on both the exposure (i.e. ambient air quality measurements of fine particulate



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matter) and associated disease burden. In addition, the GHO provides graphs, tables and interactive tools to depict air pollution levels across regions and countries which can support countries in visualizing their situation and in monitoring progress towards SDG11 more readily.

**WHO air quality guidelines: global update 2005:** WHO air quality guidelines provide normative guidance on pollutant levels that can be considered “healthy”. They also provide information about the sources of air pollution and the health impacts from exposure to different pollutants which serve as an important information resource for countries as they develop and implement plans for sustainable development. The recommendations of specific pollutant levels found in the guidelines serve as the basis for estimating the attributable disease burden to ambient air pollution. These guidelines are updated regularly and publicly available.

### **Data gaps & opportunities to address such gaps**

Several gaps in the currently available data for monitoring target 11.7 along with some recommendations of upcoming opportunities for filling such gaps are provided below.

#### ***Measurements of fine particulate matter:***

PM<sub>2.5</sub> measurements can directly be linked to estimates of health risks using an integrated exposure response function, and are therefore of particular interest. PM<sub>10</sub> measurements first need to be converted to PM<sub>2.5</sub> in order to do. In high-income countries, PM<sub>2.5</sub> measurements are already being widely performed. In low- and middle-income countries, however, while PM<sub>2.5</sub> measures are increasingly being developed, they are not yet available in many countries. In low-and middle-income countries, annual mean PM<sub>2.5</sub> measurements could be accessed in 69 cities, but PM<sub>10</sub> in 512 cities. In high-income countries, 816 cities with PM<sub>2.5</sub> measures could be accessed, against 544 cities with PM<sub>10</sub> measurements.

For cities with PM<sub>10</sub> reported as the only monitored PM parameter, PM<sub>2.5</sub> concentration can be calculated from PM<sub>10</sub> using national conversion factors (PM<sub>2.5</sub>/PM<sub>10</sub> ratio) estimated as population-weighted averages of city-specific conversion factors for the country. City specific conversion factors were estimated as the mean ratio of PM<sub>2.5</sub> to PM<sub>10</sub> of stations for the same year, and alternatively as the ratio of city values if the values by station were not provided. If national conversion factors are not available, regional ones can be used, which are obtained by averaging country-specific conversion factors.

**Definition of cities:** There is no agreed upon definition of city and/or urban area. Currently the WHO Ambient air pollution database includes information on cities with populations of 100,000 or more. This is partly due to the fact that for some countries ambient air quality information is only available for larger cities whereas for other countries data is available for cities with just a few thousand inhabitants. In general, the inclusion of cities with less than 100,000 inhabitants did usually not significantly modify the country mean as compared to considering only cities larger than 100,000 inhabitants.

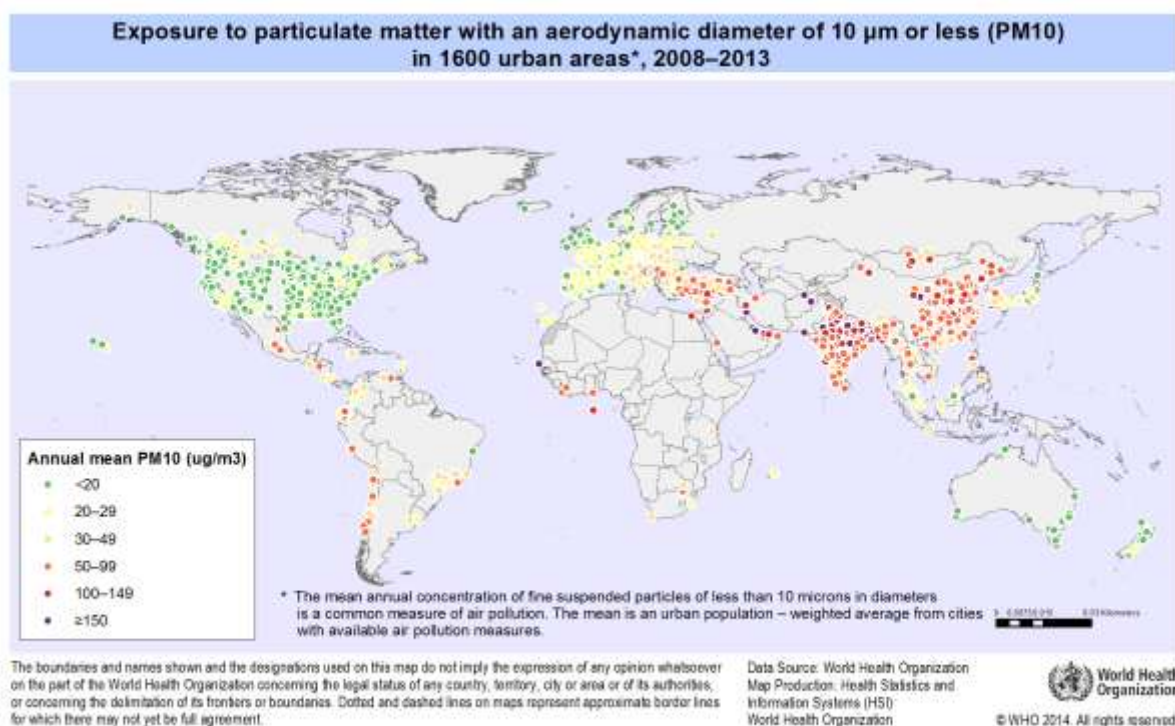
WHO is able to update its database and reporting to include cities/urban areas to be in line with the definition agreed upon for the monitoring and tracking of SDG 11 on cities.

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### ***Geographic coverage of monitoring:***

Measurement of ambient air quality in cities is currently limited to 91 countries. Below is a map of the current sources of ambient air quality monitoring housed in the WHO's Ambient air quality database (Figure 3). Although, as noted, there is a paucity of data from low- and middle-income countries, the level of monitoring and reporting in these areas is rapidly increasing each year. In addition, the Climate and Clean Air Coalition's Urban Health Initiative aims to increase monitoring in urban areas of LMIC and will be providing guidance and resources to increase air quality monitoring capacity.

*Figure 3: Data coverage of ambient air quality monitoring of the WHO Ambient Air Pollution in Cities Database*



### ***Location of monitoring:***

Sampling locations of air quality measurements may change within a period of monitoring, and consequently lead to a variation over time in annual mean PM levels for a city that does not necessarily reflect actual changes in air quality but rather a difference in the pollution levels at the new measurement sites. To address such a challenge, appropriate guidance and/or a protocol can be provided to countries/cities, about the importance of maintaining specific sampling locations to monitor trends and impacts. Through its work within the Climate and Clean Air Coalition's Urban Health Initiative, WHO will be working with a number of cities to develop guidance on how and where to install air quality monitoring systems as well as the importance in consistency in monitoring practices. This information or guidance will be freely available to other cities to use and can be adapted to their local circumstances as appropriate for better monitoring of target 11.7.

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**Target 11.7** By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities.

**Proposed Additional Indicator by UN-WOMEN:** *Proportion of women subjected to physical or sexual harassment, in the last 12 months, by perpetrator and place of occurrence*

<p><b>Definition and method of computation</b></p>	<p>Number of girls and women aged 15+ who were subjected to sexual harassment in the last 12 months, as percentage of all girls and women aged 15+, disaggregated by perpetrator and place of occurrence.</p> <p>There are no internationally accepted definitions of sexual harassment. Most existing studies about sexual harassment are focused on working life or educational environments. The 2014 European Union Agency for Fundamental Rights survey on violence against women adopted a broader scope, asking respondents first if they have experienced specific forms of sexual harassment in any situation, before asking in more detail who was involved. The information concerning the perpetrators allows the survey to distinguish incidents which are linked to various situations, not only in the context of employment. The survey covered 11 possible acts of sexual harassment which were unwanted and offensive according to respondents. The categories include:</p> <ul style="list-style-type: none"> <li>• Unwelcome touching, hugging or kissing?</li> <li>• Sexually suggestive comments or jokes that made you feel offended?</li> <li>• Inappropriate invitations to go out on dates?</li> <li>• Intrusive questions about your private life that made you feel offended?</li> <li>• Intrusive comments about your physical appearance that made you feel offended?</li> <li>• Inappropriate staring or leering that made you feel intimidated?</li> <li>• Somebody sending or showing you sexually explicit pictures, photos or gifts that made you feel offended?</li> <li>• Somebody indecently exposing themselves to you?</li> <li>• Somebody made you watch or look at pornographic material against your wishes?</li> <li>• Unwanted sexually explicit emails or SMS messages that offended you?</li> <li>• Inappropriate advances that offended you on social networking websites such as Facebook, or in internet chat rooms?</li> </ul> <p>In addition to examining the prevalence and nature of these acts, they can also be analysed in four broad groups:</p> <ul style="list-style-type: none"> <li>• physical forms of harassment: unwelcome touching, hugging or kissing;</li> <li>• verbal forms of harassment: sexually suggestive, offensive, comments or jokes; inappropriate invitations to go out on dates; intrusive, offensive questions about private life; intrusive, offensive comments about a woman's physical appearance;</li> <li>• non-verbal forms of harassment: inappropriate, intimidating staring or leering; receiving or being shown offensive, sexually explicit pictures, photos or gifts; somebody indecently exposing themselves; being made to watch or look at pornographic material against one's wishes;</li> <li>• Cyber-harassment: receiving unwanted, offensive, sexually explicit emails or</li> </ul>
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	SMS messages; inappropriate, offensive advances on social networking websites or in internet chat rooms [1].
<b>Rationale and interpretation</b>	This indicator measures the extent to which women and girls are victims of sexual harassment in public places, including in the workplace which is an important aspect of women's safety and autonomy. Access to safe public spaces is a basic human right. If women and girls are to enjoy a life free from violence, authorities need to ensure that public spaces are free from any form of violence, including sexual violence. Sexual harassment in particular, as well as other forms of sexual violence in public spaces, is an everyday occurrence for women and girls around the world. In urban and rural areas, developed or developing countries, women and girls are constantly subjected to these forms of violence on streets, on public transport and in parks, in and around schools and workplaces, in public sanitation facilities and water and food distribution sites, or in their own neighborhoods.
<b>Sources and data collection</b>	Data for this indicator can be collected through specialized violence against women and girls surveys or thought modules in multipurpose surveys such as DHS and MICS. Currently data exist for many countries that have conducted specialized VAW surveys including recently all EU members through the FRA surveys. At the EU level, 55% of all women have at least once been victims of sexual harassment and stalking during their lifetime and 21% have been victimized over the last 12 months. Disaggregating by location would also distinguish between sexual harassment at work (target 8.8) and in public spaces (11.7)
<b>Disaggregation</b>	In order to distinguish between harassment that happens in workplaces or in public spaces such as streets and parks, this indicator should be disaggregated by perpetrator and place of occurrence.
<b>Comments and limitations</b>	This indicator is Tier III. Similar to the indicators for Target 5.2, these data can be derived from violence against women surveys.
<b>Gender equality issues</b>	Addresses women and girls' autonomy and freedom from violence in public spaces.
<b>Data for global and regional monitoring</b>	Data currently exist for all EU countries.
<b>Supplementary information</b>	
<b>References</b>	[1] European Union Agency for Fundamental Rights. Violence Against Women: An EU-Wide Survey. Main Results.

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**Target 11.b** By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030, holistic disaster risk management at all levels.

**Proposed Replacement Indicator by UNISDR:** *Percentage of local governments that adopt and implement local DRR strategies in line with the Sendai Framework for Disaster Risk Reduction 2015-2030*

**Definition:**

**Local DRR Strategies in line with the Sendai Framework for Disaster Risk Reduction 2015-2030:** local disaster risk reduction strategies and plans, across different timescales with targets, indicators and time frames, aimed at preventing the creation of risk, the reduction of existing risk and the strengthening of economic, social, health and environmental resilience (Sendai Framework, para27 (b)). Note: the DRR strategies need to be based on risk information and assessments.

**Local Government:** Form of public administration at the lowest tier of administration within a given state, which generally acts within powers delegated to them by legislation or directives of the higher level of government.

Note: Terminology will be discussed and finalized in the Open-ended Intergovernmental Working Group for Sendai Framework for Disaster Risk Reduction.

**Method of computation:** Summation of data from National Progress Report of the Sendai Monitor

**Rationale and interpretation** (mainly based on TST Issue Brief 20, 11, 23, 14 and 12):

Sendai Framework for Disaster Risk Reduction 2015-2030 calls for local governments to adopt and implement local DRR strategies with their own targets, indicators and timeframes.

Global population is now half urban and expected to be nearly 70% urban by 2050. Increasing resilience of cities is critical to reduce disaster risk and achieve sustainable development. Cities are also very vulnerable to natural disasters, especially climate-related shocks. Over half of all coastal areas are urbanized and 21 of the world's 33 megacities lie in coastal flood zones. Coastal cities are particularly affected by sea level rise, coastal flooding and erosion, and extreme events (e.g. tsunamis and storm surges) due to the undermining natural protective barriers, low levels of development combined with rapid population growth in low lying coastal areas and inadequate capacity to adapt. In addition to the impact on communities and non-human species, the unplanned urbanization also undermines the ecosystem services that support much hard urban infrastructure. This type of development also exacerbates urban vulnerability to climate change impacts, including hydro-meteorological and geological hazards.

Located mostly in cities where disadvantaged groups are situated and when affordable access is addressed, resilient infrastructures such as health, education, road and other critical infrastructures will have direct impact on reducing inequality and making growth more inclusive and sustainable. The opportunity is that 60% of the area expected to be urban by 2030 remains to be built, indicating that the shape of future cities can be proactively guided into more risk-sensitive development. An

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increasing number of cities that adopt and implement local DRR strategies will contribute to sustainable development from economic, environmental and social perspectives.

The indicator will build bridge between the SDGs and the Sendai Framework for DRR because the adoption of local DRR strategies is one of Sendai Framework global targets and will be also monitored under the Sendai Framework Monitoring System.

**Sources and data collection:** National Progress Report of the Sendai Monitor, reported to UNISDR

**Disaggregation:** by country, by city

### **Comments and limitations:**

- ✓ This is proposal by UNISDR based on our experience and knowledge built in the period under the Hyogo Framework for Action (2005-2015). The proposed indicator was further reviewed and examined by other UN agencies including FAO, GFDRR, IOM, UNCCD, UNDP, UNESCAP, UNESCO, UNFPA, UNHCR, UNOCHA, UNOOSA, UNOPS, UNU, UNWOMEN, WHO and WMO (though not all organizations listed here provided comments for this indicator) and submitted to the IAEG process in early-July 2015, then again reviewed by the Technical Expert Group consisting of more than 60 experts from UN system, academic and research, civil sector and private sector in 27-29 July 2015 and submitted and examined by the Member States in the 1<sup>st</sup> Open-ended Intergovernmental Expert Working Group on Indicators and Terminology on Disaster Risk Reduction held in 29-30 September 2015. The suggested indicator is currently under review by the Member States and UNISDR is receiving written inputs from the Member States.
- ✓ The proposed indicators will be also used to monitor Sendai Framework global targets and therefore the detailed definitions shall be discussed and agreed in Open-ended Intergovernmental Expert Working Group on Indicators and Terminology on Disaster Risk Reduction, as outlined in Sendai Framework for Disaster Reduction 2015-2030. The Working Group is likely to finalize the discussion and submit the final report to the GA in December 2016.
- ✓ Reporting of the HFA Monitor and the succeeding Sendai Monitor under development is not mandatory but it is only global database collecting DRR policy information. The HFA Monitor started in 2007 and over time, the number of countries reporting to UNISDR increased from 60 in 2007 to 133 in 2013. Because there is no specific data addressing this indicator at this moment, a baseline as of 2015 should be created through a questionnaire to all countries in order to monitor both the Sendai Framework and the SDGs.

**Gender equality issues:** Not included.

**Data for global and regional monitoring:** Summation of data from National Progress Report of the Sendai Monitor

**Main linkage with SDG Targets:**

***This indicator is proposed as “multi-purpose indicator”.***

### **Target 11.b:**

By 2020, substantially increase the number of cities and human settlements adopting and implementing **integrated policies and plans** towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and

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implement, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030, holistic disaster risk management at all levels

## Target 13.1:

Strengthen **resilience and adaptive capacity to climate-related hazards and natural disasters** in all countries

## Target 13.b:

Promote mechanisms for raising capacities for effective **climate change-related planning and management**, in least developed countries, including focusing on women, youth, local and marginalized communities

## Target 9.1:

Develop quality, reliable, sustainable and **resilient infrastructure**, including regional and trans border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all

## Target 11.5:

By 2030, significantly reduce **the number of deaths and the number of people affected** and substantially decrease the direct economic losses relative to global gross domestic product caused by **disasters**, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations

## Target 1.5:

By 2030, build **the resilience of the poor and those in vulnerable situations** and reduce their **exposure and vulnerability to climate-related extreme events** and other economic, social and environmental shocks and **disasters**

## Target 3.9:

By 2030, substantially reduce the number of **deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination**

## Target 14.2:

By 2020, sustainably manage and protect **marine and coastal ecosystems** to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans

## Target 3.d:

Strengthen the capacity of all countries, in particular developing countries, for **early warning, risk reduction and management of national and global health risks**

## Supplementary information:

### Related targets in the Sendai Framework for Disaster Risk Reduction 2015-2030:

Substantially increase the number of countries with ***national and local disaster risk reduction strategies*** by 2020.

### Sendai Framework for Disaster Risk Reduction 2015-2030:

([http://www.preventionweb.net/files/43291\\_sendaiframeworkfordrren.pdf](http://www.preventionweb.net/files/43291_sendaiframeworkfordrren.pdf))

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### **Target 13.2 Integrate climate change measures into national policies, strategies and planning**

**Proposed Replacement Indicator by UNISDR:** *Number of countries that adopt and implement national DRR strategies in line with the Sendai Framework for Disaster Risk Reduction 2015-2030*

**Definition:**

**National DRR strategies in line with the Sendai Framework for Disaster Risk Reduction 2015-2030:** national disaster risk reduction strategies and plans, across different timescales with targets, indicators and time frames, aimed at preventing the creation of risk, the reduction of existing risk and the strengthening of economic, social, health and environmental resilience (Sendai Framework, para 27(b)). In the Sendai Framework, link with DRR and climate change adaptation is strongly advocated. Note: the DRR strategies need to be based on risk information and assessments.

**Country:** A nation with its own government, occupying a particular territory

Note: Terminology will be discussed and finalized in the Open-ended Intergovernmental Working Group for Sendai Framework for Disaster Risk Reduction.

**Method of computation:** Summation of data from National Progress Report of the Sendai Monitor

**Rationale and interpretation** (mainly based on TST Issue Brief 23, 12 and 20):

The Sendai Framework for Disaster Risk Reduction 2015-2030 calls for national governments to adopt and implement national DRR strategies with their own targets, indicators and timeframes.

Impacts of climate change on sustainable development are observed through both slow-onset events (e.g. sea level rise, increasing temperatures, ocean acidification, glacial retreat and related impacts, salinization, land and forest degradation, loss of biodiversity and desertification) and extreme weather events.

Cities around the world, as well as rural populations, witness growing disaster risks. Impacts of climate change on sustainable development are observed through both slow-onset events (e.g. sea level rise, increasing temperatures, ocean acidification, glacial retreat and related impacts, salinization, land and forest degradation, loss of biodiversity and desertification) and extreme weather events.

Cities are some of the most vulnerable areas to natural disasters. Unplanned urban development (e.g. informal settlements, overcrowding, inadequate infrastructures) exacerbates urban vulnerability to climate change impacts and hydro-meteorological and geological hazards. Over half of all coastal areas are urbanized and 21 of the world's 33 mega cities lie in coastal flood zones. SIDS and coastal regions are particularly affected by sea level rise, coastal flooding and erosion, and extreme events (e.g. tsunamis and storm surges) due to the undermining natural protective barriers, low levels of development combined with rapid population growth in low lying coastal areas and inadequate capacity to adapt. Poor urban populations must often resort to unsustainable coping strategies and mechanisms.

Large numbers of people remain perilously close to falling into poverty, experiencing shocks that they are unable to cope with. For the poor, a shock of even a relatively short impact and duration



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can have long term consequences. Several dimensions of poverty are closely related to environment, which is often affected by natural disasters. Better management of natural resources can themselves strengthen the resilience of the poor, by both reducing the likelihood of natural hazard events and offering resources to help cope with them.

These challenges require enhanced vulnerability and impact assessments, mitigation and adaptation plans, resilience building and DRR strategies. It is necessary to adapt to climate change, enhance resilience of ecosystems, and reduce disaster risk and build resilience to natural disasters.

Proactive DRR strategies will address climate change impact and enhance resilience of nations. Resilient infrastructures will be critical part of such strategies because infrastructures such as health, education, road and other critical infrastructures will have direct impact on reducing inequality and making growth more inclusive.

Increasing number of national governments that adopt and implement national DRR strategies will contribute to sustainable development from economic, environmental and social perspectives.

The indicator will build bridge between the SDGs and the Sendai Framework for DRR because the adoption of national DRR strategies is one of Sendai Framework targets and will be also monitored under the Sendai Framework Monitoring System.

**Sources and data collection:** National Progress Report of the Sendai Monitor, reported to UNISDR

**Disaggregation:** by country

**Comments and limitations:**

- ✓ This is proposal by UNISDR based on our experience and knowledge built in the period under the Hyogo Framework for Action (2005-2015). The proposed indicator was further reviewed and examined by other UN agencies including FAO, GFDRR, IOM, UNCCD, UNDP, UNESCAP, UNESCO, UNFPA, UNHCR, UNOCHA, UNOOSA, UNOPS, UNU, UNWOMEN, WHO and WMO (though not all organizations listed here provided comments for this indicator) and submitted to the IAEG process in early-July 2015, then again reviewed by the Technical Expert Group consisting of more than 60 experts from UN system, academic and research, civil sector and private sector in 27-29 July 2015 and submitted and examined by the Member States in the 1<sup>st</sup> Open-ended Intergovernmental Expert Working Group on Indicators and Terminology on Disaster Risk Reduction held in 29-30 September 2015. The suggested indicator is currently under review by the Member States and UNISDR is receiving written inputs from the Member States.
- ✓ The proposed indicators will be also used to monitor Sendai Framework global targets and therefore the detailed definitions shall be discussed and agreed in Open-ended Intergovernmental Expert Working Group on Indicators and Terminology on Disaster Risk Reduction, as outlined in Sendai Framework for Disaster Reduction 2015-2030. The Working Group is likely to finalize the discussion and submit the final report to the GA in December 2016.
- ✓ Reporting of the HFA Monitor and the succeeding Sendai Monitor under development is not mandatory but it is only global database collecting DRR policy information. The HFA Monitor started in 2007 and over time, the number of countries reporting to UNISDR increased from 60 in 2007 to 133 in 2013. Because there is no specific data addressing this indicator at this moment, a baseline as of 2015 should be created through a questionnaire to all countries in order to monitor both the Sendai Framework and the SDGs.

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**Gender equality issues:** Not included.

**Data for global and regional monitoring:** Summation of data from National Progress Report of the Sendai Monitor

**Main linkage with SDG Targets:**

*This indicator is proposed as “multi-purpose indicator”.*

**Target 13.2:**

Integrate **climate change** measures into **national policies**, strategies and planning

**Target 13.1:**

Strengthen **resilience and adaptive capacity to climate-related hazards and natural disasters** in all countries

**Target 13.b:**

Promote mechanisms for raising capacities for effective **climate change-related planning and management**, in least developed countries, including focusing on women, youth, local and marginalized communities

**Target 9.1:**

Develop quality, reliable, sustainable and **resilient infrastructure**, including regional and trans border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all

**Target 11.5:**

By 2030, significantly reduce **the number of deaths** and **the number of people affected** and substantially decrease the direct economic losses relative to global gross domestic product caused by **disasters**, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations

**Target 1.5:**

By 2030, build **the resilience of the poor and those in vulnerable situations** and reduce their **exposure and vulnerability to climate-related extreme events** and other economic, social and environmental shocks and **disasters**

**Target 3.9:**

By 2030, substantially reduce the number of **deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination**

**Target 3.d:**

Strengthen the capacity of all countries, in particular developing countries, for **early warning, risk reduction and management of national and global health risks**

**Supplementary information:**

**Related targets in the Sendai Framework for Disaster Risk Reduction 2015-2030:**

Substantially increase the number of countries with **national and local disaster risk reduction strategies** by 2020.

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## Sendai Framework for Disaster Risk Reduction 2015-2030:

([http://www.preventionweb.net/files/43291\\_sendaiframeworkfordrren.pdf](http://www.preventionweb.net/files/43291_sendaiframeworkfordrren.pdf))

### **Target 13.2 Integrate climate change measures into national policies, strategies and planning.**

**Proposed Additional Indicator by UNISDR:** *Number of countries that integrate climate and disaster risk into development planning*

#### **Definition:**

**Development Planning:** *Planning for “a multi-dimensional process involving changes in social structures, popular attitudes, and national institutions, as well as the acceleration of economic growth, the reduction of inequality, and the eradication of poverty” (Todaro and Smith, 2011)*

**Climate and disaster risk integration into development planning:** Satisfies the following three conditions: i) development plan(s) that recognizes disaster and climate risk as a challenge; ii) development plan (s) that identifies activities to address challenges from disaster and climate risk; iii) development plan (s) where addressing disaster and climate risk is metric of success.

**Country:** A nation with its own government, occupying a particular territory (Oxford Dictionary)

Note: Terminology will be discussed and finalized in the Open-ended Intergovernmental Working Group for Sendai Framework for Disaster Risk Reduction.

