Environmentally-related SDG indicators and the UNSD/UN Environment Questionnaire on Environment Statistics


Workshop on Environment Statistics for the East African Community Region

Arusha, Tanzania

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Outline

1. Sustainable Development Goals (SDGs) Indicators
2. Selected environmentally-related SDG Indicators
   - Goal 6: Clean Water and Sanitation
   - Goal 11: Sustainable Cities and Communities
   - Goal 12: Responsible Consumption and Production
3. The UNSD/UN Environment Questionnaire
4. SDG indicators and FDES statistics

The 17 SDGs


SUSTAINABLE DEVELOPMENT GOALS
1 NO POVERTY
2 ZERO HUNGER
3 GOOD HEALTH AND WELL-BEING
4 QUALITY EDUCATION
5 GENDER EQUALITY
6 CLEAN WATER AND SANITATION
7 AFFORDABLE AND CLEAN ENERGY
8 DECENT WORK AND ECONOMIC GROWTH
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
10 REDUCED INEQUALITIES
11 SUSTAINABLE CITIES AND COMMUNITIES
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION
14 LIFE BELOW WATER
15 LIFE ON LAND
16 PEACE, JUSTICE AND STRONG INSTITUTIONS
17 PARTNERSHIPS FOR THE GOALS

Environment Statistics and the SDGs

- Environmental dimension of sustainable development fully fleshed out in the goals:
  - 6. Clean Water and Sanitation
  - 7. Affordable and Clean Energy
  - 11. Sustainable Cities and Communities
  - 12. Responsible Consumption and Production
  - 13. Climate Action
  - 14. Life below Water
  - 15. Life on Land

  and also mainstreamed/embedded under all other goals.

- Almost half of the SDG targets require environment statistics to compile its indicators.

- Need for **improvement in data and statistics** to monitor progress on the SDGs and the associated need for statistical capacity building is key for developing countries.

Selected environmentally-related SDG indicators

- UNSD involved in the methodological development or data collection (through the UNSD/UN Environment Questionnaire on Environment Statistics) of 6 indicators of three goals.

Ensure availability and sustainable management of water and sanitation for all

Make cities and human settlements inclusive, safe, resilient and sustainable

Ensure sustainable consumption and production patterns

Ensure availability and sustainable management of water and sanitation for all

- 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.

  => **Indicator 6.3.1: Proportion of wastewater safely treated**

- 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.

  => **Indicator 6.4.1: Change in water-use efficiency over time**

  => **Indicator 6.4.2: Level of water stress: freshwater withdrawal as a proportion of available freshwater resources**

Make cities and human settlements inclusive, safe, resilient and sustainable

- 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.

  => **Indicator 11.6.1: Proportion of urban solid waste regularly collected and with adequate final discharge out of total urban solid waste generated, by cities**

Ensure sustainable consumption and production patterns

- Target 12.4: By 2030, 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.

  => Indicator 12.4.2: Hazardous waste generated per capita and proportion of hazardous waste treated, by type of treatment

  => Indicator 12.5.1: National recycling rate, tons of material recycled

UNSD/UNEP Questionnaire on Environment Statistics

- Objective: to provide internationally comparable statistics on environmental issues based on standard questionnaires and methodology.
- About 170 member states and areas in 5 languages.
- Complemented by the OECD/Eurostat Joint Questionnaire on the State of the Environment – their member states.
- Close collaboration is maintained on conceptual issues, validation procedures and data validation.
- Collaboration is also maintained with, inter alia, FAO/Aquastat (water statistics), the Basel Convention (hazardous waste), UN Regional Commissions on similar issues, including translation.
- Sent to National Statistical Offices and Ministries of Environment.
- Linked to economic statistics through the use of ISIC Rev. 4 in several tables allowing for better alignment with System of National Accounts, System of Environmental-Economic Accounting.

Water Questionnaire

Water

W1: Renewable Freshwater Resources (SDG-related)

W2: Freshwater Abstraction and Use (SDG-related)

W3: Water Supply Industry (ISIC 36) (SDG-related)

W4: Wastewater Generation and Treatment (SDG-related)

W5: Population Connected to Wastewater Treatment

http://unstats.un.org/unsd/environment/questionnaire.htm

Table W1: Renewable Freshwater Resources

Line	Category	Unit
1	Precipitation	Millions m^3 per year
2	Actual evapotranspiration	
3	Internal flow (=1-2)	
4	Inflow of surface and groundwaters from neighbouring countries	
5	**Renewable freshwater resources (=3+4)**	
6	Outflow of surface and groundwaters to neighbouring countries	
7	Of which: Secured by treaties	
8	Not secured by treaties	
9	Outflow of surface and groundwaters to the sea	

Table W2: Freshwater Abstraction and Use

Line	Category	Unit
1	Fresh surface water abstracted	Millions m^3 per year
2	Fresh groundwater abstracted	
3	**Freshwater abstracted (=1+2)**	
4	*Of which abstracted by:* Water supply industry (ISIC 