**Method of computation:** Summation of data from National Progress Report of the Sendai Monitor

**Rationale and interpretation** (mainly based on TST Issue Brief 23, 12 and 20):

If national level strategies consider climate and disaster risk, it will become an important complementary mechanism that will help greatly to implement the SDGs and the Sendai Framework. For all development to be sustainable, it needs to be risk-sensitive. Having national sustainable development strategies consider climate and disaster risk is a first step for countries to understand risk, reduce existing risk, and prevent creation of new risk. This idea has been at the heart of disaster risk management since the adoption of the Hyogo Framework for Action and remains central to its successor, the Sendai Framework for Disaster Risk Reduction.

Impacts of climate change on sustainable development are observed through both slow-onset events (e.g. sea level rise, increasing temperatures, ocean acidification, glacial retreat and related impacts, salinization, land and forest degradation, loss of biodiversity and desertification) and extreme weather events.

Cities around the world, as well as rural populations, witness growing disaster risks. Impacts of climate change on sustainable development are observed through both slow-onset events (e.g. sea level rise, increasing temperatures, ocean acidification, glacial retreat and related impacts, salinization, land and forest degradation, loss of biodiversity and desertification) and extreme weather events.

Cities are some of the most vulnerable areas to natural disasters. Unplanned urban development (e.g. informal settlements, overcrowding, inadequate infrastructures) exacerbates urban

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vulnerability to climate change impacts and hydro-meteorological and geological hazards. Over half of all coastal areas are urbanized and 21 of the world's 33 mega cities lie in coastal flood zones. SIDS and coastal regions are particularly affected by sea level rise, coastal flooding and erosion, and extreme events (e.g. tsunamis and storm surges) due to the undermining natural protective barriers, low levels of development combined with rapid population growth in low lying coastal areas and inadequate capacity to adapt. Poor urban populations must often resort to unsustainable coping strategies and mechanisms.

Large numbers of people remain perilously close to falling into poverty, experiencing shocks that they are unable to cope with. For the poor, a shock of even a relatively short impact and duration can have long term consequences. Several dimensions of poverty are closely related to environment, which is often affected by natural disasters. Better management of natural resources can themselves strengthen the resilience of the poor, by both reducing the likelihood of natural hazard events and offering resources to help cope with them.

These challenges require enhanced vulnerability and impact assessments, mitigation and adaptation plans, resilience building and DRR strategies. It is necessary to adapt to climate change, enhance resilience of ecosystems, and reduce disaster risk and build resilience to natural disasters.

Proactive development strategies will address climate change impact and enhance resilience of nations. Resilient infrastructures will be critical part of such strategies because infrastructures such as health, education, road and other critical infrastructures will have direct impact on reducing inequality and making growth more inclusive.

Increasing number of national governments that integrate climate and disaster risk into development planning will contribute to sustainable development from economic, environmental and social perspectives.

The indicator will build bridge between the SDGs and the Sendai Framework for DRR because the integration of climate and disaster risk into development planning is strongly related with the implementation of the Sendai Framework and will be also monitored under the Sendai Framework Monitoring System.

**Sources and data collection:** National Progress Report of the Sendai Monitor, reported to UNISDR

**Disaggregation:** by country

**Comments and limitations:**

- ✓ This is proposal by UNISDR based on our experience and knowledge built in the period under the Hyogo Framework for Action (2005-2015). The proposed indicator was also proposed by the World Bank (GFDRR), then reviewed by the Technical Expert Group consisting of more than 60 experts from UN system, academic and research, civil sector and private sector in 27-29 July 2015 and submitted and examined by the Member States in the 1<sup>st</sup> Open-ended Intergovernmental Expert Working Group on Indicators and Terminology on Disaster Risk Reduction held in 29-30 September 2015. The suggested indicator is currently under review by the Member States and UNISDR is receiving written inputs from the Member States.
- ✓ The proposed indicators will be also used to monitor Sendai Framework global targets and therefore the detailed definitions shall be discussed and agreed in Open-ended Intergovernmental Expert Working Group on Indicators and Terminology on Disaster Risk

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Reduction, as outlined in Sendai Framework for Disaster Reduction 2015-2030. The Working Group is likely to finalize the discussion and submit the final report to the GA in December 2016.

- ✓ Reporting of the HFA Monitor and the succeeding Sendai Monitor under development is not mandatory but it is only global database collecting DRR policy information. The HFA Monitor started in 2007 and over time, the number of countries reporting to UNISDR increased from 60 in 2007 to 133 in 2013. Because there is no specific data addressing this indicator at this moment, a baseline as of 2015 should be created through a questionnaire to all countries in order to monitor both the Sendai Framework and the SDGs.

**Gender equality issues:** Not included.

**Data for global and regional monitoring:** Summation of data from National Progress Report of the Sendai Monitor

**Main linkage with SDG Targets:**

*This indicator is proposed as “multi-purpose indicator”.*

**Target 13.2:**

Integrate **climate change** measures into **national policies**, strategies and planning

**Target 11.5:**

By 2030, significantly reduce **the number of deaths** and **the number of people affected** and substantially decrease the direct economic losses relative to global gross domestic product caused by **disasters**, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations

**Target 13.b:**

Promote mechanisms for raising capacities for effective **climate change-related planning and management**, in least developed countries, including focusing on women, youth, local and marginalized communities

**Target 13.1:**

Strengthen **resilience and adaptive capacity to climate-related hazards and natural disasters** in all countries

**Target 1.5:**

By 2030, build **the resilience of the poor and those in vulnerable situations** and reduce their **exposure and vulnerability to climate-related extreme events** and other economic, social and environmental shocks and **disasters**

**Target 9.1:**

Develop quality, reliable, sustainable and **resilient infrastructure**, including regional and trans border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all

**Target 2.4:**

By 2030, ensure sustainable food production systems and implement **resilient agricultural practices** that increase productivity and production, that help maintain ecosystems, that **strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters** and that progressively improve land and soil quality

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### Target 14.2:

By 2020, sustainably manage and protect **marine and coastal ecosystems** to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans

### Target 15.3:

By 2030, combat desertification, restore degraded land and soil, including **land affected by desertification, drought and floods**, and strive to achieve a land-degradation-neutral world

### Target 3.6:

By 2020, halve the number of **global deaths and injuries from road traffic accidents**

### Target 3.d:

Strengthen the capacity of all countries, in particular developing countries, for **early warning, risk reduction and management of national and global health risks**

### Supplementary information:

#### Related targets in the Sendai Framework for Disaster Risk Reduction 2015-2030:

Substantially increase the number of countries with *national and local disaster risk reduction strategies* by 2020.

#### Sendai Framework for Disaster Risk Reduction 2015-2030:

([http://www.preventionweb.net/files/43291\\_sendaiframeworkfordrren.pdf](http://www.preventionweb.net/files/43291_sendaiframeworkfordrren.pdf))

## Target 13.2 Integrate climate change measures into national policies, strategies and planning.

### Alternative Proposed Indicator from OECD: *THE OECD'S INVENTORY OF BUDGETARY AND TAX EXPENDITURES FOR FOSSIL FUELS*

#### *Definition and method of computation*

The OECD's *Inventory of Estimated Budgetary Support and Tax Expenditures for Fossil Fuels* identifies, documents, and estimates measures or policies that support the production or consumption of fossil fuels in OECD countries and a selection of non-member economies (Brazil, China, India, Indonesia, Russia, and South Africa). The *Inventory* focusses for now on budgetary transfers and tax expenditures only since data for other more complicated forms of support can be much harder to obtain, as with the assumption by the government of certain risks otherwise borne by the private sector (e.g. through loan guarantees).

Estimates are available annually for each individual measure the *Inventory* contains and are expressed as absolute amounts in nominal units of national currency. Detailed qualitative information is provided alongside these estimates to describe relevant characteristics of the measures, including — where available — their history, eligibility criteria, and beneficiaries, their transfer mechanism, their formal incidence, the fuels they benefit, etc.

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## *Rationale and interpretation*

Because it looks at the fiscal cost of each individual measure, the *Inventory* makes it possible to track how much of public resources are being devoted to supporting the production or consumption of fossil fuels in any given country. Caution should, however, be exercised when interpreting support amounts since about two-thirds of all the measures contained in the *Inventory* are tax expenditures, i.e. deviations from what countries themselves consider to be “normal” taxation. These amounts are therefore not directly comparable across countries but can be used to monitor support for fossil fuels *within* a country and over time.

## *Sources and data collection*

Generally, the data in the *Inventory* have been obtained from government sources. Support measures were identified mainly through searches of official government documents and web sites. In a few cases, unpublished data were furnished directly by governments. If no data could be found, the OECD estimated the value of support where it deemed the necessary calculations feasible and plausible. The sources used for compiling information on individual support measures are mainly the annual budgets of countries (e.g. budget statements, public accounts or budget statistics), which also often contain an annex describing and estimating tax expenditures.

## *Disaggregation*

For each country the *Inventory* covers, estimates are available annually for each particular measure and fuel type since a given policy may benefit more than one type of fuel (e.g. gasoline and LPG). There are 40 such types of fossil fuels as the *Inventory* follows the classification of fuels specified in the IEA’s *Energy Manual*.

## *Comments and limitations*

As indicated earlier, about two-thirds of all the measures contained in the *Inventory* are tax expenditures, i.e. deviations from what countries themselves consider to be “normal” taxation. This implies a number of caveats:

Countries typically calculate the value of each tax expenditure on the assumption that all other provisions remain unchanged. Due to interactions and behavioural responses, the revenue impacts of eliminating multiple measures is not necessarily equal to the sum of the individual values. Caution is therefore required in adding together estimates for multiple measures.

Tax-expenditure accounting was not designed with international comparability in mind. The estimates reported in the *Inventory* provide useful information about the relative tax treatment of different products *within* national tax systems, and the economic incentives created for actors within these systems. In the absence of a common benchmark, however, tax-expenditure estimates are not readily comparable across countries. In general, a fundamental limitation on comparability is differences among countries in the definition of the benchmark tax system (i.e. what constitutes “normal” taxation). For this reason, a simple cross-country comparison of tax expenditures can lead to a misleading picture of the relative tax treatment of fossil fuels.

## *Gender equality issues*

None were identified.

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## *Data for global and regional monitoring*

Some aggregation is possible OECD-wide (or BRIICS-wide) but comparisons of country totals with one another should be avoided.

## *Supplementary information*

An update of the *Inventory* is currently underway for release in September 2015. From this date on, the data will be disseminated online through the OECD's main statistics portal (DotStat).

## *References*

IEA, OECD and Eurostat (2004), *Energy Statistics Manual*, OECD Publishing, Paris.

DOI: <http://dx.doi.org/10.1787/9789264033986-en>

OECD (2015 forthcoming), *Inventory of Estimated Budgetary Support and Tax Expenditures for Fossil Fuels – 2015 Edition*, OECD Publishing, Paris.

OECD (2013), *Inventory of Estimated Budgetary Support and Tax Expenditures for Fossil Fuels – 2013*, OECD Publishing, Paris. Companion website available at: [www.oecd.org/site/tadffss/](http://www.oecd.org/site/tadffss/).

DOI: <http://dx.doi.org/10.1787/9789264187610-en>



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### **Target 13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.**

**Proposed Alternative Indicator by UNISDR:** *Number of countries that have multi-hazard early warning system*

**Definition:**

**Early warning system (EWS):** An integrated set of hazard warning, risk assessment, communication and preparedness activities that enable individuals, communities, businesses and others to take timely action to reduce their risks.

**Multi-hazard:** addressing (1) selection of multiple major hazards that the country faces, and (2) specific contexts where hazardous events may occur simultaneously or cumulatively over time, and taking into account the potential interrelated effects.

**Multi-hazard early warning system:** An early warning system designed to be used in multi-hazard contexts where hazardous events may occur simultaneously or cumulatively over time, and taking into account the potential interrelated effects.

**Hazard:** A potentially damaging physical event, phenomenon or human activity that may cause the loss of life or injury, property damage, social and economic disruption or environmental degradation.

**Country:** A nation with its own government, occupying a particular territory (Oxford Dictionary)

Note: Terminology will be discussed and finalized in the Open-ended Intergovernmental Working Group for Sendai Framework for Disaster Risk Reduction.

**Method of computation:** Summation of progress data of each early warning system components from National Progress Report of the Sendai Monitor. Compounding methodology should be developed by UNISDR.

**Rationale and interpretation** (mainly based on TST Issue Brief 2-5, 20, and 23-26):

Cities around the world, as well as rural populations, witness growing disaster risks. Impacts of climate change on sustainable development are observed through both slow-onset events (e.g. sea level rise, increasing temperatures, ocean acidification, glacial retreat and related impacts, salinization, land and forest degradation, loss of biodiversity and desertification) and extreme weather events. Poor urban populations must often resort to unsustainable coping strategies and mechanisms.

Cities are some of the most vulnerable areas to natural hazards. Unplanned urban development (e.g. informal settlements, overcrowding, inadequate infrastructures) exacerbates urban vulnerability to climate change impacts and hydro-meteorological and geological hazards. Over half of all coastal areas are urbanized and 21 of the world's 33 mega cities lie in coastal flood zones. SIDS and coastal regions are particularly affected by sea level rise, coastal flooding and erosion, and extreme events (e.g. tsunamis and storm surges) due to the undermining natural protective barriers, low levels of development combined with rapid population growth in low lying coastal areas and inadequate

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capacity to adapt. Poor urban populations must often resort to unsustainable coping strategies and mechanisms.

Rio+20 advocates sustainable agriculture which enhances resilience to climate change and natural disasters (The Future We Want). Agriculture is already adversely affected by unpredictable and extreme effects of climate change. The environment for food production is increasingly challenging, particularly for smallholders, due to environmental and climate-related factors. Similar to extreme income poverty, food insecurity continues to be predominantly concentrated in rural areas of developing countries, and disproportionately affects poor farmers, agricultural workers, pastoralists and rural communities.

Desertification, land degradation and drought exacerbate climate change impacts and diminish sustainable livelihoods and socio-economic development. Biodiversity provides ecosystem resilience and contributes to the ability to respond to unpredictable global changes and natural disasters. Healthy ecosystems act as buffers against natural hazards, providing valuable yet underutilized approaches for climate change adaptation, enhancing natural resilience and reducing the vulnerability of people, for example to floods and the effects of land degradation. These ecosystem services improve the sustainability and economic efficiency of built infrastructure, and are critical for sustainable and resilient urban areas.

These challenges require enhanced vulnerability and impact assessments, mitigation and adaptation plans, resilience building and DRR strategies. The need of adapting to climate change and supporting climate-sensitive sectors (e.g. fisheries, tourism) in coastal regions will require the development of information products and services based on climate predictions. A comprehensive sustainable agriculture agenda will need to build robust knowledge and improve monitoring, early detection and forecasting in agriculture for informed decision making.

Significant progress has been made in the establishment of observation and early warning systems at the national and regional levels, which have together with improved effective emergency preparedness and response planning, resulted in a significant reduction of lives being lost. However not all risk-exposed areas and hazards are yet covered. Space technology and its applications, including climate products and services, can play an important complementary role.

The indicator will build bridge between the SDG and the Sendai Framework because the availability and access to risk information and early warning system is one of Sendai Framework global targets and will be also monitored under the Sendai Framework Monitoring System.

**Sources and data collection:** National Progress Report of the Sendai Monitor, reported to UNISDR

**Disaggregation:** by country

**Comments and limitations:**

- ✓ This is proposal by UNISDR based on our experience and knowledge built in the period under the Hyogo Framework for Action (2005-2015). The proposed indicator was further reviewed and examined by other UN agencies including FAO, GFDRR, IOM, UNCCD, UNDP, UNESCAP, UNESCO, UNFPA, UNHCR, UNOCHA, UNOOSA, UNOPS, UNU, UNWOMEN, WHO and WMO (though not all organizations listed here provided comments for this indicator) and submitted to the IAEG process in early-July 2015, then again reviewed by the Technical Expert Group consisting of more than 60 experts from UN system, academic and research, civil sector and private sector in 27-29 July 2015 and submitted and examined by the Member States in the 1<sup>st</sup> Open-ended

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Intergovernmental Expert Working Group on Indicators and Terminology on Disaster Risk Reduction held in 29-30 September 2015. The suggested indicator is currently under review by the Member States and UNISDR is receiving written inputs from the Member States.

- ✓ The proposed indicators will be also used to monitor Sendai Framework global targets and therefore the detailed definitions shall be discussed and agreed in Open-ended Intergovernmental Expert Working Group on Indicators and Terminology on Disaster Risk Reduction, as outlined in Sendai Framework for Disaster Reduction 2015-2030. The Working Group is likely to finalize the discussion and submit the final report to the GA in December 2016.
- ✓ Reporting of the HFA Monitor and the succeeding Sendai Monitor under development is not mandatory but it is only global database collecting DRR policy information. The HFA Monitor started in 2007 and over time, the number of countries reporting to UNISDR increased from 60 in 2007 to 133 in 2013. Because there is no specific data addressing this indicator at this moment, a baseline as of 2015 should be created through a questionnaire to all countries in order to monitor both the Sendai Framework and the SDGs.

**Gender equality issues:** Not included.

**Data for global and regional monitoring:** Summation of data from National Progress Report of the Sendai Monitor

**Main linkage with SDG Targets:**

*This indicator is proposed as “multi-purpose indicator”.*

**Target 13.3:**

Improve education, awareness-raising and human and institutional capacity on **climate change mitigation, adaptation, impact reduction and early warning**

**Target 15.3:**

By 2030, combat desertification, restore degraded land and soil, including **land affected by desertification, drought and floods**, and strive to achieve a land-degradation-neutral world

**Target 2.4:**

By 2030, ensure sustainable food production systems and implement **resilient agricultural** practices that increase productivity and production, that help maintain ecosystems, that **strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters** and that progressively improve land and soil quality

**Target 11.5:**

By 2030, significantly reduce **the number of deaths and the number of people affected** and substantially decrease the direct economic losses relative to global gross domestic product caused by **disasters**, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations

**Target 13.1:**

Strengthen **resilience and adaptive capacity to climate-related hazards and natural disasters** in all countries

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### Target 3.d:

Strengthen the capacity of all countries, in particular developing countries, for **early warning, risk reduction and management of national and global health risks**

### Supplementary information:

#### Related targets in the Sendai Framework for Disaster Risk Reduction 2015-2030:

Substantially increase the *availability of and access to multi-hazard early warning systems and disaster risk information and assessments* to the people by 2030.

#### Sendai Framework for Disaster Risk Reduction 2015-2030:

([http://www.preventionweb.net/files/43291\\_sendaiframeworkfordrren.pdf](http://www.preventionweb.net/files/43291_sendaiframeworkfordrren.pdf))

## Target 13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.

**Proposed Alternative Indicator by UNISDR:** *Number of countries that have multi-hazard national risk assessment with results in an accessible, understandable and usable format for stakeholders and people*

### Definition:

**Risk assessment:** An approach to determine the nature and extent of risk by analysing potential hazards and evaluating existing conditions of vulnerability that together could potentially harm exposed people, property, services, livelihoods and the environment on which they depend.

**Multi-hazard:** addressing (1) selection of multiple major hazards that the country faces, and (2) specific contexts where hazardous events may occur simultaneously or cumulatively over time, and taking into account the potential interrelated effects.

**Hazard:** A potentially damaging physical event, phenomenon or human activity that may cause the loss of life or injury, property damage, social and economic disruption or environmental degradation. (Proposed updated Terminology on Disaster Risk Reduction, August 2015)

**Accessible, understandable and usable format:** The targeted stakeholders can access the outputs with ease, understand it and use it for their respective needs.

**Stakeholders and People:** Stakeholder is a person or an entity with a specific interest or concern in having access to use risk assessment results and people refer to the citizens of a country or a city.

**Country:** A nation with its own government, occupying a particular territory (Oxford Dictionary)

Note: Terminology will be discussed and finalized in the Open-ended Intergovernmental Working Group for Sendai Framework for Disaster Risk Reduction.

**Method of computation:** Summation of data from National Progress Report of the Sendai Monitor.

**Rationale and interpretation** (mainly based on TST Issue Brief 2-5, 20, and 23-26):

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Cities around the world, as well as rural populations, witness growing disaster risks. Impacts of climate change on sustainable development are observed through both slow-onset events (e.g. sea level rise, increasing temperatures, ocean acidification, glacial retreat and related impacts, salinization, land and forest degradation, loss of biodiversity and desertification) and extreme weather events. Poor urban populations must often resort to unsustainable coping strategies and mechanisms.

Cities are some of the most vulnerable areas to natural hazards. Unplanned urban development (e.g. informal settlements, overcrowding, inadequate infrastructures) exacerbates urban vulnerability to climate change impacts and hydro-meteorological and geological hazards. Over half of all coastal areas are urbanized and 21 of the world's 33 mega cities lie in coastal flood zones. SIDS and coastal regions are particularly affected by sea level rise, coastal flooding and erosion, and extreme events (e.g. tsunamis and storm surges) due to the undermining natural protective barriers, low levels of development combined with rapid population growth in low lying coastal areas and inadequate capacity to adapt. Poor urban populations must often resort to unsustainable coping strategies and mechanisms.

Rio+20 advocates sustainable agriculture which enhances resilience to climate change and natural disasters (The Future We Want). Agriculture is already adversely affected by unpredictable and extreme effects of climate change. The environment for food production is increasingly challenging, particularly for smallholders, due to environmental and climate-related factors. Similar to extreme income poverty, food insecurity continues to be predominantly concentrated in rural areas of developing countries, and disproportionately affects poor farmers, agricultural workers, pastoralists and rural communities.

Desertification, land degradation and drought exacerbate climate change impacts and diminish sustainable livelihoods and socio-economic development. Biodiversity provides ecosystem resilience and contributes to the ability to respond to unpredictable global changes and natural disasters. Healthy ecosystems act as buffers against natural hazards, providing valuable yet underutilized approaches for climate change adaptation, enhancing natural resilience and reducing the vulnerability of people, for example to floods and the effects of land degradation. These ecosystem services improve the sustainability and economic efficiency of built infrastructure, and are critical for sustainable and resilient urban areas.

These challenges require enhanced vulnerability and impact assessments, mitigation and adaptation plans, resilience building and DRR strategies. The need of adapting to climate change and supporting climate-sensitive sectors (e.g. fisheries, tourism) in coastal regions will require the development of information products and services based on climate predictions. A comprehensive sustainable agriculture agenda will need to build robust knowledge and improve monitoring, early detection and forecasting in agriculture for informed decision making.

Significant progress has been made in the development of risk assessment profiles at the national and regional levels, which have together with improved effective emergency preparedness and response planning, resulted in a significant reduction of lives being lost. However not all risk-exposed areas and hazards are yet covered. Space technology and its applications, including climate products and services, can play an important complementary role.

The indicator will build bridge between the SDG and the Sendai Framework because the availability and access to risk information and early warning system is one of Sendai Framework global targets and will be also monitored under the Sendai Framework Monitoring System.

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**Sources and data collection:** National Progress Report of the Sendai Monitor, reported to UNISDR

**Disaggregation:** by country

**Comments and limitations:**

- ✓ This is proposal by UNISDR based on our experience and knowledge built in the period under the Hyogo Framework for Action (2005-2015). The proposed indicator was further reviewed and examined by other UN agencies including FAO, GFDRR, IOM, UNCCD, UNDP, UNESCAP, UNESCO, UNFPA, UNHCR, UNOCHA, UNOOSA, UNOPS, UNU, UNWOMEN, WHO and WMO (though not all organizations listed here provided comments for this indicator) and submitted to the IAEG process in early-July 2015, then again reviewed by the Technical Expert Group consisting of more than 60 experts from UN system, academic and research, civil sector and private sector in 27-29 July 2015 and submitted and examined by the Member States in the 1<sup>st</sup> Open-ended Intergovernmental Expert Working Group on Indicators and Terminology on Disaster Risk Reduction held in 29-30 September 2015. The suggested indicator is currently under review by the Member States and UNISDR is receiving written inputs from the Member States.
- ✓ The proposed indicators will be also used to monitor Sendai Framework global targets and therefore the detailed definitions shall be discussed and agreed in Open-ended Intergovernmental Expert Working Group on Indicators and Terminology on Disaster Risk Reduction, as outlined in Sendai Framework for Disaster Reduction 2015-2030. The Working Group is likely to finalize the discussion and submit the final report to the GA in December 2016.
- ✓ Reporting of the HFA Monitor and the succeeding Sendai Monitor under development is not mandatory but it is only global database collecting DRR policy information. The HFA Monitor started in 2007 and over time, the number of countries reporting to UNISDR increased from 60 in 2007 to 133 in 2013. Because there is no specific data addressing this indicator at this moment, a baseline as of 2015 should be created through a questionnaire to all countries in order to monitor both the Sendai Framework and the SDGs.

**Gender equality issues:** Not included.

**Data for global and regional monitoring:** Summation of data from National Progress Report of the Sendai Monitor

**Main linkage with SDG Targets:**

*This indicator is proposed as “multi-purpose indicator”.*

**Target 13.3:**

Improve education, awareness-raising and human and institutional capacity on **climate change mitigation, adaptation, impact reduction and early warning**

**Target 15.3:**

By 2030, combat desertification, restore degraded land and soil, including **land affected by desertification, drought and floods**, and strive to achieve a land-degradation-neutral world

**Target 2.4:**

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By 2030, ensure sustainable food production systems and implement **resilient agricultural** practices that increase productivity and production, that help maintain ecosystems, that **strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters** and that progressively improve land and soil quality

### Target 11.5:

By 2030, significantly reduce **the number of deaths** and **the number of people affected** and substantially decrease the direct economic losses relative to global gross domestic product caused by **disasters**, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations

### Target 13.1:

Strengthen **resilience and adaptive capacity to climate-related hazards and natural disasters** in all countries

### Target 1.5:

By 2030, build **the resilience of the poor and those in vulnerable situations** and reduce their **exposure and vulnerability to climate-related extreme events** and other economic, social and environmental shocks and **disasters**

### Target 3.9:

By 2030, substantially reduce the number of **deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination**

### Target 3.6:

By 2020, halve the number of **global deaths and injuries from road traffic accidents**

### Target 3.d:

Strengthen the capacity of all countries, in particular developing countries, for **early warning, risk reduction and management of national and global health risks**

### Supplementary information:

#### Related targets in the Sendai Framework for Disaster Risk Reduction 2015-2030:

Substantially increase the **availability of and access to multi-hazard early warning systems and disaster risk information and assessments** to the people by 2030.

#### Sendai Framework for Disaster Risk Reduction 2015-2030:

([http://www.preventionweb.net/files/43291\\_sendaiframeworkfordrren.pdf](http://www.preventionweb.net/files/43291_sendaiframeworkfordrren.pdf))

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**Target 13.a Implement the commitment undertaken by developed-country parties to the United Nations Framework Convention on Climate Change to a goal of mobilizing jointly \$100 billion annually by 2020 from all sources to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation and fully operationalize the Green Climate Fund through its capitalization as soon as possible.**

**Proposed Additional Indicator from OECD:** *climate change finance for developing countries*

### *Definition and method of computation*

Most work to date has concentrated on estimating flows of [official development assistance](#) (ODA) and other official flows in support of climate change adaptation or mitigation, as measured by the OECD [climate change markers](#) (the Rio markers), and in collaboration with the MDBs to present [an integrated picture of both bilateral and multilateral climate-related development finance flows](#). These data reflect climate-related development finance flows and do not necessarily equate to climate finance reported towards the UNFCCC goal.

At the request of the current and incoming UNFCCC COP Presidencies, the OECD has provided a separate aggregate estimate of climate finance mobilised and an indication of the progress towards the USD 100 billion a year goal. This report has been undertaken by the OECD in collaboration with Climate Policy Initiative (CPI). The report provides an aggregate estimate of public and private climate finance mobilised by developed countries for developing countries This includes private flows mobilised by developed country public finance interventions. The data are presented in the report [Climate Finance in 2013-14 and the USD 100 billion goal](#).

All data expressed in US dollars at the average annual exchange rate.

\*

### **OECD DAC Climate-related development finance statistics**

#### ***Rationale and interpretation***

ODA is the accepted measure of international development co-operation. Climate-related development finance captures the extent to which climate adaptation and mitigation considerations have been mainstreamed and integrated into international development co-operation. Activities are identified as targeting climate change adaptation and/or mitigation considerations as a “principal” objective, where the activity would not have been funded but for that objective; and as targeting climate change considerations as a “significant” objective, reflecting other prime objectives but where activities have been formulated or adjusted to help meet the relevant environmental concerns.

The Rio marker statistics are descriptive rather than strictly quantitative. They allow for an approximate quantification of financial flows targeting the objectives of the Rio conventions. As such, these statistics may not be identical to the figures presented by Parties in their reporting to the UNFCCC, where reporting is often based on, but may not be directly comparable to Rio marker data. In particular different methodologies are applied by parties to account only for a certain share of finance targeting climate change marked as a “significant” objective. These shares range across parties from 0-100% and there is no common reporting standard and limited information on parties’ interpretations.



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## *Sources and data collection*

ODA and OOF data are compiled by the Development Assistance Committee (DAC) of the Organisation for Economic Co-operation and Development from returns submitted by its member countries and other aid providers. Data are available [here](#).

## *Disaggregation*

ODA and OOF data are generally obtained on an activity level, and include numerous parameters. They can thus be disaggregated by provider and recipient country; by type of finance, and by type of resources provided etc.

## *Comments and limitations*

Further work will be needed to arrive at a definitive measurement of flows against the \$100 billion target.

## *Gender equality issues*

The data include a [“gender equality” marker](#) which identifies individual projects that have a clear gender dimension.

## *Data for global and regional monitoring*

Data are available for essentially all high-income countries, and for an increasing number of middle-income aid providers.

## *Supplementary information*

See [Climate-related development finance in 2013](#)

See [Handbook on the OECD-DAC Climate Markers](#)

\*

## **Climate finance in 2013-14, OECD in collaboration with CPI**

This special exercise provides an aggregate estimate of climate finance in the context of the USD 100 billion goal, based on the following elements of public and private finance:

- Provisional estimates of bilateral public climate finance based on Parties’ expected reporting to the UNFCCC (OECD survey).
- Multilateral public climate finance from MDBs and key climate funds that can be attributed to developed countries (MDB reporting and OECD analysis);
- Climate-related officially supported export credits, predominately to renewable energy (OECD), together with supplementary Party reporting (OECD survey);

A preliminary and partial estimate of private finance mobilised by bilateral and multilateral channels attributed to developed countries (OECD analysis drawing on MDB and DFI reporting). The methodology for estimating private flows, used in the study with Climate Policy Initiative, concentrates on private flows stimulated by public action, in line with the objective to “mobilise” a total of \$100 billion a year by 2020.

Further details on the accounting framework and methodology are provided in the report. See [Climate Finance in 2013-14 and the USD 100 billion goal](#).

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### *References*

OECD, 2015 [Climate Change: OECD DAC External Development Finance Statistics](#)

OECD, 2015: *Climate Finance in 2013-14 and the USD 100 billion goal.*, a report by the OECD in collaboration with CPI.

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**Target 14.1** By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution.

**Proposed Alternative Indicator by UNESCO:** *Floating plastic debris (particles/km<sup>2</sup>)*

**Definition and method of computation:** Relative quantities of floating micro- (<4.75mm) and macro- (>4.75mm) plastics in Large Marine Ecosystems (LMEs), based on a model of surface water circulation and the use of proxy inputs (shipping density, coastal population density, area of impermeable catchment i.e. urban areas with rapid run-off).

**Rationale and interpretation:** Plastic pollution is globally distributed across all oceans due to its properties of buoyancy and durability, and the absorption of toxicants to plastic while traveling through the environment have led some researchers to claim that synthetic polymers in the ocean should be regarded as hazardous waste. However, there are rather few reliable observational data on the quantities of macro- and micro-plastics in most LMEs. This method provides an internally-consistent approach to indicating the relative importance of floating plastic in each LME.

**Sources and data collection:** Lebreton L, Greer S, Borrero J (2012) Numerical modeling of floating debris in the world's oceans. *Mar Poll Bull* 64: 653–661. Eriksen et al., Global estimate of plastic pollution particle count and weight floating in the world's oceans (accepted for publication with minor revision in *PlosOne*). This indicator has been developed in all Large Marine Ecosystems, and the methodology is readily available.

Relative quantities of floating plastics can be estimated using a combination of hydrodynamic and particle-tracking models (HYCOM/NCODA and Pol3DD).

**Disaggregations:** Data are spatially defined and can be represented at a variety of spatial scales.

**Comments and limitations:** The data are generated from an ocean circulation model, with inputs and outputs based on a number of assumptions. This approach was adopted due to the lack of adequate observational data of floating plastics and microplastics on a global LME scale. Tracking what Member States are actually doing in qualitative terms to achieve this target may also need to be measured. Possible indicators would be: the existence of regulatory regimes and some evidence of implementation; actions taken to comply with actions taken at the national and regional level to minimise and manage waste from land-based activities.

**Gender equality issues:** None.

**Data for regional and global monitoring:** There is currently a lack of quantitative observational data from established monitoring programmes to adequately describe the spatial and temporal patterns of the abundance of floating plastic and microplastic in LMEs and the open ocean.

**Supplementary information:** The following data are available together with the shapefile: LME\_NUMBER: from 1 to 66 LME\_NAME microcount: count of micro plastic per km<sup>2</sup> microweigh: micro-plastics weight (g/km<sup>2</sup>) macrocount: count of macro plastics per km<sup>2</sup> macroweigh: macro-plastics weight (g/km<sup>2</sup>) totalcount totalweight. Lebreton L, Greer S, Borrero J (2012) Numerical modeling of floating debris in the world's oceans. *Mar Poll Bull* 64: 653–661. Eriksen et al., Global estimate of plastic pollution particle count and weight floating in the world's oceans (accepted for publication with minor revision in *PlosOne*).

**Responsible entities:** Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP).

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**Current data availability:** ESRI Shapefile lmes\_plastics\_modeldistribution\_1.0.zip Zipped package with data as shapefiles and CSV, and meta-information.

[http://onesharedocean.org/public\\_store/lmes\\_plastics\\_modeldistribution/lmes\\_plastics\\_modeldistribution\\_1.0.zip](http://onesharedocean.org/public_store/lmes_plastics_modeldistribution/lmes_plastics_modeldistribution_1.0.zip)

**References:** <http://onesharedocean.org/glossary#LMEs>

### **Target 14.1 By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution.**

#### **Proposed Alternative Indicator by UNESCO: *Nutrient Loading and Eutrophication Potential***

**Definition and method of computation:** The indicator is calculated regionally from rivers as they enter the land–sea boundary of the coastal basin, ideally at the scale of individual river basins. It is based on merging two sub-indicators: 1) the amount (load) of nitrogen carried by rivers, and 2) nutrient ratios based on nitrogen, phosphorus and dissolved silica exports. Inputs of nutrients, and their sources, from watersheds draining into the coastal environment can be calculated by using the Global Nutrient Export from WaterSheds (NEWS) model, as done for the TWAP project. These model results should be supplemented with local measurements from individual rivers or nationally aggregated water quality reports to validate and adjust the modelled indicators. Sub-indicators are categorized into risk categories based on the literature and expert knowledge to produce ordinal sub-indicator values. These in turn are merged using expert knowledge to produce a single, ordinal indicator.

**Rationale and interpretation:** Land use and human activities in watersheds are affecting nutrients transported by rivers into coastal waters. Excess nutrients (nitrogen (N), phosphorus (P), silica (Si)) entering coastal waters can result in high biomass algal blooms, leading to hypoxic or anoxic conditions, increased turbidity, and changes in community composition, among other effects. In addition to the amount of nutrients, changes in the ratio of nutrients entering coastal waters can result in dominance by algal species (e.g., dinoflagellates) that have deleterious effects (toxic, clog gills of shellfish, etc.) on ecosystems and humans. An overall indicator of coastal nutrient loading and eutrophication potential, based on 2 sub-indicators, was developed. The sub-indicators were based on dissolved inorganic N loading rates and on nutrient ratios.

**Sources and data collection:** The indicator and sub-indicators are calculated by using the Global Nutrient Export from WaterSheds (NEWS) model. For reassessments in future years, the model will require updates to all model drivers, such as climate, fertilizer applications, sewage exports, etc. That effort is typically very substantial and incorporates data from multiple sources, though partner projects such as the IMAGE project may carry out portions of it independently. In addition, model results should be supplemented with local measurements from individual rivers or nationally aggregated water quality reports to validate and adjust the modelled indicators. However, timely local measurements are often absent or difficult to access. A collaboration should be developed with water quality monitoring and assessment programs such as the UNEP-led GEMS/Water and World Water Quality Assessment (WWQA) Report.

**Disaggregation:** The indicator ideally should be calculated based on nutrient exports from individual rivers as they drain into the land-sea boundary. From this source, it can be aggregated to national or regional scales.

**Comments and limitations:** Updating the model in the future will require updates to all model drivers, such as climate, fertilizer applications, sewage exports, etc. That effort is typically very substantial, though other partner projects such as the IMAGE project may carry out portions of it independently. In addition, model results should be supplemented with local measurements from individual rivers or nationally aggregated water quality reports

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to validate and adjust the modelled indicators. However, timely local measurements are often absent or difficult to access. A collaboration should be developed with water quality monitoring and assessment programs such as the UNEP-led GEMS/Water and World Water Quality Assessment (WWQA) Report.

**Gender equality issues:** None.

**Data for regional and global monitoring:** See section on **Sources and data collection**.

**Supplementary information:** TWAP LME's Report, Nutrient Pollution chapter, as well as the following:

- *Beusen, A.H.W., A.F. Bouwman, H.H. Dürr, A.L.M. Dekkers and J. Hartmann. 2009. Global patterns of dissolved silica export to the coastal zone: Results from a spatially explicit global model. Global Biogeochemical Cycles, 23, GB0A02, doi:10.1029/2008GB003281*
- *Garnier, J., A. Beusen, V. Thieu, G. Billen, and L. Bouwman (2010), N:P: Si nutrient export ratios and ecological consequences in coastal seas evaluated by the ICEP approach, Global Biogeochem. Cycles, 24: doi:10.1029/2009GB003583*
- *Mayorga, E., S.P. Seitzinger, J.A. Harrison, E. Dumont, A.H.W. Beusen, A.F. Bouwman, B.M. Fekete, C. Kroeze and G. Van Drecht. 2010. Global Nutrient Export from WaterSheds 2 (NEWS 2): Model development and implementation. Environmental Modelling & Software 25: 837-853, doi:10.1016/j.envsoft.2010.01.007*
- *Seitzinger, S.P., E. Mayorga, A.F. Bouwman, C. Kroeze, A.H.W. Beusen, G. Billen, G. Van Drecht, E. Dumont, B.M. Fekete, J. Garnier and J.A. Harrison. 2010. Global river nutrient export: A scenario analysis of past and future trends. Global Biogeochemical Cycles 24:GB0A08, doi:10.1029/2009GB003587*

**Responsible entities:** The indicator was produced for the TWAP LME project by Sybil Seitzinger (University of Victoria, Canada) and Emilio Mayorga (University of Washington, USA).

**Current data availability:** The calculated indicator for near-contemporary conditions (year 2000 baseline) is available at the scale of LME's at the TWAP LME One Shared Ocean website, <http://onesharedocean.org/lmes>, under Pollution > Nutrients > Nutrient risk 2000.

**References:** None.

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**Target 14.2** By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans.

### **Proposed Additional Indicator by UNESCO:** *Carbonate chemistry parameters*

**Definition and method of computation:** The parameters are defined in the 'Global Ocean Acidification Observing Network: Requirements and Governance Plan' (JA Newton, RA Feely, EB Jewett, P Williamson, J Mathis). At least two of the following parameters have to be measured: pH, DIC, total alkalinity and CO<sub>2</sub>. The methods are further defined in the document published by in the best practice (Dickson 2007).

**Rationale and interpretation:** The description of the carbon system of the ocean is crucial to detect the impact of ocean acidification on the marine environment. Effects of increased acidity cannot be defined if these parameters are not continuously monitored in order to separate between natural variability and human induced changes.

**Sources and data collection:** In the northern hemisphere continued measurements already exist (<http://goa-on.org>); nevertheless, in the southern hemisphere and in the equatorial areas a monitoring system is still missing. The GOA-ON supports capacity building in different regions, but it is important that each nation includes these parameters in their national monitoring programs.

**Disaggregations:** None.

**Comments and limitations:** Technical and human capacity does not exist to date in developing countries. Knowledge and technology transfer is needed to establish sustained measurements.

**Gender equality issues:** None.

**Data for regional and global monitoring:** All these data will be used for global models in order to improve predictions and forecasts.

**Supplementary information:** None.

**Responsible entities:** Intergovernmental Oceanographic Commission of UNESCO in collaboration with the Global Ocean Acidification Network (GOA-ON).

**Current data availability:** Data from the Carbon Dioxide Information Analysis Center (CDIAC), the Global Ocean Acidification Observing Network (GOA-ON), and International Group for Marine Ecological Time Series (IGMETS).

**References:** None.

## Annex 1: Compilation of Metadata for Additional and Replacement Indicators proposed by International Organisations and Entities

**Target 14.2** By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans.

### **Proposed Additional Indicator by UNESCO:** *Growth in scientific ocean acidification cooperation*

**Definition and method of computation:** In order to capture the level of existing scientific cooperation in Ocean Acidification (OA), an Index based on the number of countries which participate in international scientific networks (bilateral/multilateral) related to ocean acidification, e.g., the Global Ocean Acidification Observing Network (GOA-ON)/ Number of national and regional projects and strategies dedicated to multidisciplinary and multi-institutional investigation related to ocean acidification including other environmental stressors. Part (1) of the indicator would measure national scale commitment to understanding the impacts of ocean acidification, while part (2) would measure twinning or regional projects where capacity building for development is the focus. Milestones could be set, i.e. have targets for 2020, 2025, 2030 and so on. This indirect indicator makes it possible to connect and identify the source and result of Ocean Acidification. The impacts of ocean acidification are often experienced in areas, which are not the biggest CO<sub>2</sub> emitters, e.g. the coral triangle, SIDS. Enhanced cooperation between countries will enable highly vulnerable countries to develop strategies to enhance the resilience to ocean acidification and to protect marine ecosystem services, e.g. food provision.

**Rationale and interpretation:** The huge knowledge gaps in highly vulnerable areas make it mandatory to increase collaboration and cooperation worldwide. Only a well-integrated global scientific community - of scientists who know each other - can fully collaborate and profit from capacity building and technology transfer.

**Sources and data collection:** Possible data resources besides the GOA-ON are bibliometric data bases that collect the needed author information.

**Disaggregations:** The information can be disaggregated for countries, regions, continents, as well as for specific branches of marine science, e.g. biology, chemistry, physics, as well as gender.

**Comments and limitations:** None.

**Gender equality issues:** Through gender disaggregation of the GOA-ON and bibliometric data, the indicator will allow close monitoring of gender equality issues in ocean acidification cooperation.

**Data for regional and global monitoring:** Data are collected through a survey developed under IOC's Global Ocean Science Report.

**Supplementary information:** None.

**Responsible entities:** Intergovernmental Oceanographic Commission of UNESCO, under the Global Ocean Science Report endorsed by IOC Member States.

**Current data availability:** Data from the Global Ocean Acidification Observing Network (GOA-ON) as well as from bibliometric databases.

**References:** None.

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**Target 14.2** By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans.

**Proposed Additional Indicator by UNESCO:** *Loss of marine biodiversity caused by ocean acidification*

**Definition and method of computation:** Biodiversity can be computed by specific accepted indicators. In addition, the increase of red listed marine species in combination with acidified conditions give a good proxy for that.

**Rationale and interpretation:** Highly vulnerable areas are quite often areas of high biodiversity, i. e. coral reefs. The establishment of coral reef monitoring programs, including the observation of the carbon system, is one of the best examples where this indicator can be applied.

**Sources and data collection:** Existing databases (mentioned below) together with new established observation programs will be the basis for this indicator, which of course includes alignment of methods, capacity building and increased global and regional cooperation.

**Disaggregations:** This information can be disaggregated for environments, countries, continents, regions.

**Comments and limitations:** Spatial and temporal resolution of measurements has to be improved, vulnerable taxa have to be identified and capacity building has to be conducted.

**Gender equality issues:** None.

**Data for regional and global monitoring:** All these data will be used for global models in order to improve predictions and forecasts.

**Supplementary information:** None.

**Responsible entities:** Intergovernmental Oceanographic Commission of UNESCO, INEP and CBD.

**Current data availability:** Data from the Convention on Biological Diversity (CBD), the Ocean Biogeographic Information System, natureserve, and the IUCN red list.

**References:** None.



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**Target 14.5** By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations.

**Proposed Additional Indicator by WHO-UNICEF/JMP:** *Percentage of population with handwashing facilities with soap and water at home.*

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**Target 14.6** By 2020, prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing, eliminate subsidies that contribute to illegal, unreported and unregulated fishing and refrain from introducing new such subsidies, recognizing that appropriate and effective special and differential treatment for developing and least developed countries should be an integral part of the World Trade Organization fisheries subsidies negotiation

**Proposed Replacement Indicator by FAO:** *Progress by countries in [level/degree of] the implementation of international instruments aiming to combat IUU fishing*

### 1. What is the precise definition of the indicator?

The indicator focuses on the effort to combat IUU fishing through the effective implementation of key international instruments relevant to IUU fishing.

The indicator is based on FAO member country responses to the Code of Conduct for Responsible Fisheries (CCRF) survey questionnaire<sup>67</sup> which is circulated by FAO every two years to members and IGOs and INGOs. This indicator is calculated on the basis of the efforts being made by countries to implement key international instruments aiming to combat IUU fishing, as reported in a given year of the survey.

#### **Indicator variables**

1. Development and implementation of national plan of action (NPOA) to combat IUU fishing in line with the IPOA-IUU
2. Ratification and implementation of the 2009 FAO Agreement on Port State Measures
3. Ratification and implementation of the 1993 FAO Compliance Agreement

#### **Indicator calculation**

The weight given to each of the variables in calculating the indicator value for each country are as follows:

- Variable 1 – 40%
- Variable 2 – 40%
- Variable 3 – 20%

#### **Scoring**

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<sup>67</sup> Progress on the implementation of the FAO Code of Conduct for Responsible Fisheries is being reported on by FAO member countries using a self-assessment survey conducted every two years and presented to the biennial sessions of the Committee on Fisheries (COFI). All data is collected via the Code of Conduct of Responsible Fisheries [CCRF] questionnaire that is administered by FAO/FI.

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The absence of an NPOA and the lack of ratification of the binding Agreements will automatically result in a “zero” score for the respective variables, unless there is evidence that efforts to address the matter are being made (in which case some points are awarded). For each variable, the maximum score will be obtained if implementation is also present, as reported. As this indicator would be reported in the biannual CCRF survey, difference in score as compared to the preceding year of the previous survey response will reflect the progress made during the survey periods.

### **2. How is the indicator linked to the specific TARGET as worded in the OWG Report?**

The indicator is not directly linked to a given specific target, but IUU fishing is addressed both in Targets 14.4 and 14.6. Information on progress made in combating IUU fishing through implementation of international instruments however can be compiled and presented to serve as essential data for monitoring of efforts towards achieving the said Targets.

### **3. Does the indicator already exist and is it regularly reported?**

There is currently not such an indicator but FAO’s biannual survey on CCRF implementation already compiles responses by Members on the above mentioned instruments. Therefore, survey responses and results on this indicator could be reported and presented every two years to COFI. This information could serve the purposes of monitoring on Targets 14.4 and 14.6.

### **4. Comment on the reliability, potential coverage, comparability across countries, and the possibility to compute the indicator at sub-national level.**

#### Reliability

As long FAO Member Countries do respond to the CCRF Survey, as managed by FI, and responses are reviewed and compiled and presented by FI to COFI, the reliability and comprehensiveness of the global information and data set provided will enjoy significant and growing political recognition among FAO’s Member Countries and the general public.

#### Coverage

The proposed indicator on IUU fishing would be global, covering all FAO members.

#### Comparability across countries

It would be possible to compare across countries and regions.

#### Sub-national estimates

Currently not available

### **5. Is there already a baseline value for 2015?**

As indicated, the proposed indicator is new, although the CCRF survey has been including questions on efforts undertaken against IUU fishing. The new indicator would need a baseline which could be formulated for the next survey period.

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**Target 14.7** By 2030, increase the economic benefits to Small Island developing States and least developed countries from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism.

**Proposed Additional Indicator by FAO:** *Productivity of aquaculture in utilizing natural resources (land, water and wild stock)*

### 1. What is the *precise* definition of the indicator?

The indicator “**Productivity of aquaculture in utilizing natural resources (land, water and wild stock)**” is to provide for a measure of the productivity of the aquaculture production process, and is defined as the value and volume of aquaculture production per unit amount of natural resource utilized in the aquaculture production process.

#### **Dimensions:**

**Aquaculture production** in volumes (tons in live weight or live weight equivalent) and first-sale (farm-gate) value (USD x1000).

#### **Utilized natural resources:**

1. **Land** area (hectares), as land cover, to include both land and inland water surface areas used for production process, including hatchery, nursery, overwintering and out-growing, (e.g. pond, tank or raceway water surface or inland water surface area allocated/licensed for aquaculture operations using cages, pens or other structures) as well as for supporting areas (e.g. pond dikes, water supply and drainage canals and water treatment facilities, etc.). [This corresponds to an aggregated area of 1.3 and 2.1 of SEEA Land Use classification];

**Sea areas** (hectares) allocated/licensed for aquaculture production operations using cages, pens, rafts, stakes, poles, ropes and lines and other structures. [This corresponds to 4.1 and part of 3.1 SEEA Land Use classification, excluding the area of ‘Seabed and intertidal areas’.]

**Seabed and intertidal areas** (hectares) allocated/licensed for aquaculture production operations (e.g. cultivation of molluscs, sea cucumber and sea urchins, etc., using bottom-sowing, table, bags and baskets and other structures). [This corresponds to a part of 3.1 of SEEA Land Use classification]

Reference should be made to the Land use classification of adopted in the System of Environmental-Economic Accounting 2012 – Central Framework ( [http://unstats.un.org/unsd/envaccounting/seeaRev/SEEA\\_CF\\_Final\\_en.pdf](http://unstats.un.org/unsd/envaccounting/seeaRev/SEEA_CF_Final_en.pdf), relevant classification available at Appendix I-B of pages 289 – 299).

Relevant classifications include:

1.3 – Land used for aquaculture,

2.1 – Inland waters used for aquaculture or holding facilities,

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3.1 – Coastal waters used for aquaculture or holding facilities, and

4.1 – EEZ areas used for aquaculture or holding facilities.

2. **Water** volumes (m<sup>3</sup>) used during production process.

3. **Wild stock**, as fish stocks captured for two main purposes:

(i) landed in volumes (tons in live weight or live weight equivalent) for direct use as feed or for reduction as fish meal and fish oil as feed ingredients for fed aquaculture species, and

(ii) caught in numbers or volume in tons in live weight for use as seed / stocking materials for aquaculture grow-out facilities (capture-based aquaculture)

## 2. How is the indicator linked to the specific TARGET as worded in the OWG Report?

Target 14.7 implies that economic benefits can be derived from the sustainable use of marine resources, including through aquaculture. In fact aquaculture can generate economic benefits, and increase in aquaculture production can increase economic benefits. Increases in aquaculture productivity can further contribute to economic benefits when the natural resources are utilized more efficiently, i.e. when aquaculture yield is enhanced while the use of natural resources is better managed.

## 3. Does the indicator already exist and is it regularly reported?

FAO collects statistical data globally on aquaculture grow-out production (production volumes and values), seed production (in numbers), and surface areas covered (hectares) and volumes (m<sup>3</sup>) of cages and raceway used by aquaculture operations. However, only aquaculture grow-out production volumes and values are published annually, while other compiled data sets (i.e. surface areas covered and volumes of cages and raceways and seed production, as submitted by members) have been utilized only for the internal analysis, e.g. for SOFIA, due to significant problems in quality and coverage of reported data, and rather low reporting rates.

It is emphasized that FAO has data sets for areas (including both land and water surface areas; N.B. hectares or m<sup>2</sup>) covered by aquaculture, as reported to FAO, although these data sets are not yet complete and not yet available for publication/distribution. Progress is being made with compilation and presentation of area coverage data, and may be published in foreseeable future.

In comparison to such land cover data, data on aquaculture water use (i.e. volumes of water; N.B. km<sup>3</sup> or litres) are much more complex and much more difficult to obtain by and from most members. Therefore, many of the countries as well as FAO would as yet not be able to report and present data on water use in aquaculture.

FAO has collected some information on seed collected from wild or produced for aquaculture purposes but these data are still in development. While FAO regularly collects information on amount of fish utilized for fish meals/ fish oil manufacturing, no information is available on a proportion to be used for aquaculture. Similarly, no systematic data is available for amount of trash fish and other wild fish being captured and directly fed for aquaculture grow-out purposes. FAO does not regularly collect data on aquaculture feeds and related ingredients, as such data are not regularly supplied by national statistical

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offices. However, reviews of aquaculture feeds and fertilizer uses and sources of feed ingredients are being undertaken by FAO and other institutions and organizations. Such reviews provide information on e.g. use of fish meal and fish oil for aquaculture feeds. For example, IFFO – the Marine Ingredients Organization (iffo.net), representing industry interests, publishes opinion papers and research report on these aspects but does not regularly issue related data sets.

In conclusion, the proposed aquaculture productivity indicator has not yet been established as a standard and readily available indicator. While data on aquaculture production are regularly provided by members, data sets on the use of natural resources in aquaculture are still being developed, with coverage and quality of data on land area use being much more advanced than water use and use of wild stocks.

FAO/FI continues to successfully enhance the database on land area use in aquaculture while data coverage is still insufficient for many countries, including some major producing countries. Data sets on aquaculture water use and wild-seed collection would require additional substantial investments in most countries. Collection of data on aquaculture feeds would need to be evaluated for feasibility and cost implications both in member countries and in FAO.

In order to make this indicator comparable among countries as well as among economic benefits obtained by other sectors by utilizing natural resources, it is important to establish direct links with the SEEA Central Framework. The SEEA Central Framework already integrated the natural resources in concern here, i.e. water, land and aquatic biological resources. The Coordinating Working Party on Fisheries Statistics (CWP) adopted the standard requirement for aquaculture statistics in 2013 that include the reporting of seeds and feeds and define a format of their measures.

Currently, FAO's aquaculture questionnaire, as dispatched annually to national reporting offices, does include entries for use/coverage of land (hectares) and use of freshwater (m<sup>3</sup>) for some aquaculture systems. However, response by member countries statistical offices as well as in-house capacities for collection and management of such data sets continue to need substantial support.

Research on feasibility and costs of collection of data on seed production, capture-based aquaculture, and fisheries-based aquaculture feeds would need to be planned and would need to be funded most likely with additional resources, if made available.

#### **4. Comment on the reliability, potential coverage, comparability across countries, and the possibility to compute the indicator at sub-national level.**

##### Reliability

Given significant issues of coverage and quality of presently unpublished data on area coverage by aquaculture, the need to further develop data sets on water use, and the required research on feasibility and costs of regularly collecting data on seed production and capture-based aquaculture, let alone fisheries based aquaculture feed production, it appears that the proposed indicator would not satisfy expectations on reliability for all parameters.

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However, the proposed indicator specifically on productivity of aquaculture in utilizing land (land water area covered by aquaculture) can satisfy expectations on reliability as long as member countries commit to collect data on land use in aquaculture.

### Coverage

Given the above, coverage (geographic, temporal) at this stage cannot be assured for this indicator.

### Comparability across countries

Comparability across countries would still need to be researched based on collection of actual data.

### Sub-national estimates

Yes, based on some selected data sets, as available primarily for area coverage by aquaculture operations, it would be possible to compute the indicator for productivity over land cover (i.e. aquaculture production per area coverage; tonnes/ha) for specific aquaculture contexts and/or geographical areas.

#### **5. Is there already a baseline value for 2015?**

There is no baseline value for 2015. Most likely, targets would be meaningful if formulated more specifically for aquaculture species groups or commodities. Significant differences exist not only between various aquaculture systems and species utilized, but also for socio-economic, environmental and developmental parameters between countries and regions.

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**Target 14.a** Increase scientific knowledge, develop research capacity and transfer marine technology, taking into account the Intergovernmental Oceanographic Commission Criteria and Guidelines on the Transfer of Marine Technology, in order to improve ocean health and to enhance the contribution of marine biodiversity to the development of developing countries, in particular small island developing States and least developed countries.

**Proposed Alternative Indicator by UNESCO:** *% of GDP invested in ocean research*

**Definition and method of computation:** GDP data is collected by different intergovernmental organizations, e.g. OECD, as well as by national governments. The needed information can be drawn from the GDP data together with the National Investment (budget) in ocean science, observation, data and information management, and assessment programmes, which can be retrieved from the Global Ocean Science Report (GOSR).

**Rationale and interpretation:** The percentage of the GDP invested into ocean research over time reflects the national, regional and global importance of the ocean to the governments and how it evolves.

**Sources and data collection:** The GOSR is a new reporting mechanisms under the umbrella of the IOC-UNESCO, endorsed by its member states, designed to serve governments and scientists to highlight the need for and improve ocean science-related policies.

**Disaggregations:** National, regional, global assessments can be provided. It can also be disaggregated for gender information.

**Comments and limitations:** The first GOSR is envisaged to be published by the end 2016, so no aggregated database exists to date.

**Gender equality issues:** None.

**Data for regional and global monitoring:** Data are collected through a survey developed under the Intergovernmental Oceanographic Commission's Global Ocean Science Report.

**Supplementary information:** None.

**Responsible entities:** Intergovernmental Oceanographic Commission of UNESCO, under the Global Ocean Science Report endorsed by IOC Member States

**Current data availability:** Data from bibliometric databases, the GOSR, the OECD, and the UNESCO Science Report.

**References:** None.



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**Target 14.a** Increase scientific knowledge, develop research capacity and transfer marine technology, taking into account the Intergovernmental Oceanographic Commission Criteria and Guidelines on the Transfer of Marine Technology, in order to improve ocean health and to enhance the contribution of marine biodiversity to the development of developing countries, in particular small island developing States and least developed countries.

**Proposed Additional Indicator by UNESCO:** *Growth in ocean science capacity, technology and knowledge, as well as cooperation between countries and regions*

**Definition and method of computation:** The growth in ocean science capacity, technology and knowledge can be computed by bibliometric indicators as well as an inventory of existing facilities and employed ocean scientists and field staff.

**Rationale and interpretation:** There is a direct relationship between the above mentioned variables and growth in ocean science capacity. The information provided by bibliometric analysis, including information on author cooperation, will be especially useful for a lot of connected questions.

**Sources and data collection:** The GOSR is a new reporting mechanism under the umbrella of the Intergovernmental Oceanographic Commission of UNESCO (IOC-UNESCO), endorsed by its Member States, designed to serve governments and scientists to highlight the need for and improve ocean science-related policies.

**Disaggregations:** National, regional, global assessments can be provided. It can be also disaggregated by gender, or by different fields of ocean research, in order to address them individually.

**Comments and limitations:** The first Global Ocean Science Report (GOSR) is envisaged to be published by the end 2016, so no aggregated database exists to date.

**Gender equality issues:** None

**Data for regional and global monitoring:** Data are collected through a survey developed under IOC's Global Ocean Science Report.

**Supplementary information:** None.

**Responsible entities:** Intergovernmental Oceanographic Commission of UNESCO, under the Global Ocean Science Report endorsed by IOC Member States.

**Current data availability:** Data from bibliometric databases, the GOSR, the OECD, the Global Ocean Acidification Observing Network (GOA-ON), and the UNESCO Science Report.

**References:** None

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### **Target 14.b Provide access for small-scale artisanal fishers to marine resources and markets**

**Proposed Replacement Indicator by FAO:** *Progress by countries (level/degree of) in the application of a legal/regulatory/ policy/institutional framework which recognizes and protects access rights for small-scale fisheries*

#### **1. What is the *precise* definition of the indicator?**

The indicator is formulated as *Progress by countries in adopting and implementing a legal/regulatory/policy/institutional framework which recognizes and protects access rights for small-scale fisheries*. This indicator measures the “access rights” aspect of the target.

#### **2. How is the indicator linked to the specific TARGET as worded in the OWG Report?**

Due to the diverse nature of small-scale fisheries in different countries, there is no globally agreed definition for small-scale fisheries, which became also evident during the development process of the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication (SSF Guidelines) recently endorsed by the FAO Committee on Fisheries (COFI).

Accordingly, paragraph 2.4 of this new international instrument which complements the Code of Conduct for Responsible Fisheries (CCRF) states that *‘These Guidelines recognize the great diversity of small-scale fisheries and that there is no single, agreed definition of the subsector. Accordingly, the Guidelines do not prescribe a standard definition of small-scale fisheries nor do they prescribe how the Guidelines should be applied in a national context. These Guidelines are especially relevant to subsistence small-scale fisheries and vulnerable fisheries people. To ensure transparency and accountability in the application of the Guidelines, it is important to ascertain which activities and operators are considered small-scale, and to identify vulnerable and marginalized groups needing greater attention. This should be undertaken at a regional, sub-regional or national level and according to the particular context in which they are to be applied. States should ensure that such identification and application are guided by meaningful and substantive participatory, consultative, multilevel and objective-oriented processes so that the voices of both men and women are heard. All parties should support and participate, as appropriate and relevant, in such processes.’*

The target is focusing on *access* to resources and markets for small-scale fisheries, in line with the Rio+20 outcome document para, 175. In order to guarantee secure access, an enabling environment is necessary which recognizes and protects small-scale fisheries rights. Such an enabling environment requires appropriate legal, regulatory and policy frameworks and related institutional mechanisms as well their effective application.

#### **3. Does the indicator already exist and is it regularly reported?**

There is currently not such indicator but the biennial FAO survey questionnaire on the CCRF implementation<sup>68</sup> will include new questions in relation to small-scale fisheries and the implementation

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<sup>68</sup> Progress on the implementation of the FAO Code of Conduct for Responsible Fisheries is being reported on by FAO member countries using a self-assessment survey conducted every two years and presented to the biennial sessions of the Committee on Fisheries (COFI). All data is collected via the Code of Conduct of Responsible Fisheries [CCRF] questionnaire that is administered by FAO/FI. See factsheet for indicator 14.c.1 below.

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of the SSF Guidelines. The first results will become available for COFI in 2016, allowing for the definition of a baseline and starting period for this indicator. COFI 2016 can provide an opportunity to sharpen the questions if needed. In addition, there will be a specific COFI agenda item on small-scale fisheries. Data could therefore be produced at country level every two years for COFI through the electronic questionnaire.

### **4. Comment on the reliability, potential coverage, comparability across countries, and the possibility to compute the indicator at sub-national level.**

#### Reliability

As long as FAO Member Countries do respond to the CCRF Survey, as managed by FI, and responses are reviewed and compiled and presented by FI to COFI, the reliability and comprehensiveness of the global information and data set provided will enjoy significant and growing political recognition among FAO's Member Countries and the general public.

#### Coverage

The proposed indicator would be global, covering all FAO members.

#### Comparability across countries

It would be possible to compare across countries and regions.

#### Sub-national estimates

Currently not available

### **5. Is there already a baseline value for 2015?**

As indicated, the proposed indicator is new, and will be integrated in the next survey which should provide insight on responses by countries. The indicator examines the application by countries of a legal/regulatory/policy/institutional framework for the recognition and protection of access rights for small-scale fisheries. However, this can be expected to be a complex process which could require a substantial amount of time to advance legal, administrative and capacity development efforts. A realistic numerical target for 2030 could be envisaged, but would need to be confirmed based on survey responses and results in the next survey effort. The new indicator would need a baseline which could be formulated based on results from the next survey period.

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**Target 14.c Enhance the conservation and sustainable use of oceans and their resources by implementing law as reflected in UNCLOS, which provides the legal framework for the conservation and sustainable use of oceans and their resources, as recalled in paragraph 158 of The Future We Want.**

**Proposed Replacement Indicator by The Division for Ocean Affairs and the Law of the Sea (DOALOS) of the Office of Legal Affairs of the United Nations:** *Number of countries which have developed, enacted and applied legislation and have put in place the necessary approaches and mechanisms, or which have been in the process of doing so, to effectively implement international law, as reflected in the United Nations Convention on the Law of the Sea, to enhance the conservation and sustainable use of oceans and their resources.*

### **36. What is the *precise* definition of the indicator?**

The indicator refers to the need for implementation of all relevant instruments towards the conservation and sustainable use of oceans and their resources. It is noted that already a number of countries have developed, enacted and applied legislation and have put in place the necessary approaches and mechanisms, or are in the process of doing so, to effectively implement international law, as reflected in the United Nations Convention on the Law of the Sea (UNCLOS) for the purpose of enhancing the conservation and sustainable use of oceans and their resources. The legislations would cover the implementation of not only the Convention and its implementing agreements such as the United Nations Fish Stocks Agreement, but also other legal instruments that constitute, as referred to in the Convention, the global and regional rules, standards, regulations, practices and procedures and legal instruments that have been concluded in furtherance of the duty to cooperate in the Convention.

Therefore, the proposed indicator takes into account all sectoral and non-sectoral interests that are relevant to the conservation and sustainable use of the oceans and their resources. It does not single out particular sector(s) in an explicit way since the target as such does not do so, but also because there are many and diverse sectors involved in the conservation and sustainable use of oceans and their resources (see, e.g., *Obligations of States Parties under the United Nations Convention on the Law of the Sea and Complementary Instruments* (United Nations, New York, 2004); available at: [http://www.un.org/Depts/los/doalos\\_publications/publicationstexts/E.04.V.5.pdf](http://www.un.org/Depts/los/doalos_publications/publicationstexts/E.04.V.5.pdf)).

This is an "umbrella indicator" proposal elaborated by DOALOS, to be complemented by global, regional and national indicators, which may include indicators focused on specific sectors.

### **37. How is the indicator linked to the specific TARGET as worded in the 2030 Agenda for Sustainable Development?**

The target aims to enhance the conservation and sustainable use of oceans and their resources by implementing international law as reflected in UNCLOS. There is a direct link between the target and the proposed indicator since States are required under international law as reflected in UNCLOS to take necessary measures for the conservation and sustainable use of oceans and their resources by

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adopting and applying laws and regulations. The proposed indicator could allow the measurement of achievement of the target not only in quantitative but also qualitative terms.

In addition, this indicator is also linked to all other targets in Goal 14.

### **38. Does the indicator already exist and is it regularly reported?**

This indicator is not yet used for global monitoring.

Several data sources that are needed for the monitoring of the indicator already exist. In discharging the responsibilities of the Secretary-General under UNCLOS and its implementing agreements as well as under relevant General Assembly resolutions, DOALOS assists the monitoring of the implementation of UNCLOS and related agreements. The annual reports of the Secretary-General on oceans and the law of the sea include regular information on ratification/accession to UNCLOS. Furthermore, through Law of the Sea Bulletins, DOALOS also makes publicly available new legislation or measures adopted by States pursuant to UNCLOS. DOALOS also maintains an on-line legislative database on oceans and the law of the sea related legislation adopted by States.

Such information is supplemented by information provided by specialized agencies and other bodies acting in their capacity as competent international organizations.

Agencies responsible for the monitoring of this indicator are DOALOS and competent/relevant international organizations (see, e.g., the list of competent/relevant international organizations, prepared by DOALOS, *Law of the Bulletin*, No. 31 (1996), p. 79, available at: [http://www.un.org/Depts/los/doalos\\_publications/LOSBulletins/bulletinpdf/bulletinE31.pdf](http://www.un.org/Depts/los/doalos_publications/LOSBulletins/bulletinpdf/bulletinE31.pdf)).

### **39. Comment on the reliability, potential coverage, comparability across countries, and the possibility to compute the indicator at sub-national level.**

*a) reliability* (i.e., how accurate the information is expected to be under normal conditions, and whether it is possible to determine a statistical margin of error). The information to be provided on the number of States which have developed, enacted and applied legislation, or have been in the process of doing so, is expected to be accurate since it is to be provided directly by the State itself with verifiable sources at the national level.

*b) coverage* (i.e., whether there are regions or countries where data collection is impossible or highly problematic, whether it makes sense to collect data every year, etc.). It may be that data from a number of developing countries may not be readily or easily accessible because of capacity considerations. With regard to data collection, the data sources as indicated are available on a continuous basis, which would allow for a yearly collection of data, as necessary.

### **40. Is there already a baseline value for 2015?**

There is currently no baseline value for 2015. To provide such information, DOALOS as well as all competent international organizations would need to identify, under each of the legally-binding instruments relevant to the indicator and under their respective mandates, the number of countries which have developed, enacted and applied legislation, or which have been in the process of doing so. While DOALOS believes that some data is already available (see response under question 3), such data analysis has yet to be done in a systematic manner. In this regard, DOALOS wishes to note that the United Nations Legal Counsel/DOALOS acts as the Focal Point of UN-Oceans, an inter-agency

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mechanism that seeks to enhance the coordination, coherence and effectiveness of competent organizations of the United Nations system and the International Seabed Authority, under its Terms of reference. Its mandate includes: strengthening and promoting coordination and coherence of United Nations system activities related to ocean and coastal areas; and facilitating inter-agency information exchange.

As of September 2015, there are 167 parties to the United Nations Convention on the Law on the Law of the Sea including the European Union and 82 States parties to the United Nations Fish Stocks Agreement.

**Target 14.c Enhance the conservation and sustainable use of oceans and their resources by implementing law as reflected in UNCLOS, which provides the legal framework for the conservation and sustainable use of oceans and their resources, as recalled in paragraph 158 of The Future We Want.**

**Proposed Replacement Indicator by FAO: *Progress by countries in implementing either legally or programmatically the provisions set out in relevant legally binding and voluntary instruments for sustainable use and conservation of the ocean including, instruments related to fisheries, shipping, labour, conservation at global and regional levels***

*For the fisheries component, FAO would be able to monitor the following sub-indicator:*

*“Progress by countries in [level/degree of] implementation of provisions of the Code of Conduct for Responsible Fisheries (CCRF) and associated guidelines and plans, as reported in the biannual CCRF questionnaire surveys”*

*The indicator is highly relevant to fisheries and fisheries governance efforts at global, regional and national levels. The indicator can be considered an established, recognized and operational inter-governmental response indicator. The Implementation of Code of Conduct for Responsible Fisheries, associated Technical Guidelines and International Plans of Action (IPOAs) is probably among the most important global targets in the context of conservation and management of living aquatic resources, for the benefit of fisheries stakeholders, consumers, and many societies worldwide. Given the existence, recognition and value of the regular inter-governmental CCRF reporting process, it can be expected that the proposed CCRF indicator will deliver reliable and continuous information on progress made in fisheries governance worldwide.*






*Governments are committed to report biannually to the FAO Committee on Fisheries (COFI) on progress made in their efforts of implementing the CCRF. The reporting on CCRF implementation, started in 1996, is an established, cost-effective and recognized process, which governments, fisheries and other stakeholders, IGOs and CSOs have accepted and supported as one of the most significant frameworks for global fisheries governance, in the context of implementation of UNCLOS and other international instruments as relevant to Goal 14.*

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## 1. Precise definition of the indicator

This indicator aims to assess progress made in the adoption of sustainable practices pertaining to fisheries/aquaculture. It is a composite indicator based on FAO member country responses to the CCRF questionnaire which is circulated by FAO every 2 years to members and IGOs and INGOs. It considers countries’ implementation of fisheries management plans, execution of fish stock assessments, the use of environmental assessments and monitoring of aquaculture operations, as well as reported uptake set of selected practices deemed to be sustainable such as: an ecosystems approach to fisheries, coastal area management, and management of bycatch, among others.

This indicator is calculated as number of countries that are implementing provisions of the CCRF and associated plans and guidelines resulting in the application of more sustainable fisheries/aquaculture practices in a given year of the survey. Difference in score as compared to the preceding year of the previous survey response reflect the progress made during two survey periods. Those countries that score within the High or Medium-High categories on the following ranking scale<sup>69</sup> of the index in question are considered to “apply more sustainable fisheries/aquaculture practices”:

Ranking scale (possible score on Index):					
Symbol	Category		Lower boundary	Upper boundary	
	High	= ≥	0.85	<	1.000
	Medium-high	= ≥	0.7	<	0.85
	Medium	= ≥	0.55	<	0.7
	Medium-low	= ≥	0.4	<	0.55
	Low	= ≥	0.0	<	0.4

Those countries that score within the Medium or Medium-Low categories on the above ranking scale of the index in question are considered to “advance towards more sustainable fisheries/aquaculture practices “. Those countries that score within Low category on the above ranking scale of the index in question are considered to “need to improve fisheries/aquaculture practices”.

The unit of measurement of the indicator is a score on a scale of 0 to 1. It is computed through an index that assigns scores and weights to a set of questions that countries answer within the Code of Conduct of Responsible Fisheries (CCRF)<sup>70</sup> Questionnaire every 2 years. The national indicator is calculated based on the questions specifically focusing on actual implementation of CCRF as indicated in the Annex.

All the questions address different aspects of CCRF and therefore are given the same weight, except two bycatch questions (Q34 and Q35) that are treated as one together. This would give 7 points to

<sup>69</sup> The classification is based on the scores corresponding to the most probable best-case scenario and the minimum essential requirement to determine threshold for H and L, and then equally divided for intermediate ranking.  
<sup>70</sup> Code of Conduct of Responsible Fisheries (CCRF) is the principle instrument defining the actions required to ensure sustainable fisheries and aquaculture and FAO conduct the survey with questionnaire on the extent of implementation of CCRF at country level.

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capture fishery and 3 points to aquaculture, which are considered as reasonable balance reflecting an extent of required actions. While those questions with no relevance (e.g. marine issues for land-locked countries, aquaculture for countries with no aquaculture production, no relevant fishing for bycatch issues) are not taken into consideration, no response to relevant questions is treated as zero score.

Total score is standardized to one as an average of responses to relevant questions. Again, refer to the Annex for the detailed scores/calculations by response.

### **2. How is the indicator linked to the specific TARGET as worded in the OWG Report?**

This indicator is not linked to a specific target, but rather to the theme of Fisheries and Aquaculture (see FAO's 14 Themes), but it would be specifically relevant for monitoring the mean of implementation 14.c under proposed Goal 14. The CCRF and related instruments caveats the UNCLOS and other international laws targeted under the 14.c. Overall score reflects the extent of implementation of CCRF, i.e. the international laws for the conservation and sustainable use of oceans and their resources, while change of scores in a certain period indicates a progress made.

### **3. Does the indicator already exist and is it regularly reported?**

Yes, the indicator is currently used to monitor the percentage of countries that demonstrate update of sustainable management practices, in terms of the sustainable fisheries/ aquaculture practices, as one of Outcome Indicator of FAO Strategic Objective 2. All underlying data is collected via the Code of Conduct of Responsible Fisheries [CCRF] questionnaire that is administered by FAO's Fisheries and Aquaculture Department every 2 years.

The FAO Code of Conduct for Responsible Fisheries is recognized and respected worldwide as the global reference framework for sustainable governance of global fisheries and aquaculture. It provides the globally acknowledged umbrella framework for existing and emerging governance instruments in fisheries, for example also for the recently adopted Voluntary Guidelines for Sustainable Small Scale Fisheries.

Progress on the implementation of the FAO Code of Conduct for Responsible Fisheries is being reported on by FAO member countries using a self-assessment survey conducted every two years and presented to the biennial sessions of the Committee on Fisheries (COFI). All data is collected via the Code of Conduct of Responsible Fisheries [CCRF] questionnaire that is administered by FAO/FI.

This response indicator aims to assess progress made in the implementation of the CCRF and in the adoption of more sustainable practices pertaining to fisheries/aquaculture. It is a composite indicator based on country responses to the CCRF questionnaire. It considers countries' implementation of fisheries management plans, execution of fish stock assessments, the use of environmental assessments and monitoring of aquaculture operations, as well as reported uptake set of selected practices deemed to be sustainable such as: an ecosystems approach to fisheries, coastal area management, and management of bycatch, among others.

### **4. Comment on the reliability, potential coverage, comparability across countries, and the possibility to compute the indicator at sub-national level.**



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## Reliability

As long as FAO Member Countries do respond to the CCRF Survey, as managed by FI, and responses are reviewed and compiled and presented by FI to COFI, the reliability and comprehensiveness of the global information and data set provided will enjoy significant and growing political recognition among FAO's Member Countries and the general public.

## Coverage

It is global, covering all FAO members.

## Comparability across countries

It is possible to compare across countries and regions.

## Sub-national estimates

Currently not available

### **5. Is there already a baseline value for 2015?**

There are a number of targets that have been proposed for this indicator. For instance, the World Summit on Sustainable Development proposed reaching 100% by 2015, while the Convention on Biological Diversity (CBD) Aichi proposed the 100 percent target by 2020. Since the indicator examines an extent of implementation of various international instruments and guidelines some of which would require substantial amount of time to complete legal and administrative process, it would not be realistic to assume reaching 100 % in a short period. However, aiming for 100 % of countries reaching to the High and Medium high category could be meaningful targets for 2030 or beyond.

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**Target 15.2 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally.**

**Proposed Additional Indicator by FAO: *Carbon stock in woody biomass***

### **41. What is the *precise* definition of the indicator?**

Carbon stock in woody biomass is defined as carbon in living woody biomass, including stem, stump, branches, bark, seeds and foliage (<http://www.fao.org/forestry/fra/83059/en/>). The unit for this indicator is Mg C per ha.

### **42. How is the indicator linked to the specific TARGET as worded in the OWG Report?**

Forests fulfil a number of functions that are vital for humanity, including the provision of goods (wood and non-wood forest products) and services such as habitat for biodiversity, carbon sequestration, coastal protection and soil and water conservation.

Carbon stocks in woody biomass reflect both forest extent and quality, and change in these stocks indicate changes relevant not only to greenhouse gas emissions but also trends related to production, conservation and management. The implementation of sustainable forest management, a reduction of deforestation, an increase in restored forest and increased afforestation are all directly linked to increased biomass carbon stocks - as success is achieved in each of these areas, biomass carbon stocks should remain stable or increase. The reforestation component is not well reflected in that presumably older forest is replaced by younger forest in the process of reforestation. Amongst readily available indicators, this would therefore be the most relevant for measuring SDG target 15.2 focusing on the sustainable management on forests.

### **43. Does the indicator already exist and is it regularly reported?**

The indicator exists and is maintained by the FAO Forestry Department, through the Global Forest Resources Assessment which produces global assessments every five years. FRA 2015 provides carbon stocks in woody biomass for the years 1990, 2000, 2005, 2010 and 2015.

### **4. Comment on the reliability, potential coverage, comparability across countries, and the possibility to compute the indicator at sub-national level.**

#### Reliability

Countries assigned quality levels for this indicator as Tiers where Tier 3 is the most recent (less than 10 years) National Forest Inventory (NFI). Tier 2 data are based on older sources (more than 10 years) NFI or full coverage mapping/remote sensing. Core comes from other data sources, including expert estimates.

#### Coverage

FAO carries out global forest resources assessments at 5 year intervals. The indicator is aggregated to the national scale.

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## Comparability across countries

The national figures in the global assessments are reported by countries following a standardized format, definitions and reporting years to provide a means of comparability across countries.

## Sub-national estimates

Currently it is not possible to compute the indicator at sub-national level.

### **4. Is there already a baseline value for 2015?**

In keeping with the intention of the target, a meaningful numeric target could be set as: Annual change in average stocking level (Mg/ha) of carbon in forest biomass is either stable or increasing. FRA 2015 provides values for the year 2015. These values will be updated in 2020, 2025 and 2030.

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**Target 15.6 Ensure fair and equitable sharing of the benefits arising from the utilization of genetic resources and promote appropriate access to such resources.**

**Proposed Replacement Indicator by FAO and CBD:** *Number of permits or their equivalents made available to the Access and Benefit-sharing Clearinghouse established under the Nagoya Protocol and number of Standard Material Transfer Agreements, as communicated to the Governing Body of the International Treaty*

### 1. Precise definition of the indicator

This indicator builds on concrete cases in which agreement has been reached on the transfer of genetic resources between the resource provider and the resource recipient, including on how benefits arising from the use of the genetic resources will be shared.

Parties to the *Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity* (Nagoya Protocol) that subject access to genetic resources to prior informed consent are obliged under Article 6 (3)e of the Nagoya Protocol to issue a “permit or its equivalent as evidence of the decision to grant prior informed consent and of the establishment of mutually agreed terms.” The ABS Clearinghouse will make permits available on-line: <https://absch.cbd.int/>.

The *Standard Material Transfer Agreement* (SMTA) is a mandatory contract that Parties to the *International Treaty on Plant Genetic Resources for Food and Agriculture* (International Treaty) have agreed to use whenever plant genetic resources falling under the Treaty’s Access and Benefit-sharing mechanism are made available. The SMTA defines the conditions of use of the plant genetic resources as well as the benefit-sharing conditions. According to the SMTA providers shall inform the Governing Body about the Standard Material Transfer Agreements entered into. In addition, recipients who transfer resources received under a SMTA to third parties shall do so under the terms and conditions of the SMTA and shall notify the Governing Body. SMTAs are stored in the Data Store of the International Treaty. As of 21 August 2015, the Data Store has recorded 34,898 SMTAs from providers located in 30 countries, distributing material to recipients based in 172 countries. (<https://mls.planttreaty.org/itt/index.php?r=stats/pubStats>).

It should be noted that the number of permits or their equivalents and the number of SMTAs does not necessarily equal the number of samples/ accessions made available. Many permits/ SMTAs cover a large number of samples/ accessions.

### 2. How is the indicator linked to the specific TARGET as worded in the OWG report?

The fair and equitable sharing of benefits arising out of the utilization of genetic resources, including by appropriate access to them will contribute, it is hoped, to the conservation of

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biological diversity and the sustainable use of its components. The target therefore aims to monitor cases in which agreement on access to genetic resources and the sharing of benefits derived from their use has been reached.

An increase of permits or their equivalents made available to the ABS Clearinghouse and an increase of SMTAs communicated to the Governing Body of the International Treaty will indicate an increased number of cases in which access to genetic resources has been granted and in which resulting benefits will be shared on the basis of “mutually agreed terms”.

### **3. Does the indicator already exist and is it regularly reported?**

The information the indicator is based on is already being collected under the International Treaty. The ABS Clearinghouse is ready to start collecting permits/ equivalents. However, it should be noted that the Nagoya Protocol entered into force only recently.

#### **i. Which agency maintains and reports it?**

- The CBD Secretariat, through its ABS Clearinghouse, would be responsible for the ABS permits or their equivalents (<https://absch.cbd.int/>).
- FAO, through its Secretariat of the International Treaty on Plant Genetic Resources for Food and Agriculture, would track the SMTAs ([www.planttreaty.org](http://www.planttreaty.org); Aya Idemitsu ([aya.idemitsu@fao.org](mailto:aya.idemitsu@fao.org)); Francisco Lopez ([francisco.lopez@fao.org](mailto:francisco.lopez@fao.org)).

### **4. Comment on the reliability, potential coverage, comparability across countries, and the possibility to compute the indicator at sub-national level.**

In principle, the “permits/ equivalents indicator” will capture all cases of access and benefit-sharing which are covered by ABS laws of countries that are Parties to the Nagoya Protocol.

The SMTA indicator captures all access and benefit-sharing cases relating to material governed by the Treaty’s Access and Benefit-sharing mechanism.

Not all countries or providers of genetic resources will always report all permits / SMTAs. However, as countries become Parties to the International Treaty and the Nagoya Protocol and increasingly comply with their reporting obligations under the two instruments, reliability, coverage and comparability across countries will improve.

Sub-national estimates might require additional work

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**Target 15.9: By 2020, integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts.**

**Proposed Replacement Indicator by CBD in coordination with UNEP-WCMC and OECD: *Progress towards national targets established in accordance with Aichi Biodiversity Target 2 of the Strategic Plan for Biodiversity 2011-2020***

### Description of the indicator

Through decision X/2, Parties to the Convention on Biological Diversity (CBD) adopted the Strategic Plan for Biodiversity 2011-2020 which was subsequently endorsed by the 66th session of the United Nations General Assembly and reaffirmed in the Rio+20 outcome document "*The Future We Want*". It includes Aichi Biodiversity Target 2 "By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems."

Parties to the CBD further agreed to "develop national and regional targets, using the Strategic Plan and its Aichi Targets, as a flexible framework, in accordance with national priorities and capacities and taking into account both the global targets and the status and trends of biological diversity in the country, and the resources provided through the strategy for resource mobilization" and "that the Conference of the Parties should review progress in the implementation of the Strategic Plan for Biodiversity 2011-2020 at each of its meetings to 2020".

To facilitate reporting on progress at national level, the Executive Secretary was requested to make the online reporting tool of the clearing-house mechanism fully operational and Parties and other Governments were invited, on a voluntary basis, to make available information on progress towards the achievement of the Aichi Biodiversity Targets and related national targets and on indicators and approaches towards assessing progress.

The indicator would draw on information provided by Parties and other Governments on progress made at national (or sub-national or regional) level towards achieving Aichi Biodiversity Target 2 or its corresponding national (or sub-national or regional) target. Through their fifth national reports, Parties have provided information on progress in implementing the Strategic Plan for Biodiversity 2011-2020 and are expected to report periodically on progress, including through the online reporting tool. Document UNEP/CBD/ID/AHTEG/2015/1/INF/4 (<https://www.cbd.int/doc/meetings/ind/id-ahteg-2015-01/information/id-ahteg-2015-01-inf-04-en.doc>) provides a more comprehensive description on the information from national reporting processes to the CBD.

*What is the Composite metrics of national progress reports towards the Aichi Biodiversity Targets or their national equivalents?*

Reports of progress towards national Aichi targets provided to the Secretariat of the CBD can be analysed for information about the relative progress (across countries) towards each individual Target at the national level. The categorical assessments can be combined across nations to measure an average and range of variation, and these values compared between different Targets, and, when further data become available, between years. The Composite Metrics are therefore an approach towards assessing progress at the national level, and can be calculated for each Target for which there are data. Document UNEP/CBD/ID/AHTEG/2015/1/INF/6

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(<https://www.cbd.int/doc/meetings/ind/id-ahteg-2015-01/information/id-ahteg-2015-01-inf-06-en.doc>) analyses options for the quantitative analysis in greater detail.

### Sampling methodology and data selection

The indicator is still in development, but currently the data consist of (a) self-assessments of progress provided to the CBD Secretariat, and (b) CBD Secretariat assessments of progress (which, if used for the indicator would need to be validated by countries). In addition, many of these have a 'confidence' score associated, and there are furthermore country-level data (e.g. GDP) which can be used to assess factors affecting progress.

It is important to note that individual countries will not be compared to one another, as measurement scales for each category may vary country to country. Instead, mean progress across countries towards each Target at the national level will be quantified.

### Strengths

- The indicator draws directly on information provided by countries as part of existing reporting processes.
- The metrics provide a view across all targets for which there are data.
- Socioeconomic factors associated with national-level progress can be quantified and understood, perhaps shedding additional light on where resources might best be invested.

### Caveats

- Data are on a categorical (rather than numerical) scale, which makes analysis more challenging.
- Many reports are self-assessed, and so may have some bias associated.
- At present, only a single year of data is available so no progress over time can be calculated as yet.

### Current storyline

#### In development

#### Future developments...

Indicator remains in development, but as more data become available, tracking progress across time becomes feasible.

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### **Target 16.1 Significantly reduce all forms of violence and related death rates everywhere**

**Proposed Additional Indicator from OHCHR: *Violent crime rate (intentional homicide, assault and sexual violence, including attempts) per 100,000 population***

<p>Goal and target addressed</p>	<p>This indicator is proposed to monitor the following targets:            5.2 (violence against women)            10.3 (hate crimes)            16.1 (violence and deaths)            16.2 (violence against children)</p>
<p>Definition and method of computation</p>	<p>Intentional homicide means unlawful death purposefully inflicted on a person by another person, with the intent to cause death or serious injury. Assault means physical attack against the body of another person resulting in serious bodily injury. Sexual violence means rape (sexual intercourse without valid consent) or other sexual assault.</p> <p>The indicator is calculated as the total number of cases of intentional homicide, assault, sexual violence, attempted homicide, attempted assault and attempted sexual violence, divided by the total population and multiplied by 100,000. Data are most often compiled separately for each crime and aggregated. Where a single criminal act falls under more than one definition, it should be recorded only under the most serious offence for the purposes of this indicator.</p>
<p>Rationale and interpretation</p>	<p>This indicator is used to identify the level of peacefulness and personal security across countries. To ensure that the indicator adequately reflects all forms of physical violence, sexual violence, violence not resulting in death and attempted violence are included.</p>
<p>Sources and data collection</p>	<p>The administrative statistics needed for the indicator are routinely produced by national law enforcement authorities and/or public health institutions.</p>
<p>Disaggregation</p>	<p>Data should be disaggregated by characteristics of both perpetrator and victim (sex, age), any known relationship between perpetrator and victim (intimate partner, family member, employer/employee, etc.), and by location/region.</p> <p>To adequately detect torture and ill-treatment, data should also be disaggregated according to whether the perpetrator is a public official or acted in an official capacity at the time of the offence.</p> <p>To adequately detect hate crimes, data should be disaggregated by further characteristics of the victim including disability, ethnicity, migration status, religion, minority or indigenous status, sexual orientation and gender identity.</p> <p>To adequately monitor target 16.2, age disaggregation should include all children</p>



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	(victims aged 0-17) and further disaggregation by age group of the victim (young childhood, adolescents, etc.).
Comments and limitations	<p>The indicator does not include psychological violence, as the degree to which such violence constitutes a crime under national law, and therefore is captured in administrative statistics, varies significantly among countries. Data reliability and comparability would therefore be compromised by such inclusion. Such data should, however, be reported at national or regional level where available.</p> <p>Because it relies on reported or recorded instances of crime, the indicator will tend to under-report true levels of crime in society, because some crimes are not detected by or reported to police, some reported crimes may not be recorded by police, and there may be classification and processing errors in record-keeping at various stages. Where multiple data sources are used, there may be a danger of counting the same crime several times. For this reason, the indicator should be supplemented by periodic victimisation surveys.</p>
Gender equality issues	<p>This indicator is proposed as an alternative to “homicide and conflict-related deaths per 100,000 people” specifically to address the inherent gender bias of the former indicator. The global male homicide rate is almost four times that of females (9.7 versus 2.7 per 100,000: UNODC Global Study on Homicide, 2013). As the target is to “significantly reduce all forms of violence and related death rates everywhere,” all forms of physical violence should be included to adequately capture physical violence against both sexes. Violence against women is considered separately under Goal 5, but indicators under this goal should consider the full range of violence and not only crimes which mainly affect men.</p>
Data for global and regional monitoring	<p>UNODC collects the relevant data at the international level, currently at a lower level of disaggregation than proposed for this indicator. Data on assault are available for 134 countries, on sexual violence for 116 countries, and on homicide for 219 countries.</p>
Supplementary information	<p>At the international level, further methodological work may be required to ensure comparability across countries. However, the data at national level will allow for monitoring of trends in levels of violence and disparities among groups to enable evidence-based policy interventions.</p>
References	<p>UNODC statistics: <a href="http://www.unodc.org/unodc/en/data-and-analysis/statistics/crime.html">http://www.unodc.org/unodc/en/data-and-analysis/statistics/crime.html</a></p>

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### **Target 16.1 Significantly reduce all forms of violence and related death rates everywhere**

**Proposed Additional Indicator from OHCHR: *Percentage of the population subjected to physical, psychological or sexual violence within the last 12 months***

<p>Goal and target addressed</p>	<p>This indicator is proposed to monitor the following targets:            5.2 (violence against women)            10.3 (hate crimes)            16.1 (violence and deaths)            16.2 (violence against children).</p>
<p>Definition and method of computation</p>	<p>The indicator is calculated as the percentage of persons subjected to physical, psychological or sexual violence within the last 12 months.</p> <p>This will be calculated using the full survey results, with techniques of imputation, estimation and data weighting to ensure a representative sample and data reliability. See UNODC, UNECE, <i>Manual on Victimisation Surveys</i>, 2010.</p>
<p>Rationale and interpretation</p>	<p>All forms of physical, psychological and sexual violence against persons represent a major threat to their human rights, dignity and health, as well as an obstacle to their chances of personal, social and economic development. This indicator goes beyond reported crime to look at the full range of violence from the victim's perspective, giving a fuller view of the peacefulness of the society. As the indicator is based on survey rather than administrative data, it is possible to include psychological violence whether or not this constitutes a crime under national law. This is particularly important to fully capture the scale of domestic and community violence, as well as hate crimes.</p>
<p>Sources and data collection</p>	<p>Data is collected through national and international crime victimization surveys, which are being implemented by an increasing number of countries. Interviews are conducted either face-to-face or by telephone, often using CATI (Computer Assisted Telephone Interviewing) techniques. In such surveys information is collected on direct experiences of the general population of physical violence (assault), psychological violence, and sexual violence. Moreover, for sub-population groups these data can be produced through a number of specialized surveys on violence (violence against women, children, by intimate partners, in schools etc.). Much data is also available through national law enforcement authorities and/or public health institutions.</p> <p>The first large scale victimisation surveys were implemented in the 1970s and the programme of International Crime Victimisation Surveys (ICVS, 6 waves between 1989 and 2010) contributed to disseminate this instrument worldwide. According to a recent review conducted by UNODC-INEGI Centre of Excellence on crime statistics, 72 countries have implemented at least one national victimisation survey after 2009 (in 43 of these countries the victimisation survey has been conducted by national statistical office or another public institution/ministry). In addition, 9 African countries have already implemented or are in the process of implementing a victimisation survey</p>

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	<p>module as part of the Strategy for Harmonisation of Statistics for Africa (SHaSA). UNODC collects prevalence data from surveys, respectively, of sexual assault (since 2009) and physical assault (since 2014) through the long-standing annual data collection UN-CTS mandated by the UN General Assembly. Data on psychological violence are currently available for fewer countries.</p>
Disaggregation	<p>Data should be disaggregated by characteristics of both perpetrator and victim (sex, age), by any existing relationship between perpetrator and victim (intimate partner, family member, teacher/student, etc.) and by location/region.</p> <p>To assist in detection of hate crimes, data should be disaggregated by further characteristics of the victim including disability, ethnicity, migration status, religion, minority or indigenous status, sexual orientation and gender identity.</p>
Comments and limitations	<p>Because the indicator measures the percentage of the population experiencing physical, psychological or sexual violence during the time period, each victim is counted only once, irrespective of the number of times violence was experienced. Without this information, the indicator does not therefore permit estimates of incidence of crime. However, such questions are frequently included in victimisation surveys and could be included in further indicators at the national level.</p> <p>In many national contexts, victimisation surveys may exclude the homeless or low-income groups without access to telephones. Face-to-face surveys often exclude non-urban populations or members of linguistic minorities.</p> <p>Adequate monitoring of target 16.2 will require conducting surveys with children. The Convention on the Rights of the Child, which has been almost universally ratified, recognises the rights of children to participate in decisions affecting them, which should include seeking the direct inputs of children themselves in monitoring realisation of their rights. Survey questions and methodologies should be adapted to take account of the child's level of development. Persons conducting the surveys should receive specific training in this regard, notably in ensuring that vulnerable children are not traumatised, and adequate support services should be available to children who have been victims of violence.</p> <p>Relevant data for this indicator may also be collected at the national levels by health and social services, educational institutions or the criminal justice system. In contexts where it is not currently feasible to conduct an appropriate, adapted survey with children, such proxy data may be used.</p>
Gender equality issues	<p>Household surveys are often conducted with the 'head' of a household, most frequently the oldest male, who answers on behalf of other persons living in the household. To ensure reliability and to adequately capture the experience of violence of women and LGBTI persons, it is vital that victimisation surveys be conducted separately and privately with each individual surveyed, in line with current international best practice.</p> <p>It is vital to include both sexual and psychological violence, in particular when the</p>

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	perpetrator is an intimate partner, to ensure that the experiences of violence of women are adequately captured.
Data for global and regional monitoring	Global studies on violence against women have been conducted at the national level through Demographic and Health Surveys (DHS) and the World Health Organization. At international level, UNODC has started in recent years to collect data on physical and sexual violence. Selected data on specific forms of physical or sexual violence (against women, children, etc.) are collected and disseminated by the World Health Organization, UNICEF and UN Women. The United Nations Statistics Division has finalized a manual on the implementation of violence against women surveys. Data for selected countries have been collected in the past through the International Crime Victimization Survey (ICVS), which has been conducted in approximately 80 countries worldwide. UNICRI publishes the results.
Supplementary information	An initiative launched in 2014 by UNODC, IDB, UNDP and OAS (Latin America and Caribbean Crime Victimization Survey Initiative, LACSI) will produce by end of 2015 a common methodological package, including a standard questionnaire, to foster implementation and standardization of victimization surveys.
References	UNODC, UNECE, Manual on Victimization Surveys, 2010, <a href="http://www.unece.org/fileadmin/DAM/stats/publications/Manual_Victimization_Surveys_English.pdf">http://www.unece.org/fileadmin/DAM/stats/publications/Manual_Victimization_Surveys_English.pdf</a>  The United Nations has recently produced the 'Guidelines for Producing Statistics on Violence against Women: Statistical Survey', which provides guidance on how to plan and implement statistical surveys to measure Violence against Women.

### **Target 16.1 Significantly reduce all forms of violence and related death rates everywhere**

**Proposed Additional Indicator from OHCHR:** *Proportion of people who feel safe walking alone around the area where they live*

Goal and target addressed	At appropriate levels of disaggregation, this indicator is proposed to monitor targets: 5.2 (women) 10.2 (non-discrimination) 16.1 (violence and deaths)
Definition and method of computation	The indicator is calculated as the ratio of the number of survey respondents reporting that they feel safe walking alone around the area where they live to the total number of survey respondents. This may be weighted to reflect the make-up of the population.

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Rationale and interpretation	This indicator is an example of a perception-based measure that addresses perceived levels of safety, an important component of a peaceful and inclusive society. To capture the inclusiveness of society, it will be important to disaggregate the indicator for a wide range of population groups in order to detect tensions.
Sources and data collection	<p>Data is collected through national and international crime victimization surveys, which are being implemented by an increasing number of countries. The International Crime Victimization Survey (ICVS), for example, has been conducted in approximately 80 countries worldwide. Interviews are conducted either face-to-face or by telephone using CATI (Computer Assisted Telephone Interviewing) techniques. UNODC promotes internationally comparable victim surveys in developing countries within and beyond the context of the ICVS. World Values Survey and Gallup currently cover this issue for a large number of countries.</p> <p>This indicator can easily be measured at the global level through crime victimisation surveys, but could also be reported upon regionally or nationally.</p> <p>In addition, the Harmonized Module on Peace and Security in the Strategy for the Harmonization of Statistics in Africa (SHaSA) already collects data on this indicator, disaggregating between perceptions of safety at night and in the daytime, perceptions of safety whilst walking compared to being at home, perceptions of safety on public transport, and so on. In Africa, the approach has already been applied and reported by several NSOs using the SHaSA questionnaire. Nine countries have already started to collect data using the Harmonised Module on Peace and Security, with as many as 20 expressing interest.</p>
Disaggregation	To fully capture the experience of all population groups and allow the design of appropriate policy responses to detected discrepancies, data should be disaggregated by sex, age, ethnicity, income, geographic location, disability, religion, migratory or displacement status, minority or indigenous status, sexual orientation and gender identity.
Comments and limitations	In many national contexts, victimisation surveys may exclude the homeless or low-income groups without access to telephones. Face-to-face surveys often exclude non-urban populations or members of linguistic minorities.
Gender equality issues	To ensure reliability and to adequately capture the experiences of women and LGBTI persons, it is vital that surveys on issues of personal feelings of safety be conducted separately and privately with each individual surveyed, in line with current international best practice.
Data for global and regional monitoring	UNODC promotes internationally comparable victim surveys in developing countries within and beyond the context of the ICVS. World Values Survey and Gallup currently cover this issue for a large number of countries. The Strategy for the Harmonization of Statistics in Africa (SHaSA) initiative is currently compiling these statistics in 20 countries in Africa.

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Supplementary information	
References	SHaSA Harmonised Module on Peace and Security

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### **Target 16.2 End abuse, exploitations, trafficking and all forms of violence against and torture of children.**

**Additional Proposed Indicator by SRSG on Violence Against Children, WHO, UNODC: *Percentage of young adults aged 18-24 years who have experienced violence by age 18 by single type – physical, psychological and/or sexual – and who have experienced any of these types.***

<p><b>Definition and method of computation</b></p>	<p>Violence is addressed by the UN Convention on the Rights of the Child (article 19, CRC 1989), and is defined as the intentional use of physical force or power, threatened or actual, against a child, by an individual or group, that either results in or has a high likelihood of resulting in actual or potential harm to the child’s health, survival, development or dignity (Krug et al. 2002). A child is defined as every human being below the age of 18 years unless, under the law applicable to the child, majority is attained earlier (CRC). Three of the major forms of violence against children that are distinguished are physical, psychological, and sexual abuse. A fourth, not covered by this indicator, is neglect. Perpetrators are often known to the child and can be parents or caregivers, peers, acquaintances, or strangers.</p> <p>Physical abuse of a child is defined as the intentional use of physical force against a child that results in – or has a high likelihood of resulting in – harm to the child’s health, survival, development and dignity. This includes hitting, beating, kicking, shaking, biting, strangling, scalding, burning, poisoning and suffocating. Much physical violence against children in the home is inflicted with the object of punishing (WHO, 2006).</p> <p>Sexual abuse is defined as the involvement of a child in sexual activity that he or she does not fully comprehend, is unable to give informed consent to, or for which the child is not developmentally prepared, or else that violates the laws or social taboos of society (WHO, 2006).</p> <p>Psychological abuse, also referred to as emotional abuse, involves both isolated incidents, as well as a pattern of failure over time – usually, but not exclusively – by a parent or caregiver to provide a developmentally appropriate and supportive environment. Acts in this category may have a high probability of damaging the child’s physical or mental health, or its physical, mental, spiritual, moral or social development. Abuse of this type includes: the restriction of movement; patterns of belittling, blaming, threatening, frightening, discriminating against or ridiculing; and other non-physical forms of rejection or hostile treatment (WHO, 2006).</p> <p>Percentage of young adults aged 18-24 years who have experienced violence by age 18 by single type – physical, psychological and/or sexual – and who have experienced any of these types is generally computed on the basis of retrospective population based surveys in which young adults aged 18-24 are asked to report on their experiences of violence from 0 to 18 years of age.</p>
<p><b>Rationale and interpretation</b></p>	<p>The complex and multifaceted nature of violence against children urges us to identify a composite indicator to measure progress against target 16.2. and ensuring that no child is left-behind.</p> <p>Percentage of young adults aged 18-24 years who have experienced violence by age 18 by single type – physical, psychological and/or sexual – and who have experienced any of these types was selected as an</p>

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	<p>indicator for three reasons.</p> <p>First, each of these three forms of violence against children is highly prevalent – affecting between a fifth and a third of children in the world, with these proportions higher in some low- and middle-income countries.</p> <p>Second, in line with international standards, these three forms of violence against children lend themselves to clear definition and accurate measurement. Neglect is more difficult to define and measure due to the difficulty in distinguishing between neglect for which parents or caregivers can be held responsible and neglect due to difficult circumstances, such as poverty, which are beyond parents and caregivers’ control.</p> <p>Third, a large body of scientific evidence shows that physical, psychological and sexual violence against children have serious and life-long consequences for physical and mental health, school and job performance later in life, as well as experiencing and perpetrating subsequent violence. It has been shown that experiencing these forms of violence increases the risk of adopting health risk behaviours such as smoking, substance abuse, excessive alcohol consumption, over-eating and lack of physical exercise, and risky sexual practices that can lead to unwanted pregnancies, sexually transmitted infections etc. These behaviours are engaged in as a way of coping with the psychological distress of experiencing violence but then, often years later, lead to such non-communicable diseases as heart disease, cancer, diabetes, and HIV/AIDS.</p>
<p><b>Sources and data collection</b></p>	<p>The main source of data for this indicator is population-based prevalence surveys, either stand-alone surveys focusing on violence against children or broader surveys that include a module on violence against children. Currently, according to the <i>Global status report on violence prevention 2014</i> conducted by the World Health Organization, about half the countries in the world have data from population-based surveys on violence against children.</p> <p>Some of the main sources for this indicator would be Violence against Children Surveys conducted in multiple countries in recent years by UNICEF and the US Centers for Disease Control and Prevention.</p> <p>Data for the indicator can also be collected through general victimization surveys. The first large scale victimisation surveys were implemented in the 1970s and the programme of International Crime Victimization Surveys (ICVS, six waves between 1989 and 2010) contributed to dissemination of this instrument worldwide. According to a recent review conducted by UNODC-INEGI Centre of Excellence on crime statistics, 72 countries have implemented at least one national victimisation survey after 2009 (in 43 of these countries the victimisation survey has been conducted by national statistical office or another public institution/ministry). In addition, nine African countries have already implemented or are in the process of implementing a victimisation survey module as part of the Strategy for Harmonisation of Statistics for Africa (SHaSA).</p>
<p><b>Disaggregation</b></p>	<p>Recommended disaggregation for this indicator is:</p> <ul style="list-style-type: none"> <li>• by types of violence: physical, psychological and sexual</li> <li>• age of the victim</li> <li>• sex of victim, particularly for sexual violence</li> <li>• type of perpetrator (parent, caregiver, other family member, acquaintance, stranger, etc.)</li> </ul>



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<p><b>Comments and limitations</b></p>	<p>Although only half the countries in the world have data from population-based surveys on violence against children, this number has been increasing rapidly in the last 10 years and the instruments and methods to collect this data have been tried and tested. The Violence against Children Surveys in particular are becoming a standard and scientifically sound source of data collection on the prevalence of physical, emotional, and sexual violence against girls and boys.</p>
<p><b>References</b></p>	<p>United Nations Secretary-General's Study on Violence against Children, 2006: <a href="http://www.unviolencestudy.org/">http://www.unviolencestudy.org/</a></p> <p>Toward a World Free from Violence: Global Survey on Violence against Children, 2013. OSRSGVAC. See: <a href="http://srsg.violenceagainstchildren.org/page/920">http://srsg.violenceagainstchildren.org/page/920</a></p> <p>Violence against Children Surveys: <a href="http://www.cdc.gov/violenceprevention/vacs/vacs-survey-methods.html">http://www.cdc.gov/violenceprevention/vacs/vacs-survey-methods.html</a></p> <p>Krug et al. (2002) World report on violence and health. World Health Organization. <a href="http://www.who.int/violence_injury_prevention/violence/world_report/en">http://www.who.int/violence_injury_prevention/violence/world_report/en</a></p> <p>UN General Assembly, Convention on the Rights of the Child, 20 November 1989, United Nations <a href="http://www.ohchr.org/en/professionalinterest/pages/crc.aspx">http://www.ohchr.org/en/professionalinterest/pages/crc.aspx</a></p> <p>WHO (2006) Preventing child maltreatment: a guide to taking action and generating evidence. World Health Organization <a href="http://www.who.int/entity/violence_injury_prevention/publications/violence/child_maltreatment/en/index.html">http://www.who.int/entity/violence_injury_prevention/publications/violence/child_maltreatment/en/index.html</a></p> <p>WHO (2014) Global status report on violence prevention 2014. World Health Organization <a href="http://www.who.int/violence_injury_prevention/violence/status_report/2014/en/">http://www.who.int/violence_injury_prevention/violence/status_report/2014/en/</a></p> <p>The 2010 UNODC-UNECE Manual on Victimization provides technical guidance on the implementation of such surveys, on the basis of good practices developed at country level.</p>

### **Target 16.2 End abuse, exploitations, trafficking and all forms of violence against and torture of children.**

**Additional Proposed Indicator by UNICEF: *Percentage of young women and men aged 18-24 years who experienced sexual violence by age 18***

#### **Definition and method of computation**

This indicator provides the proportion of young women and men aged 18-24 years who report having experienced any sexual violence by age 18. It is calculated by dividing the number of young women and men aged 18-24 years who report having experienced any sexual violence by age 18 by the total number of young women and men aged 18-24 years, respectively, in the population.

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## **Rationale and interpretation**

While it is recognized that this indicator captures only one of the gravest forms of violence against children rather than being inclusive of all forms, it can be considered a proxy indicator that reflects a key aspect of the change we want to observe in order to achieve the target of elimination of VAC.

The right of children to protection from all forms of violence is enshrined in the Convention on the Rights of the Child and its Optional Protocols. “Sexual violence” as defined in General Comment No. 13 on the Convention of the Rights of the Child, accessible here: [http://www2.ohchr.org/english/bodies/crc/docs/CRC.C.GC.13\\_en.pdf](http://www2.ohchr.org/english/bodies/crc/docs/CRC.C.GC.13_en.pdf)

## **Sources and data collection**

Household surveys such as DHS have been collecting data on this indicator in low- and middle-income countries since the late 1990s.

## **Disaggregation**

Data are available by age, marital status, place of residence and wealth quintiles.

## **Comments and limitations**

The availability of comparable data remains a serious challenge in this area as many data collection efforts have relied on different study methodologies and designs, definitions of sexual violence, samples and questions to elicit information. A further challenge in this field is underreporting, especially when it comes to reporting on experiences of sexual violence among boys and men.

## **Gender equality issues**

As this indicator is disaggregated by sex, it is well-suited for analysis of gender equality issues.

## **Data for global and regional monitoring**

UNICEF has estimates for the percentage of young women aged 18-24 years who report having experienced any sexual violence by age 18, disaggregated by age, marital status, place of residence and wealth quintile by country and for some (flexible) regional groupings with sufficient population coverage. Fully comparable data are currently available for approximately 43 countries.<sup>71</sup> UNICEF has estimates for the percentage of young men aged 18-24 years who report having experienced any sexual violence by age 18, disaggregated by age, marital status, place of residence and wealth quintile by country for approximately 5 countries.<sup>72</sup>

## **Supplementary information and references**

*UNICEF website on sexual violence data:*

<http://data.unicef.org/child-protection/sexual-violence.html>

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<sup>71</sup> These data will require additional data processing to recalculate for the age group 18-24 as the standard age groups reported in the DHS are 15-19 and 20-24.

<sup>72</sup> Same comment as above.

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## **Responsible entities**

UNICEF

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### **Target 16.3 Promote the rule of law at the national and international levels and ensure equal access to justice for all**

#### **Additional Proposed Indicator from OHCHR: *Incidence of death or physical injury during arrest or apprehension or in custody***

Goal and target addressed	This indicator is proposed to monitor targets: 16.1 (violence) 16.3 (rule of law) 16.6 (effective, accountable institutions)
Definition and method of computation	The indicator is computed as the ratio of the number of deaths and physical injuries in custody or resulting from arrests or other acts of apprehending persons by law enforcement officials to the total number of persons in custody, arrested or otherwise apprehended by law enforcement officials during the reporting period. The indicator should be presented as the number of such cases per thousand (i.e. multiplied by 1000).
Rationale and interpretation	<p>The indicator refers to the numbers of deaths and physical injuries resulting from arrests or other acts of apprehending persons by law enforcement officials or occurring in places of detention and imprisonment during the reporting period.</p> <p>A number of provisions of international law regulate the use of force and firearms by law enforcement officials. Any use of force must be in pursuit of a legitimate aim, and proportionate to that aim. The indicator allows an assessment of the degree to which strict rules on the use of force are in fact respected. It also provides a measure of the effectiveness of State action in fulfilling its obligation to eliminate any form of torture or cruel, inhuman or degrading treatment or punishment in all places of detention and imprisonment, whether perpetrated by State agents or other detained and imprisoned persons.</p>
Sources and data collection	The main sources of data are administrative records at national or sub-national level, in particular annual reports of relevant agencies. The primary sources of data are logs of police officers and other law enforcement officials, medical records of detained and imprisoned persons and reports of investigations.
Disaggregation	<p>The indicator should be disaggregated by the ethnicity, sex, age, income, geographic location, disability, religion, migratory or displacement status, minority or indigenous status, sexual orientation and gender identity of the person apprehended or detained.</p> <p>To ensure policy relevance, the indicator should be disaggregated by the type of apprehension (arrest for a violent crime, arrest for a non-violent crime, apprehension prior to deportation, etc.) or detention (convicted prisoner/ person subject to arrest/ detained or imprisoned juveniles / pre-trial detainee/ asylum seeker/ patient in a closed psychiatric hospital), and cause of injury or death, including type of perpetrator</p>

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	if applicable (law enforcement official/detainee).
Comments and limitations	<p>Controls on the use of force by law-enforcement officials are a vital aspect of the rule of law, as is more general safety in places of detention. This indicator adequately captures the proportion of arrests and apprehensions in which a high degree of force is employed, as well as realisation of the right not to be subjected to torture or to cruel, inhuman or degrading treatment or punishment in places of detention and imprisonment.</p> <p>The Code of Conduct for Law Enforcement Officials authorises law enforcement officials to use force “only when strictly necessary and to the extent required for the performance of their duty” (article 3). It may thus be used only for the prevention of crime or in effecting or assisting in the lawful arrest of offenders, and its use must be proportionate to the legitimate aim to be achieved. Additionally, law enforcement officials should fully protect the health of persons in their custody, and take immediate action to secure medical attention when required (article 6).</p> <p>The Body of Principles for the Protection of All Persons under Any Form of Detention or Imprisonment provides that all deaths in custody should be the subject of an inquiry by a judicial or other authority, either on its own motion or at the instance of a member of the family of the deceased or any person who has knowledge of the case, with the findings of the inquiry or a report thereon available upon request, unless this would jeopardize an ongoing criminal investigation (principle 34).</p>
Gender equality issues	
Data for global and regional monitoring	Relevant data is frequently reported upon by States parties to the Convention against Torture and other Cruel, Inhuman or Degrading Treatment or Punishment to the Committee against Torture, which is mandated to monitor implementation of that treaty.
Supplementary information	
References	

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### Target 16.3 Promote the rule of law at the national and international levels and ensure equal access to justice for all

#### Additional Proposed Indicator from OHCHR: *Average period of pre-trial detention*

<p>Goal and target addressed</p>	<p>This indicator is proposed to monitor the following targets: 16.3 (rule of law) 16.6 (effective, accountable institutions) 16.10 (protection of fundamental freedoms)</p>
<p>Definition and method of computation</p>	<p>Pre-trial detention is defined as the detention of a suspected or accused person in a criminal case before the trial has begun. It includes the period between arrest and release without charge, release following charge (including release on bail) or the beginning of the criminal trial.</p> <p>The indicator should be calculated for persons arrested and awaiting charge/release without charge or charged and awaiting trial on a selected day of the reporting period, whether or not they are currently in detention. The indicator is calculated as the sum of the total number of days which each person (has) spent in detention related to the offence for which they were arrested or charged, divided by the number of such persons.</p>
<p>Rationale and interpretation</p>	<p>This indicator aims to assess the overall functioning and effectiveness of the criminal justice system, and respect for the rights of persons suspected of a crime.</p> <p>Article 9(3) of the International Covenant on Civil and Political Rights (ICCPR) requires that “Anyone arrested or detained on a criminal charge shall be brought promptly before a judge or other officer authorized by law to exercise judicial power and shall be entitled to trial within a reasonable time or to release. The Human Rights Committee has held that “what constitutes ‘reasonable time’ is a matter of assessment for each particular case” (Communication No. 336/1988, <i>N. Fillastre v. Bolivia</i> (Views adopted on 5 November 1991), in UN doc. GAOR, A/47/40, p. 306, para. 6.5). It shall not be the general rule that persons awaiting trial shall be detained in custody, but release may be subject to guarantees to appear for trial, at any other stage of the judicial proceedings, and, should occasion arise, for execution of the judgement.” Article 14(3)(c) ICCPR provides that everyone shall be tried without undue delay. Rule 6.1 of the United Nations Standard Minimum Rules for Non-Custodial Measures, the “Tokyo Rules,” provides that “pre-trial detention shall be used as a means of last resort in criminal proceedings, with due regard for the investigation of the alleged offence and for the protection of society and the victim.”</p> <p>There is thus an international legal obligation on States to limit the use of pre-trial detention and ensure that the judicial process operate efficiently, with no undue delays. This indicator measures how well this is achieved in practice. The value of the indicator should decrease over time as measures are taken to reduce both the use and duration of pre-trial detention.</p>
<p>Sources and data collection</p>	<p>The primary data source is administrative records maintained at the national level in places of detention used for detention of persons suspected or accused of crimes, including police stations, prisons, juvenile detention centres, closed psychiatric hospitals and court detention facilities.</p>
<p>Disaggregation</p>	<p>To be meaningful, the indicator should be disaggregated by category of charge, and by stage of the criminal justice process (arrested awaiting charge/release or charged</p>

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	awaiting trial). The indicator should be disaggregated by characteristics of the detained person (age, sex, income, geographic location, ethnicity, disability, religion, migratory or displacement status, minority or indigenous status, sexual orientation and gender identity). Where the national system allows children to be detained with a parent or guardian, data should also be disaggregated for this group, by the age of the child.
Comments and limitations	The indicator does not measure other aspects of the rule of law and the right to a fair trial such as independence of the judiciary or access to review of judgements by a higher court. Neither does it measure the conditions of detention, including separation of different categories of detainee. The indicator does, however, provide a measure of the State's commitment to ensure in practice the presumption of innocence, access to and equality before the courts.
Gender equality issues	To adequately capture disparities, the indicator should be disaggregated by characteristics of the detained person, including characteristics relevant to gender (sex, sexual orientation and gender identity). Where the national system allows children to be detained with a parent or guardian (in practice, most often a woman), data should also be disaggregated for this group, by the age of the child.
Data for global and regional monitoring	At the international level, extensive data on prisons is collected by UNODC and data on persons in pre-trial detention is available in 118 countries and territories. Data on the length of pre-trial detention is not currently collected, but could be added to the current survey or otherwise collated. These data are already computed in a number of countries (in 2003, for example, 19 of 25 European countries surveyed had a figure available, and such statistics are regularly provided to human rights treaty bodies).
Supplementary information	
References	<p>Applicable human rights instruments include:</p> <ul style="list-style-type: none"> <li>• Standard Minimum Rules for the Treatment of Prisoners</li> <li>• Basic Principles for the Treatment of Prisoners</li> <li>• Body of Principles for the Protection of All Persons under Any Form of Detention or Imprisonment</li> <li>• United Nations Rules for the Protection of Juveniles Deprived of their Liberty</li> <li>• Declaration on the Protection of All Persons from Being Subjected to Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment</li> <li>• Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment (CAT)</li> <li>• Optional Protocol to the Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment (OPCAT)</li> <li>• Principles of Medical Ethics relevant to the Role of Health Personnel, particularly Physicians, in the Protection of Prisoners and Detainees against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment</li> <li>• Principles on the Effective Investigation and Documentation of Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment</li> <li>• Safeguards guaranteeing protection of the rights of those facing the death penalty</li> <li>• Code of Conduct for Law Enforcement Officials</li> <li>• Basic Principles on the Use of Force and Firearms by Law Enforcement Officials</li> <li>• United Nations Standard Minimum Rules for Non-custodial Measures (The Tokyo Rules)</li> <li>• United Nations Standard Minimum Rules for the Administration of Juvenile Justice (The</li> </ul>

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	<p>Beijing Rules)</p> <ul style="list-style-type: none"><li>• Guidelines for Action on Children in the Criminal Justice System</li><li>• United Nations Guidelines for the Prevention of Juvenile Delinquency (The Riyadh Guidelines)</li><li>• Declaration of Basic Principles of Justice for Victims of Crime and Abuse of Power</li><li>• Basic Principles on the Independence of the Judiciary</li><li>• Basic Principles on the Role of Lawyers</li><li>• Guidelines on the Role of Prosecutors</li><li>• Principles on the Effective Prevention and Investigation of Extra-legal, Arbitrary and Summary Executions</li><li>• Declaration on the Protection of All Persons from Enforced Disappearance</li><li>• Basic Principles and Guidelines on the Right to a Remedy and Reparation</li><li>• International Convention for the Protection of All Persons from Enforced Disappearance</li><li>• United Nations Rules for the Treatment of Women Prisoners and Non-custodial Measures for Women Offenders (the Bangkok Rules)</li><li>• Updated Set of principles for the protection and promotion of human rights through action to combat impunity</li></ul>
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### **Target 16.5 Substantially reduce corruption and bribery in all their forms.**

#### **Additional Proposed Indicator from OHCHR: *Percentage of government revenues (including ODA and natural resource concessions) that are publicly available and reflected in national and sub-national budgets***

<p>Goal and target addressed</p>	<p>This indicator is proposed to monitor targets:</p> <ul style="list-style-type: none"> <li>1.a (resource mobilisation)</li> <li>10.b (ODA)</li> <li>12.2 (sustainable management of natural resources)</li> <li>16.5 (corruption and bribery)</li> <li>16.6 (effective, accountable and transparent institutions)</li> <li>17.1 (domestic resource mobilisation)</li> </ul>
<p>Definition and method of computation</p>	<p>For the purposes of this indicator, official development assistance (ODA) is defined in line with the OECD definition, as:</p> <ul style="list-style-type: none"> <li>i. provided by official agencies, including state and local governments, or by their executive agencies; and</li> <li>ii. each transaction of which:             <ul style="list-style-type: none"> <li>a) is administered with the promotion of the economic development and welfare of developing countries as its main objective; and</li> <li>b) is concessional in character and conveys a grant element of at least 25 per cent (calculated at a rate of discount of 10 per cent)."</li> </ul> </li> </ul> <p>Revenue is defined as cash receipts from taxes, social contributions, and other revenues such as fines, fees, rent, and income from property or sales.</p> <p>The indicator is calculated as the government revenues published in publicly available budgets at the national or sub-national level divided by the total revenues over the same period. The period will generally be a financial year.</p>
<p>Rationale and interpretation</p>	<p>Corruption is often divided into two types: grand and petty. Grand corruption refers to acts of corruption committed at the highest levels of government, which may distort policies or the central functioning of the state, enabling leaders to benefit at the expense of the public good. Petty corruption, on the other hand, occurs in low-level contacts between businesses and officials with ordinary citizens, who often are trying to access basic goods or services in places like hospitals, schools, police departments and other agencies.</p> <p>Cases of grand corruption often involve misappropriation of funds, notably ODA and natural resource concessions. Such corruption often limits the ability of the State to provide essential goods and services, disproportionately impacting the poor who are most reliant on such services. This may constitute a violation of the State duty under the International Covenant on Economic, Social and Cultural Rights to use the maximum available resources to progressively achieve the full enjoyment of economic, social and cultural rights.</p> <p>Transparency is vital to combating corruption. This indicator is a proxy measure of grand corruption.</p>
<p>Sources and data collection</p>	<p>The main data sources will be financial records and budgets of government departments at the national and sub-national levels. Specific data on payments made for natural resource</p>

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	concessions may also be available in the published budgets of private companies.
Disaggregation	Data should be disaggregated by type of revenue, notably ODA and natural resource concessions.  To measure further goals and targets, data should also be disaggregated by relevant government departments.
Comments and limitations	While it provides a good proxy measure of grand corruption, this indicator does not directly measure the phenomenon, as this would require significant auditing of public accounts. It will not detect corruption at later stages, for example as regards budget 'leakage' (the ratio of amount spent to amount allocated, or services received to services paid for) by government departments. However, budget transparency is an important aspect of the prevention of corruption.
Gender equality issues	The data for this indicator should be disaggregated at the level of government department, with particular attention to any impacts on social spending for particular groups, including women.
Data for global and regional monitoring	At the international level, the World Bank collects and publishes data on government revenues on an annual basis. Data on ODA are available in the International Development Statistics online database of OECD, which is updated annually.
Supplementary information	
References	

### **Target 16.5 Substantially reduce corruption and bribery in all their forms.**

**Additional Proposed Indicator from OHCHR:** *Average salary of persons with judicial or public functions as percentage of regulated minimum wage or national median wage for a full-time worker*

Goal and target addressed	This indicator is proposed to monitor targets: 3c (health financing) 4.1, 4.2, 4.3 (quality education) 5.1 (discrimination against women)
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	<p>8.5 (equal pay for work of equal value)  16.3 (rule of law)  16.5 (corruption)  16.6 (effective, accountable and transparent institutions)</p>
<p>Definition and method of computation</p>	<p>The average salary is calculated as the base level salary paid, excluding bonuses and other salary boosters. In States with a minimum wage, the indicator should be measured against the minimum wage. Where no such minimum exists, the national median wage can be used. This will limit inter-State comparability, but will allow effective national monitoring.</p> <p>This indicator is computed by dividing the average salary of public officials by the regulated minimum wage or national median wage, and multiplying by 100. The result may be more or less than 100%, depending on whether public officials are, on average, paid more or less than the minimum wage.</p>
<p>Rationale and interpretation</p>	<p>Petty corruption is generally higher in environments where public officials have relatively low salaries, which may increase the attractiveness of bribes.</p> <p>This indicator is also a good measure of the level of value that society places on the role of public officials, and the level of investment by way of financial resources in various sectors. Measuring salary in this way is also an important way of guarding against retrogression: For example, as regards teaching staff, the ICESCR requires, in article 13(2)(e) that “the material conditions of teaching staff shall be continuously improved”.</p> <p>The disaggregated indicator is relevant as a measurement of whether the State is meeting its obligation to devote maximum available resources to the progressive realisation of economic, social and cultural rights, as well as to measurement of pay gaps between men and women.</p>
<p>Sources and data collection</p>	<p>This data can be collected from administrative and financial records at the national level, as well as from labour force surveys.</p>
<p>Disaggregation</p>	<p>This indicator should be disaggregated on the basis of type of public official (judge, prosecutor, police officer, doctor, nurse, teacher, social worker, etc.), and their sex.</p>
<p>Comments and limitations</p>	<p>By using an average salary calculation, this indicator does not provide the ability to compare salaries at different points in the salary progression scale, i.e. entry level salaries, salaries after 10 years and salaries at the top of the scale. Thus, the indicator may mask possible incentives to corruption in cases where there are significant disparities within a profession.</p>
<p>Gender equality issues</p>	<p>The disaggregated indicator allows for measurement of pay gaps between men and women.</p>

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Data for global and regional monitoring	Some relevant data are collected by ILO at the international level.
Supplementary information	
References	ILO Global Wage Database and other relevant data: <a href="http://www.ilo.org/travail/areasofwork/wages-and-income/WCMS_142568/lang--en/index.htm">http://www.ilo.org/travail/areasofwork/wages-and-income/WCMS_142568/lang--en/index.htm</a>

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### **Target 16.6 Develop effective, accountable and transparent institutions at all levels.**

#### **Additional Proposed Indicator from OHCHR: *Proportion of population satisfied with their last experience of public services***

<p>Goal and target addressed</p>	<p>This indicator is proposed to monitor targets:</p> <ul style="list-style-type: none"> <li>1.4 (access to basic services)</li> <li>3.8 (access to quality, essential health-care services)</li> <li>4.1, 4.2 and 4a (quality education, including facilities)</li> <li>7.1 (access to affordable, reliable energy services)</li> <li>10.2 (social inclusion)</li> <li>11.1 (adequate housing)</li> <li>16.3 (rule of law)</li> <li>16.6 (effective, accountable and transparent institutions)</li> </ul>
<p>Definition and method of computation</p>	<p>The indicator is calculated as the number of respondents replying that they were satisfied or very satisfied with their last experience of accessing a public service divided by the total number of respondents. The data may be weighted to reflect the general population.</p>
<p>Rationale and interpretation</p>	<p>In order to be effective and accountable, institutions must be responsive to the needs of the population. This indicator will require the use of perception-based population surveys and will collect relevant data on the lived experience of individuals seeking access to and obtaining basic public services, such as health care, education, water and sanitation, as well as services provided by the police and judicial system.</p>
<p>Sources and data collection</p>	<p>The main source of data is perception surveys. Such surveys are conducted in an increasing number of countries, and often include a number of measures of quality, which may include physical facilities in which the service was accessed, whether the service met expectations, timeliness, quality and comprehensiveness of information provided, professionalism and courtesy of public officials, responsiveness to queries or complaints, relevant outcomes, affordability/ value for money and specific issues of accessibility for targeted population groups, e.g. physical accessibility or availability of information in minority languages.</p> <p>Such perception surveys include the World Value Survey, Gallup, Afrobarometer and the other Barometers (see below), and surveys conducted by NSOs at the national level.</p>
<p>Disaggregation</p>	<p>Data should be disaggregated by type of public service accessed (e.g. health, education, housing, social services, police, courts). Data should also be disaggregated by geographic location and the ethnicity, sex, age, income, disability status, religion, migratory or displacement status, civil status, minority or indigenous status, sexual orientation and gender identity of the user of the service.</p>

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Comments and limitations	
Gender equality issues	The indicator may capture gender differences as they are reflected in the comparative experience of men and women in accessing different sorts of services.
Data for global and regional monitoring	<p>In Africa, the approach has already been applied and reported by several NSOs using the SHaSA questionnaire. Nine countries have already started to collect data using the Harmonised Module on Democratic Governance, with as many as 20 expressing interest. Questions on the Harmonised Module ask specifically about rates of access to, and trust in, the following services/institutions: public service (in general), courts of justice, police, public hospitals and clinics, public schools, tax/customs authorities, social security system, state media, Parliament, army, President, Prime Minister (where applicable), Mayor (where applicable).</p> <p>Regional Barometers (e.g. 19 countries in Africa in 2014 amongst 36 in total since the Afrobarometer process started, 10 Arab states in the Arabbarometer, 18 Latin American states in the Latinobarometer, 13 Asian states with three surveys and a further five with at least one survey each) ask about experience of accessing essential government services, including public schools, public clinics and hospitals, registration offices (birth certificate, driver's licence, passport, voter's card, permits, etc), water, sanitation and electricity. Questions also ask about ease of access, including the need for bribes, gifts or favours.</p> <p>The World Values Survey asks respondents in 60 countries (for the 6th Wave, 2010-2014) about confidence in institutions including the armed forces, the police, the courts, government and parliament. There are also questions on the extent to which government should take responsibility to ensure that everybody is provided for. Private sector data collectors already conduct surveys in a range of countries – Gallup's World Poll conducts representative surveys face to face in over 140 countries covering the emerging and developed world, including questions on confidence in the judicial system, in the local police, in the military and in government. Edelman's Trust Barometer breaks down questions of trust amongst a range of institutions.</p>
Supplementary information	
References	<p>SHaSA Harmonised Module on Democratic Governance.          Global Barometer Study: <a href="http://www.jdsurvey.net/gbs/gbs.jsp">http://www.jdsurvey.net/gbs/gbs.jsp</a>          World Values Survey: <a href="http://www.worldvaluessurvey.org/wvs.jsp">http://www.worldvaluessurvey.org/wvs.jsp</a>          Gallup World Poll: <a href="http://www.gallup.com/services/170945/world-poll.aspx">http://www.gallup.com/services/170945/world-poll.aspx</a></p>

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### **Target 16.6 Develop effective, accountable and transparent institutions at all levels.**

#### **Proposed Additional Indicator from OECD: *Trust in Institutions***

##### ***Definition and method of computation***

Placeholder measure: the proportion of the adult population answering "yes" to the question " In this country, do you have confidence in each of the following, or not? How about judicial system and courts?" as based e.g. on the *Gallup World Poll*

Another possible measure of trust in institutions might be developed based on the *OECD Guidelines on Measuring Trust*, which will be completed in 2017 (see below).

##### ***Rationale and interpretation***

A key policy concern in recent years has been declining levels of trust by citizen in public institutions following the financial crisis. Trust is one of the foundations upon which the legitimacy and sustainability of political systems are built, is crucial to the implementation of a wide range of policies, and it influences behavioural responses from the public to such policies. Trust in institutions captures how well citizens perceive political systems to be functioning and the effectiveness of public institutions in delivering good governance. The measure used focuses on the judicial system as this minimises the probability of respondents confusing whether the questions is about the political party in power at the moment as opposed to government institutions more generally.

The proposed indicator is intended to capture the *trustworthiness* of institutions, rather than the level of *trust* in institutions per se. The proposed interim use of a measure of confidence in the judicial system is intended as a proxy measure of the former concept rather than a direct measure of the latter. An increase in the proportion of the population indicating that they have confidence in the judicial system should therefore be interpreted as an improvement in the indicator. However, it will be important to cross-check the interim measure against other indicators under Goal 16 to ensure that movements in the indicator represent an improvement in trustworthiness of judicial institutions, not simply a change in public perceptions.

##### ***Sources and data collection***

Currently information on trust in institutions is not widely available from official sources and, even where it is available, is not collected to a common standard across countries. Some relevant data is, however, currently available from a number of non-official sources. These include the World Values Survey and the Gallup World Poll, and the Afrobarometer/Latinobarometer/Eurobarometer surveys.

Of these, the World Values Survey has limited country coverage and is not updated annually, while the various "barometers " are not directly comparable with each other and also have known limitations in terms of data quality.

The Gallup World Poll asks respondents a number of questions relating to trust in different public institutions. The most relevant question is " do you have confidence in each of the following, or not? How about judicial system and courts?", and is available for 160 countries covering 98% of the world's adult population. Although this question is far from ideal, the availability of annual data for almost all of the world's countries makes it a suitable proxy indicator until better measures can be obtained.

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In the medium to longer term, better data is likely to be available from national statistical agencies. The OECD is currently preparing a set of guidelines on the collection and use of measures of trust. The *OECD Guidelines on Measuring Trust* will broaden the conceptual and statistical basis for measuring governance through household surveys, providing the basis for the *standardised collection of survey data on trust* by national statistical agencies and other producers of survey-based data.

### ***Disaggregation***

Data from the Gallup World Poll can potentially be disaggregated by age, sex, family composition, labour force status and socio-economic status. However, the sample is not representative at the sub-national level and the sample is, in any event, too small to provide meaningful estimates of outcomes at the regional level within countries. In addition, information on ethnic minorities and or indigenous populations is not generally available from the Gallup World Poll.

The *OECD Guidelines on Measuring Trust* will address issues of disaggregation and sample design in detail.

### ***Comments and limitations***

The question on Trust in Institutions has not been extensively tested for validity and it is of, at best, intermediate quality. In addition, there is currently no standard set of questions for measuring trust in institutions, and advice on measurement strategies is likely to evolve rapidly over the next few years. From this perspective it is important that any measure selected is used on an interim basis only.

Note that respondent's willingness to answer questions on trust in institutions honestly may be contingent on the quality of the institutions of the country in which they live. In particular, in the countries with the worst institutional quality respondents may be unwilling to record their true views in a survey.

### ***Gender equality issues***

Confidence in the judicial system can be disaggregated by gender, but does not directly address issues of gender equality.

### ***Data for global and regional monitoring***

It will take time for comparable official data to become available, even for developed countries. In the interim, as noted above, the Gallup World Poll provides a measure suitable for monitoring purposes.

### ***Supplementary information***

The *OECD Guidelines on Measuring Trust* will be completed by the end of 2016. They will be analogous in form and content to the *OECD Guidelines on Measuring Subjective Well-being* published in 2013. For purposes of comparison, the *OECD Guidelines on Measuring Subjective Well-being* can be found at :

<http://www.oecd.org/statistics/Guidelines%20on%20Measuring%20Subjective%20Well-being.pdf>

### ***References***

Baena, P. (2013), *Investing in Trust: Leveraging Institutions for Inclusive Policy Making*. 47<sup>th</sup> Session of the Public Governance Committee, OECD.



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OECD (2013), *OECD Guidelines on Measuring Subjective Well-being*, OECD Publications, Paris

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### **Target 16.7 Ensure responsive, inclusive, participatory and representative decision-making at all levels**

#### **Additional Proposed Indicator from OHCHR: *Turnout as a proportion of the voting-age population***

<p>Goal and target addressed</p>	<p>This indicator is proposed to monitor targets:            5.5 (women’s full and effective participation)            10.2 (political inclusion)            16.6 (effective, accountable, transparent institutions)            16.7 (responsive, inclusive, participatory and representative decision-making)</p>
<p>Definition and method of computation</p>	<p>The indicator is computed as the ratio of actual turnout at an election to the total population of individuals who were of voting age on the day of the election.</p>
<p>Rationale and interpretation</p>	<p>Article 25(b) ICCPR provides that every citizen should have the right “to vote and to be elected at genuine periodic elections which shall be by universal and equal suffrage and shall be held by secret ballot, guaranteeing the free expression of the will of the electors.”</p> <p>In order to support public participation to ensure the effective exercise of the right to vote at genuine periodic elections, the State should take positive measures to realise the right to participate, including the effective registration of voters which is as inclusive as possible. The Human Rights Committee elaborated on the content of this right in its General Comment 25, noting that “States must take effective measures to ensure that all persons entitled to vote are able to exercise that right. Where registration of voters is required, it should be facilitated, and obstacles to such registration should not be imposed. If residence requirements apply to registration, they must be reasonable, and should not be imposed in such a way as to exclude the homeless from the right to vote.”</p>
<p>Sources and data collection</p>	<p>The main data source is administrative records, including voter registers, at the national level. Turn-out will be tabulated at the time of election based on votes tallied by the electoral authorities. The total voting age population may be obtained from demographic data maintained by National Statistics Offices.</p>
<p>Disaggregation</p>	<p>The indicator should be disaggregated by ethnicity, sex, age, income, geographic location, disability, religion, migratory or displacement status, civil status, and minority or indigenous status.</p> <p>Data should also be disaggregated by type of election (local, regional, national, etc.).</p>

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Comments and limitations	Using voting age population as a base rather than registered voters will include persons who are considered non-eligible at national level, which may include, for example, prisoners or persons with psycho-social disabilities. Such restrictions, however, are generally incompatible with the State's international human rights obligations. Past evidence suggests that registration requirements can affect turnout levels particularly among marginalised groups, which means that election results will under-represent their opinions if registration is not carried out properly.
Gender equality issues	Disaggregation of data for this indicator by sex will allow for detection of any discrepancy between men and women. As women may experience discrimination at the time of registering to vote, the indicator is calculated as a ratio against the entire voting age population, and not simply the population of registered voters.
Data for global and regional monitoring	International organisations such as the International Institute for Democracy and Electoral Assistance (IDEA) maintain detailed tables on turn-out and registration at multiple levels for all countries.
Supplementary information	
References	IDEA databases: <a href="http://www.idea.int/vt/viewdata.cfm#">http://www.idea.int/vt/viewdata.cfm#</a>

### **Target 16.7 Ensure responsive, inclusive, participatory and representative decision-making at all levels**

**Additional Proposed Indicator from OHCHR: *Proportion of non-governmental organizations, trade unions or other associations consulted about government decisions, strategies and policies in their sector***

Goal and target addressed	This indicator is proposed to monitor targets: 6b (participation of local communities in improving water and sanitation management) 8.8 (protection of labour rights) 10.2 (political inclusion) 11.3 (participatory human settlement planning) 16.3 (rule of law) 16.6 (effective, accountable and transparent institutions) 16.7 (responsive, inclusive, participatory and representative decision-making) 16.10 (fundamental freedoms) 17.17 (multi-stakeholder partnerships, including civil society)
Definition and	The indicator is calculated as the number of NGOs, trade unions or other associations responding that they were consulted about government decisions, strategies and

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method of computation	policies in their sector during the reporting period, divided by the total number of NGOs, trade unions and other associations surveyed.
Rationale and interpretation	Participation is an underlying principle of human rights, and results in greater legitimacy of government institutions and policies. In particular, groups who are affected by policies should be consulted in their development and implementation. For example, large-scale infrastructure projects should involve consultation with local populations, changes to employment policy should involve consultation with relevant trade unions, and changes to rules on accessibility for persons with disabilities should involve consultations with representative non-governmental organizations of persons with disabilities.
Sources and data collection	The primary data source will be surveys conducted at the national level. Such surveys could also be conducted by international organizations such as OHCHR as regards human rights NGOs, ILO as regards trade unions, etc.
Disaggregation	Data should be disaggregated by the sector (education, health, etc.) or government department responsible, and by the type of consultations held (in-person, written submission, public meeting, etc.).
Comments and limitations	<p>This is a cross-cutting indicator of relevance to all targets. Effective policies require the support and participation of those most affected by them.</p> <p>The sampling frame for surveys must be well-defined at national level, where often a register of organisations exists. Where the survey is conducted by an international organisation, it may be preferred to conduct the survey with NGOs in consultative status with ECOSOC, or registered trade unions.</p>
Gender equality issues	Disaggregation should include as a sector associations working primarily on issues of gender.
Data for global and regional monitoring	
Supplementary information	
References	

**Target 16.9**      **By 2030, provide legal identity for all, including birth registration.**

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**Additional Proposed Indicator from OHCHR: *Percentage of adult population holding an identity document which allows them to access public services and entitlements, conclude a lease, open a bank account, and enter and leave their country of residence***

<p>Goal and target addressed</p>	<p>This indicator is proposed to monitor targets: 5a (women’s access to economic resources) 8.10 (expanded access to banking for all) 10.7 (orderly, safe and responsible migration) 16.9 (legal identity for all)</p>
<p>Definition and method of computation</p>	<p>The indicator is calculated as the number of survey respondents holding an identity document which allows them to access public services and entitlements, conclude a lease, open a bank account, and enter and leave their country of residence, divided by the total number of respondents. It may be weighted to reflect the population as a whole.</p>
<p>Rationale and interpretation</p>	<p>Legal identity is essential to many aspects of modern life. A number of States require proof of identity in order for individuals to access basic public services or qualify for social security, although these are basic human rights which, under international law, must be accessible to all. A lack of identity documents can also make it difficult or impossible for individuals to access private housing or formal sector employment, to obtain social assistance, to prove the right to inherit property or to open a bank account. Article 12 ICCPR provides that everyone shall be free to leave any country, including his own, and that no one shall be arbitrarily deprived of the right to enter his own country.</p> <p>It is often the most vulnerable populations who find themselves without such papers, including victims of trafficking, undocumented migrants, unaccompanied minors, refugees and internally displaced persons, stateless persons and homeless persons. This indicator is an important measure of populations who are often left behind.</p>
<p>Sources and data collection</p>	<p>The main data source will be household and demographic surveys at the national level. Data may also be available in administrative records at the national level, for example authorities responsible for issuing passports.</p>
<p>Disaggregation</p>	<p>Data should be disaggregated by migratory or displacement status, minority or indigenous status, ethnicity, sex, age, income, geographic location, and other relevant grounds. Data should also be disaggregated by type of document (birth certificate, identity card, passport, etc.).</p>
<p>Comments and limitations</p>	<p>Research has shown that the most vulnerable groups often fail to respond to general surveys, and this is especially true of those who are not recognised by the State as having a legal right of residence, such as undocumented migrants or victims of trafficking. Surveys based on address will exclude the homeless. Collection of data for this indicator should therefore draw on good practices at the national level in this regard.</p>

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Gender equality issues	Data for this indicator should be disaggregated by sex, and special data collection efforts put in place for specific groups, such as victims of trafficking.
Data for global and regional monitoring	
Supplementary information	
References	

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### **Target 16.10 Ensure public access to information and protect fundamental freedoms, in accordance with national legislation and international agreements.**

#### **Proposed Additional Indicator by UNESCO: *Adoption and implementation of constitutional, statutory and/or policy guarantees for public access to information***

**Definition and method of computation:** For this indicator, the operative words are “existence” and “implementation”. As such, it establishes: (a) whether a country (or at the global level, the number of countries) has constitutional, statutory and/or policy guarantees for public access to information; (b) the extent to which such national guarantees reflect ‘international agreements’ (e.g. Universal Declaration of Human Rights, etc.); and (c) the implementation mechanisms in place for such guarantees, including the following variables:

- Government efforts to publicly promote the right to information.
- Citizens’ awareness of their legal right to information and their ability to utilise it effectively.
- The capacity of public bodies to provide information upon request by the public.

This indicator will thus collate data from multiple sources, including National Human Rights Institutions, national and international non-governmental organisations, academic institutions, and national media regulatory authorities, among others. Such information will be gathered, processed and checked by international organisations - UNESCO and World Bank.

UNESCO collects some aspects of this data using the *Media Development Indicators*, in addition to the biennial *World Trends in Freedom of Expression and Media Development* report.

Data are available for at least 195 countries.

**Rationale and interpretation:** The definition here relates directly to “public access to information”, which is wider than, but is also very much based upon, the established fundamental freedoms of expression and association.

(Conversely, these freedoms also both impact on the environment for public access to information).

The focus of this indicator is thus on the status of adoption and implementation of constitutional, statutory and/or policy guarantees for public access to information.

As suggested by the Sustainable Development Solutions Network (SDSN) and UNESCO in earlier presentations to the UN Technical Support Team (UN TST), this is a relevant and measurable indicator.

It also responds to the growing number of UN member states that have already adopted legal guarantees, and many others that are currently considering relevant legislation or regulation in the field.

The rationale for assessing the implementation dimension is to assess the relevance of legal steps to practical information accessibility. It is not a composite indicator, but a logical linkage of laws and policies to practical impact that is relevant to SDG concerns.

The practical guarantee of public access may be partially assessed through dimensions such as those unpacked by The World Bank. In this way, the practical quality of legal provisions can be established by identifying if there are: 1) proactive disclosure provisions in laws that establish a legal duty to disclose; 2) mechanisms for citizens, firms, and others to request information that has not been proactively disclosed but that is relevant to their interests, 3) narrowly-tailored guidelines on exemptions to disclosure, and 4) institutional structures that support disclosure, such as information commissioners, oversight mechanisms, and complaints mechanisms. In some national cases, there is also information on the sources and numbers of requests and the response time taken to process these requests.

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UNESCO, within its mandate for the right to freedom of expression, which includes the corollary of the right to freedom of information, already monitors progress and issues in this area through its existing submissions to the Universal Periodic Review (UPR) and regularly issued research reports on World Trends on Freedom of Expression and Media Development, including its Media Development Indicators assessments. Collaboration with the World Bank is foreseen, as well as drawing upon work undertaken by ARTICLE 19 in this area.

All these will be considered important aspects of establishing the existence and implementation of constitutional, statutory and/or policy guarantees for public access to information.

- **Sources and data collection:** UNESCO and World Bank reports
- Other UN bodies, such as UNDP
- National bodies such as commissioners responsible for right to information implementation
- Media regulators
- Academic and research institutions
- Media support NGOs (national and international)

**Disaggregation:** The indicator can be disaggregated in terms of the extent to which the residence of citizens affects their ability to access information (e.g. how do rural, peri-rural, urban and peri-urban dwellers access information from public bodies). It can also be disaggregated in terms of whether gender influences ability to access information.

**Comments and limitations:** This indicator does not assess the totality of “public access to information” component of the full Target of 16.10. Nevertheless, it focusses on a key determinant of the wider information environment.

**Gender equality issues:** This indicator can be disaggregated in terms of the ability by men and women to access public information.

**Data for regional and global monitoring:** With the indicator as proposed above, UNESCO could serve as a lead agency in compiling a periodic global report, including relevant inputs from other UN agencies and other bodies, for submission to the relevant UN body which will ultimately track the progress of SDGs.

For reports submitted directly by countries themselves or through regional peer reviews, data sources for the proposed indicator could include official Human Rights Commissions or Information Commissioner figures where these exist, judicial records, police and civil society statistics, and academic research.

A more qualitative component of reporting on the proposed indicator could include aspects such as the actual impact of the right to information laws on SDG-relevant concerns.

The UNESCO Institute for Statistics (UIS) has collected information on two aspects in a pilot survey on Media Statistics, reinforcing the ‘judicial processes’ dimension of the indicator:

LF17. Is there a legal provision for access to information held by the State?

LF18. Is there a constitutional provision for access to information held by the State?

Data are currently available for 56 countries after two rounds of pilot surveys.

**Supplementary information:** None.

### References:

- UNESCO Media Development Indicators: Framework for assessing media development. <http://unesdoc.unesco.org/images/0016/001631/163102e.pdf>
- World Trends in Freedom of Expression and Media Development: <http://www.unesco.org/new/en/world-media-trends>



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- Universal Periodic Review: [UNESCO contributes data on freedom of expression, including constitutional guarantees thereof, in addition to tracking killings of journalists]. <http://www.ohchr.org/en/hrbodies/upr/pages/BasicFacts.aspx>

### **Target 16.10 Ensure public access to information and protect fundamental freedoms, in accordance with national legislation and international agreements.**

#### **Proposed Additional Indicator by OHCHR: *Number and proportion (by sector of activity) of associations closed, dissolved or suspended***

<p>Goal and target addressed</p>	<p>This indicator is proposed to monitor targets:            16.3 (rule of law)            16.6 (accountable institutions)            16.7 (responsive, inclusive, participatory and representative decision-making)            16.10 (protection of fundamental freedoms)</p>
<p>Definition and method of computation</p>	<p>The indicator is calculated first as the total number of associations which ceased to operate due to closure, dissolution or suspension during the reporting period. The proportion is calculated as the number of associations in a specific sector (e.g. registered or active human rights associations) which ceased to operate due to closure, dissolution or suspension during the reporting period, divided by the total number of associations operating in that sector during the reporting period.</p>
<p>Rationale and interpretation</p>	<p>The human right to freedom of association is recognised, <i>inter alia</i>, in Article 22 ICCPR, Article 8 ICESCR, Article 7 CEDAW, Article 15 CRC, Article 26 ICRMW, Article 24 CED and Article 29 CRPD.</p> <p>Freedoms of expression, association and peaceful assembly, and the right to participate in public affairs, are human rights that enable people to share ideas, form new ones, and join together with others to claim their rights and advocate for policy changes. It is through the exercise of these public freedoms that populations participate in informed decision-making about economic and social development. To restrict them undermines our collective progress. This indicator aims to detect reduction in civil society space, and it is a cross-cutting indicator that is also relevant to means of implementation throughout the SDGs. A vibrant civil society is vital to ensure the social accountability of government. While there is inevitable turnover in associations, a large number of closures in particular sectors may reveal repression, sudden cuts in public funding or other chilling effects. Reduction in civil society space often results in decreased exchange of information, free expression, transparency and, ultimately, accountability.</p>
<p>Sources and data collection</p>	<p>The main source of data is administrative records at the national level. Judicial records may include relevant data where associations were closed, dissolved or suspended by court order.</p>

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	At the international level, relevant data are held by UN DESA regarding non-governmental organisations in consultative status with ECOSOC, and by the ILO regarding trade unions.
Disaggregation	Data for this indicator should be disaggregated by sector of activity, type of cessation of activity (closure/dissolution/suspension), reason for closure/dissolution/suspension, and geographic location.
Comments and limitations	The human right to freedom of association may not be limited by a requirement that associations register at the national or international level. The denominator for proportions under this indicator will therefore require clear definition of “association,” and in some cases data reliability may require that proportions are calculated only for registered associations. For this reason, both the number of closures, dissolutions and suspensions and the proportion should be calculated.
Gender equality issues	Disaggregation should include by association working on issues of the human rights of women or LGBTI persons.
Data for global and regional monitoring	At the international level, relevant data are held by UN DESA regarding non-governmental organisations in consultative status with ECOSOC, and by the ILO regarding trade unions.
Supplementary information	
References	

### **Target 16.10 Ensure public access to information and protect fundamental freedoms, in accordance with national legislation and international agreements.**

**Proposed Additional Indicator by OHCHR:** *Average time taken and average fee charged by public bodies to respond to freedom of information requests*

Goal and target addressed	<p>This indicator is proposed to monitor targets:</p> <ul style="list-style-type: none"> <li>16.3 (rule of law)</li> <li>16.6 (effective, accountable and transparent institutions)</li> <li>16.10 (public access to information)</li> </ul> <p>The indicator is relevant to monitoring of all targets, as this by definition requires</p>
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	access to information.
Definition and method of computation	The average time taken to respond to requests is calculated as the sum of days between the receipt of the request (in any required official format) and sending of the information requested or reasons for refusal to provide the information for all requests, divided by the total number of requests received during the reporting period. The average fee charged is calculated as the sum of all fees levied for such requests divided by the total number of requests received during the reporting period.
Rationale and interpretation	The right to freedom of opinion and expression includes the right to access and receive information. Transparency of institutions implies that people should be able to request information, that institutions should respond swiftly to such requests, and that any associated fees should be affordable.  National legislation on freedom of information generally stipulates maximum time periods and maximum fees for responding to freedom of information requests.
Sources and data collection	The main source of data will be administrative records of public bodies. Public bodies in a number of countries already compile such information.
Disaggregation	Data should be disaggregated by type of response (provision or non-provision of information) and by type of public body, as well as whether the request was made by an individual or other entity.
Comments and limitations	Specific legislation on freedom of information does not exist in all countries. In such cases, this should be included in any core document summarising relevant treaty ratifications and national institutional and legal framework.
Gender equality issues	The data could be further disaggregated by sex to detect any discrepancy in response time to men and women.
Data for global and regional monitoring	
Supplementary information	
References	

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**Target 16.10 Ensure public access to information and protect fundamental freedoms, in accordance with national legislation and international agreements.**

**Proposed Additional Indicator by UNFPA: *Existence of independent national human rights institutions***

A “national human rights institution” (NHRI) is an institution with a constitutional and/or legislative mandate to protect and promote human rights. When in compliance with the principles relating to the status of national institutions, commonly known as the Paris Principles, NHRIs are cornerstones of national human rights promotion and protection systems. The Paris Principles set a group of standards to ensure that National Human Rights Institutions are truly independent and have the minimum level of capacity to undertake their mandate effectively. In that regard, NHRIs are part of the State but are not part of the executive, legislative or judicial branches.

The General Assembly and the Human Rights Council, in their resolutions relating to national human rights institutions have encouraged NHRIs to seek accreditation status through the International Coordinating Committee of National Human Rights Institutions (ICC) and noted with satisfaction the strengthening of the accreditation process and the continued assistance of OHCHR in this regard.

By 23rd May 2014, 106 NHRIs were accredited by the ICC: 71 (A status) as being in full compliance with the Paris Principles; 25 (B Status) as being not fully in compliance with the Paris Principles; and 10 (C status) as being non compliant with the Paris Principles. The rest of countries in the world (87) do not have national human rights institutions.

Therefore, for the purpose of calculating the indicator 71 out of 193 countries have independent national human rights institution

To note that the accreditation status lasts for a period of 5 years. After that period, NHRIs have to be reassessed by the ICC. Therefore the baseline set at May 2014 could go up or down, i.e. if a NHRI losses its A status after a period of 5 years.

Likewise, UN human rights mechanisms including the Universal Periodic Review, Treaty Bodies and the Special Procedures increasingly refer to the Paris Principles and the ICC accreditation process, to encourage the establishment and strengthening of fully Paris Principles-compliant NHRIs worldwide.

More information in the following

link: <http://nhri.ohchr.org/EN/AboutUs/ICCAccreditation/Pages/default.aspx>

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**Target 16.b Promote and enforce non-discriminatory laws and policies for sustainable development**

**Proposed Additional Indicator by OHCHR: *Existence of independent National Human Rights Institution in compliance with the Paris Principles***

<p><b>Goal and target addressed</b></p>	<p>This indicator is proposed to monitor the following targets:          10.3 (eliminate discriminatory laws)          16a (strengthen national institutions)          16b (promote and enforce non-discriminatory laws)</p>
<p><b>Definition and method of computation</b></p>	<p><b>Definition</b>          This indicator measures the proportion of countries that have internationally recognized independent (NHRIs) based on the rules of procedure of the International Coordinating Committee of National Institutions (ICC).</p> <p><b>Concepts</b>          A National Human Rights Institution is an independent administrative body set up by a State to promote and protect human rights. NHRIs are State bodies with a constitutional and/or legislative mandate to protect and promote human rights. They are part of the State apparatus and are funded by the State. However, they operate and function independently from government. While their specific mandate may vary, the general role of NHRIs is to address discrimination in all its forms, as well as to promote the protection of civil, political, economic, social and cultural rights. Core functions of NHRIs include complaint handling, human rights education and making recommendations on law reform. Effective NHRIs are an important link between government and civil society, in so far as they help bridge the 'protection gap' between the rights of individuals and the responsibilities of the State. Six models of NHRIs exist across all regions of the world today, namely: Human rights commissions, Human rights ombudsman institutions, Hybrid institutions, Consultative and advisory bodies, Institutes and centres and multiple institutions.</p> <p>An Independent NHRI is an institution with 'A level' accreditation status as benchmarked against the United Nations Paris Principles, which were adopted by the United Nations General Assembly in 1993.<sup>1</sup> The process of accreditation is conducted through peer review by the Sub-Committee on Accreditation (SCA) of the ICC. There are three possible types of accreditation:</p> <p>A: Compliance with Paris Principles          B: Observer Status – Not fully in compliance with the Paris Principles or insufficient information provided to make a determination          C: Non-compliant with the Paris Principles</p> <p>Accreditation by the ICC entails a determination whether the NHRI is compliant, both in law and practice, with the Paris principles, the principal source of the normative standards for NHRIs, as well as with the General Observations developed by the SCA. Other international standards may also be taken into account by the SCA, including the provisions related to the establishment of national mechanisms in the Optional</p>

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	<p>Protocol to the Convention against Torture and other Cruel, Inhuman or Degrading Treatment or Punishment as well as in the International Convention on the Rights of Persons with Disabilities. Likewise, the SCA looks at any NHRI-related recommendation from the international human rights mechanisms, notably, the Treaty Bodies, Universal Periodic Review (UPR) and special procedures. The process also looks into the effectiveness and level of engagement with international human rights systems.</p> <p>Method of computation The indicator is computed as the accreditation classification, namely A, B or C of the NHRI.</p>
<b>Rationale and interpretation</b>	<p>This indicator measures the global continual efforts of countries in setting up independent national institutions, through international cooperation, to promote inclusive, peaceful and accountable societies. The creation and fosterage of a NHRI indicates a State's commitment to promote and protect the human rights provided in international human rights instruments. Compliance with the Paris Principles vest NHRIs with a broad mandate, competence and power to investigate, report on the national human rights situation, and publicise human rights through information and education. While NHRIs are essentially state funded, they are to maintain independence and pluralism. When vested with a quasi-judicial competence, NHRIs handle complaints and assist victims in taking their cases to courts making them an essential component in the national human rights protection system. These fundamental functions that NHRIs play and their increasing participation in the international human rights fora make them important actors in the improvement of the human rights situation, including the elimination of discriminatory laws and the promotion and enforcement of non-discriminatory laws</p> <p>At the national level reporting, the better the accreditation classification of the NHRI reflects that it is credible, legitimate, relevant and effective in promoting human rights at the national level.</p>
<b>Sources and data collection</b>	<p>The main source of data on the indicator is administrative records of the Sub-Committee on Accreditation reports of the ICC. OHCHR compiles the data into a global directory of NHRI status accreditation updated every six months, after the Sub-committee on Accreditation submits its report. This information can be accessed on a continuous basis, including through maps.</p>
<b>Disaggregation</b>	<p>While disaggregation of information is not applicable for this indicator, it may be desirable to highlight the type of NHRI, whether Ombudsman, human rights commission, advisory body, research-based institute, etc.</p>
<b>Comments and limitations</b>	<p>The UN Secretary General's (SG) reports to the Human Rights Council (HRC) (A/HRC/13/44) and to the General Assembly (A/65/340, highlighted the value of the overall human rights work by NHRIs and stated that, 'National human rights institutions compliant with the Paris Principles are key elements of a strong and effective national human rights protection system. They can help ensure the compliance of national laws and practices with international human rights norms; support governments to ensure</p>

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their implementation; monitor and address at the national level core human rights concerns such as torture, arbitrary detention, human trafficking and human rights of migrants; support the work of human rights defenders; and contribute to eradicate all forms of discrimination', (A/HRC/13/44, par. 108). Cooperation and constructive relationship between NHRIs and the government, parliaments, civil society organisations and other national institutions with a role to promote and protect human rights is encouraged by the SG in his report to the HRC for 2010 (A/HRC/16/76). The important and constructive role of national institutions for the promotion and protection of human rights has also been acknowledged in different United Nations instruments and resolutions, including the Final Document and Programme of Action of the 1993 World Conference on Human Rights in Vienna, GA resolutions A/RES/63/172 (2008) and A/RES/64/161 (2009) on National institutions for the promotion and protection of human rights. In addition, creation and strengthening of NHRIs have also been encouraged. For example, the 1993 GA resolution 48/134 'affirms the priority that should be accorded to the development of appropriate arrangements at the national level to ensure the effective implementation of international human rights standards' while the 2008 GA resolution A/RES/63/169 encouraged states 'to consider the creation or the strengthening of independent and autonomous Ombudsman, mediator and other national human rights institutions'. The Human Rights Council (HRC resolution 5/1, 2007) also called for the effective participation of national human rights institutions in its institution building package, which provides elements to guide its future work.

UN treaty bodies have also recognised the crucial role that NHRIs represent in the effective implementation of treaty obligations and encouraged their creation (e.g. CERD General Comment 17, A/48/18 (1993); CESCR General Comment 10, E/C.12/1998/25; and CRC General Comment 2, CRC/GC/2002/2). A compilation of various recommendations and concluding observations relevant to NHRIs emanating from the international human rights mechanisms in the United Nations is available at: <http://www.universalhumanrightsindex.org/>.

The ICC is an international association of NHRIs which promotes and strengthens NHRIs to be in accordance with the Paris Principles and provides leadership in the promotion and protection of human rights (ICC Statute, Art. 5). Decisions on the classifications of NHRIs are based on their submitted documents such as: 1) copy of legislation or other instrument by which it is established and empowered in its official or published format (e.g. statute, and /or constitutional provisions, and/or presidential decree, 2) outline of organisational structure including details of staff and annual budget, 3) copy of recent published annual report; 4) detailed statement showing how it complies with the Paris Principles. NHRIs that hold 'A' and 'B' status are reviewed every five years. Civil society organisations may also provide relevant information to OHCHR pertaining to any accreditation matter.

Accreditation of NHRIs shows that the government supports human rights work in the country. However their effectiveness should also be measured based on their ability to gain public trust and the quality of their human rights work. In this context, it would also be worthwhile to look into the responses of the NHRI to the recommendations of the ICC. Likewise, the inputs from the NHRI while engaging with the international human rights mechanisms (i.e. submissions to the Human Rights Council, including UPR, and to the treaty bodies) represent a valuable source of information on how NHRIs carry out their mandate in reference to international human rights instruments.

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<b>Gender equality issues</b>	NHRIs should have a clear mandate to examine and make recommendations on equality and non-discrimination, including on the ground of gender.
<b>Data for global and regional monitoring</b>	ICC and OHCHR are the agencies responsible for compiling these indicators at the international level.
<b>Supplementary information</b>	
<b>References</b>	<p>Data for the indicator are available here:  <a href="http://www.ohchr.org/EN/Countries/NHRI/Pages/NHRIMain.aspx">http://www.ohchr.org/EN/Countries/NHRI/Pages/NHRIMain.aspx</a>            Maps of the data are available here:  <a href="http://www.ohchr.org/EN/Issues/Indicators/Pages/HRIndicatorsIndex.aspx">http://www.ohchr.org/EN/Issues/Indicators/Pages/HRIndicatorsIndex.aspx</a></p> <p>The Paris Principles require NHRIs to: a) Protect human rights, including by receiving, investigating and resolving complaints, mediating conflicts and monitoring activities; and b) Promote human rights, through education, outreach, the media, publications, training and capacity building, as well as advising and assisting the Government. The Paris Principles set out six main criteria that NHRIs require to meet: Mandate and competence: a broad mandate, based on universal human rights norms and standards; Autonomy from Government; Independence guaranteed by statute or Constitution; Pluralism; Adequate resources; and Adequate powers of investigation.</p> <p>UNITED NATIONS (2011). National Human Rights Institutions; History, Principles, Roles and Responsibilities. Geneva. Available from  <a href="http://www.ohchr.org/EN/Countries/NHRI/Pages/NHRIMain.aspx">http://www.ohchr.org/EN/Countries/NHRI/Pages/NHRIMain.aspx</a></p> <p>UNITED NATIONS (2012). Human Rights Indicators: A Guide to Measurement and Implementation. New York and Geneva. Available from  <a href="http://www.ohchr.org/EN/Issues/Indicators/Pages/HRIndicatorsIndex.aspx">http://www.ohchr.org/EN/Issues/Indicators/Pages/HRIndicatorsIndex.aspx</a>.</p>



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**Target 17.6 Enhance North-South, South-South and triangular regional and international cooperation on and access to science, technology and innovation and enhance knowledge sharing on mutually agreed terms, including through improved coordination among existing mechanisms, in particular at the United Nations level, and through a global technology facilitation mechanism.**

**Proposed Additional Indicator by ITU and Partnership on Measuring ICT for Development:** *Fixed Internet broadband subscriptions broken down by speed*

### **Definition and method of computation**

The indicator *fixed Internet broadband subscriptions, by speed*, refers to the number of fixed-broadband subscriptions to the public Internet, split by advertised download speed.

Fixed Internet broadband subscriptions refer to subscriptions to high-speed access to the public Internet (a TCP/IP connection), at downstream speeds equal to, or greater than, 256 kbit/s. This includes cable modem, DSL, fibre-to-the-home/building, other fixed (wired)-broadband subscriptions, satellite broadband and terrestrial fixed wireless broadband. This total is measured irrespective of the method of payment. It excludes subscriptions that have access to data communications (including the Internet) via mobile-cellular networks. It should include fixed WiMAX and any other fixed wireless technologies. It includes both residential subscriptions and subscriptions for organizations.

The Internet is a worldwide public computer network. It provides access to a number of communication services including the World Wide Web and carries e-mail, news, entertainment and data files.

The indicator is currently broken down by the following subscription speeds:

- **256 kbit/s to less than 2 Mbit/s subscriptions:** Refers to all fixed broadband Internet subscriptions with advertised downstream speeds equal to, or greater than, 256 kbit/s and less than 2 Mbit/s.
- **2 Mbit/s to less than 10 Mbit/s subscriptions:** Refers to all fixed -broadband Internet subscriptions with advertised downstream speeds equal to, or greater than, 2 Mbit/s and less than 10 Mbit/s.
- **Equal to or above 10 Mbit/s subscriptions (4213\_G10).** Refers to all fixed -broadband Internet subscriptions with advertised downstream speeds equal to, or greater than, 10 Mbit/s.

ITU collects data for this indicator through an annual questionnaire from national regulatory authorities or Information and Communication Technology (ICT) Ministries, who collect the data from national Internet service providers. The data can be collected by asking each Internet service provider in the country to provide the number of their fixed-broadband subscriptions by the speeds indicated. The data are then added up to obtain the country totals.

### **Rationale and interpretation**

The Internet has become an increasingly important tool to provide access to information, and can help foster and enhance regional and international cooperation on, and access to, science, technology and innovations, and enhance knowledge sharing. High-speed Internet access is important to ensure that Internet users have quality access to the Internet and can take

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advantage of the growing amount of Internet content – including user-generated content –, services and information.

While the number of fixed-broadband subscriptions has increased substantially over the last years and while service providers offer increasingly higher speeds, fixed Internet broadband can vary tremendously by speed, thus affecting the quality and functionality of Internet access. Many countries, especially in the developing world, have not only a very limited amount of fixed-broadband subscriptions, but also at very low speeds. This limitation is a barrier to the Target 17.6 and the indicator highlights the potential of the Internet (especially through high-speed access) to enhance cooperation, improve access to science, technology and innovation, and share knowledge. The indicator also highlights the importance of Internet use as a development enabler and helps to measure the digital divide, which, if not properly addressed, will aggravate inequalities in all development domains. Information on fixed broadband subscriptions by speed will contribute to the design of targeted policies to overcome those divides.

### Sources and data collection

The indicator *fixed Internet broadband subscriptions, by speed* is based on an internationally agreed definition and methodology, which have been developed under the coordination of ITU, through its Expert Groups and following an extensive consultation process with countries. It is also a core indicator of the Partnership on Measuring ICT for Development's Core List of Indicators, which has been endorsed by the UN Statistical Commission (last time in 2014). The indicator on fixed Internet broadband subscriptions is also included in the ITU ICT Development Index (IDI), and thus considered a key metric for international comparisons of ICT developments. In the future, as more countries collect data on this indicator broken down by speed, breakdowns could be included and used to calculate the IDI.

ITU collects data for this indicator through an annual questionnaire from national regulatory authorities or Information and Communication Technology Ministries, who collect the data from Internet service providers. By 2014, data were available for about 80 economies, from developed and developing regions, and covering all key global regions. Data on fixed-broadband subscriptions (not broken down by speed) exist for almost 200 economies in the world. ITU publishes data on this indicator yearly.

### Disaggregation

Since data for this indicator are based on administrative data from operators, no information on individual subscribers is available and therefore the data cannot be broken down by any individual characteristics. Data could in theory be broken down by geographic location and urban/rural, but ITU does not collect this information.

### Comments and limitations

Since most Internet service providers offer plans linked to download speed, the indicator is relatively straightforward to collect. Countries may use packages that do not align with the speeds used for this group of indicators. Countries are encouraged to collect the data in more speed categories so as to allow aggregation of the data according to the split shown above. In the future, ITU might start to include higher-speed categories, reflecting the increasing demand and availability of higher-speed broadband subscriptions.

### Gender equality issues

Data cannot be broken down by gender.

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### **Data for global and regional monitoring**

Regional and global aggregates of the number of *fixed Internet broadband subscriptions, by speed* have not yet been produced since data exist for about 80 economies (in 2014).

However, more countries are expected to provide information on this indicator over the next few years, which will allow ITU to produce regional and global estimates. Data on fixed-broadband subscriptions not broken down by speed are widely available, and regional and global aggregates can easily be produced.

### **Supplementary information**

Year-end data are released in December of the following year through the ITU World Telecommunication/ICT Indicators Database.

### **References**

- [ITU Handbook for the Collection of Administrative Data on Telecommunications/ICT](#), 2011, (and revisions and new indicators)

### **Targets for which indicator are relevant**

8.2, 9.1, 9.c, 17.8

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**Target 17.8 Fully operationalize the technology bank and science, technology and innovation capacity-building mechanism for least developed countries by 2017 and enhance the use of enabling technology, in particular information and communications technology**

**Proposed Additional Indicator by ITU and Partnership on Measuring ICT for Development: *International Internet bandwidth per inhabitant***

### **Definition and method of computation**

*International Internet bandwidth* refers to the total capacity of international telecommunication links provisioned to carry Internet traffic, in megabits per second (Mbit/s). If capacity is asymmetric (i.e. more incoming (downlink) than outgoing (uplink) capacity), then the incoming (downlink) capacity should be provided. Data on international Internet bandwidth refers to the used international Internet bandwidth (traffic) and to the average traffic load (expressed in Mbit/s) of international fibre-optic cables and radio links for carrying Internet traffic. The average should be calculated over the 12-month period of the reference year, and should take into consideration the traffic of all international Internet links. The combined average traffic load of different international Internet links can be reported as the addition of the average traffic load of each link.

The Internet is a worldwide public computer network. It provides access to a number of communication services including the World Wide Web and carries e-mail, news, entertainment and data files.

ITU collects data for this indicator through an annual questionnaire sent to national regulatory authorities or Information and Communication Technology Ministries, who collect the data from Internet Service Providers and/or wholesale Internet connectivity providers. The data can be collected by asking the operators that own the international fibre-optic cables and radio links about the bandwidth data from their links, excluding any leased capacity from third parties. Data can also be collected by asking retail Internet service providers about the international Internet bandwidth they use to carry the traffic from their users, irrespective of whether this capacity is owned or leased. Data are then added up to obtain the country totals.

This indicator refers to the used capacity of international connections between countries for transmitting Internet traffic. Out of the total international bandwidth available in the country (i.e. the *potential* capacity of the connections), there is a part that corresponds to the lit or equipped capacity, i.e. capacity currently available for use and for which the necessary equipment has been deployed and is operational at both ends of the link. Only the part of the lit/equipped capacity that has been actually used to carry Internet traffic during the reference period is counted as used capacity.

Data on international Internet bandwidth are multiplied by 1 million and divided by the population to derive the international Internet bandwidth per inhabitant (bits/second/inhabitant). Data are presented in relative terms to the population of the country in order to ascertain to what extent the current international Internet bandwidth suffices the whole population in a country.

### **Rationale and interpretation**

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The Internet has become an increasingly important tool to provide access to information, and can help operationalize the Technology Bank and STI (Science, Technology and Innovation) capacity building mechanism, and enhance knowledge sharing. International Internet bandwidth is an important building block in providing high-speed Internet access and to ensure that Internet users have quality access to the global Internet and can take advantage of the growing amount of Internet content – including user-generated content –, services and information. Moreover, the lack of international Internet bandwidth has been a historical bottleneck in the broadband provision chain in developing countries, and therefore merits particular policy attention and monitoring.

Domestic and international backbones are important building blocks of Internet infrastructure. Backbone transmission networks typically revolve around fibre-optic, satellite and microwave infrastructure. Backbone transmission bandwidth affects the speed at which information is delivered to, and sent from, Internet users. It is measured in the number of bits that can be transferred per second. A common benchmark is bits per second per capita, obtained by dividing the Internet bandwidth by the population.

Several countries in the world, and in particular LDCs, have only a very limited amount of international Internet bandwidth, which severely limits the potential of the Internet. The indicator also highlights the importance of Internet use as a development enabler and helps to measure the digital divide, which, if not properly addressed, will aggravate inequalities in all development domains. Information on these indicators will contribute to the design of targeted policies to overcome those divides.

### **Sources and data collection**

The *International Internet bandwidth per inhabitant* indicator is based on an internationally agreed definition and methodology, which have been developed under the coordination of ITU, through its Expert Groups and following an extensive consultation process with countries. It is also a core indicator of the Partnership on Measuring ICT for Development's Core List of Indicators, which has been endorsed by the UN Statistical Commission (last time in 2014). Data on international Internet bandwidth are also used in the calculation of the ITU ICT Development Index (IDI), and thus considered a key metric for international comparisons of ICT developments.

ITU collects data for the indicator through an annual questionnaire sent to national regulatory authorities or Information and Communication Technology Ministries, who collect the data from Internet Service Providers and/or wholesale Internet connectivity providers. For countries that do not provide the information, ITU estimates the indicator based on information provided by operators/ISPs, and based on subscription data. By 2014, data are available for about 200 economies.

### **Disaggregation**

Not applicable for this indicator.

### **Comments and limitations**

There exist different measurements of international Internet bandwidth, such as potential, lit/equipped, purchased and used capacity. The harmonization of the data reported into a single common metric remains a challenge. ITU is working towards the harmonization of the

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data on international Internet bandwidth through the work of the ITU Expert Group on Telecommunication/ICT Indicators (EGTI).

### **Gender equality issues**

Not applicable for this indicator.

### **Data for global and regional monitoring**

ITU produces regional and global aggregates of International Internet bandwidth per inhabitant, as well as for LDCs.

### **Supplementary information**

Year-end estimates are usually released in June of the following year through the ITU World Telecommunication/ICT Indicators Database.

### **References**

- [ITU Handbook for the collection of Administrative Data on Telecommunications/ICT](#), 2011 (and revisions and new indicators)

### **Targets for which indicator are relevant:**

9.1, 9.a, 9.c, 17.6

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**Target 17.12 Realize timely implementation of duty-free and quota-free market access on a lasting basis for all least developed countries, consistent with World Trade Organization decisions, including by ensuring that preferential rules of origin applicable to imports from least developed countries are transparent and simple, and contribute to facilitating market access.**

**Proposed Additional Indicator by ITC/UNCTAD/WTO: *Proportion of developed-country imports from developing countries admitted duty free***

### **Definition and method of computation**

The calculation of this indicator is a straightforward ratio of the value (current US dollar) of those developed countries duty free imports from least developed and developing countries, compared with the total value of imports from these respective country groups.

This indicator was already calculated under MDG indicator 8.6. For reference purposes see the Millennium Development Goals Report 2015 available at [http://www.un.org/millenniumgoals/2015 MDG Report/pdf/MDG%202015%20rev%20\(July%201\).pdf](http://www.un.org/millenniumgoals/2015%20MDG%20Report/pdf/MDG%202015%20rev%20(July%201).pdf) (p. 64)

### **Rationale and interpretation**

This indicator indicates the rate of utilization of preferences which can be a good proxy to measure the impact of obstacles (e.g. specific requirements as rules of origin, lack of transparency) over the effective use of such preferences (e.g. Duty Free Quota Free for LDCs).

### **Sources and data collection**

Tariff data for the calculation of this indicator are retrieved from the ITC (MAcMap, <http://www.macmap.org/>) and WTO (IDB) databases. Data from these 2 databases are also displayed on the World Bank/UNCTAD World Integrated Trade Solution application <http://wits.worldbank.org/>

Tariff data (MFN and preferences) are collected every year for more than 130 countries and territories. WTO data are received directly from WTO Members and are processed and verified. They are jointly validated by the members themselves. Calculations of ad valorem equivalents are provided by ITC.

Trade data are retrieved from ITC (Trade Map, <http://www.trademap.org/>), WTO (IDB) and UNSD (COMTRADE, <http://comtrade.un.org/>) databases. Trade data has at least a one-year lag in terms of availability compared to tariffs.

This indicator can generally be compiled around March of each year. At that time (say year y), the indicator is compiled for (y-2), corresponding to the availability of detailed bi-lateral trade flows.

### **Disaggregation**

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Disaggregation is possible by group of countries (geographical and by income level) and by group of products

### Comments and limitations

In terms of limitations:

- Accurate estimates that could ensure that preferential rules of origin applicable to imports from least developed countries are transparent and simple for developing countries do not exist, thus the calculations are limited to the amount of trade that could be exported duty free. Nevertheless, tariffs are only part of the trade limitation factors, especially when looking at exports of developing or least developed countries under non-reciprocal preferential treatment that set criteria for eligibility.
- A full coverage of preferential schemes of developed countries are used for the computation, but preferential treatment may not be fully used by developing countries' exporters for different reasons such as the inability of certain exporters to meet eligibility criteria (i.e., complying with rules of origin). As there is no accurate statistical information on the extent of the actual utilisation of each of these preferences, it is assumed that they are fully utilised.
- Duty free treatment is an indicator of market access, but is not always synonymous with preferential treatment for beneficiary countries, because a number of MFN tariffs are already at, or close to, zero, especially for fuels and minerals. International agreements on IT products also offer duty-free treatment for components and equipments used for production purpose

### Gender equality issues

Gender equality issues cannot be captured by this indicator.

### Data for global and regional monitoring

#### Supplementary information and references

This indicator could be used also under target 10.a (to measure the effectiveness of the actions taken in order to facilitate utilization of preferences granted by developed countries in order to increase trading opportunities for developing countries).

### Responsible entities

ITC/UNCTAD/WTO

### Current data availability

This indicator was already calculated under MDG 8.6. For reference purposes see the Millennium Development Goals Report 2015 available at [http://www.un.org/millenniumgoals/2015\\_MDG\\_Report/pdf/MDG%202015%20rev%20\(July%201\).pdf](http://www.un.org/millenniumgoals/2015_MDG_Report/pdf/MDG%202015%20rev%20(July%201).pdf) (p. 64)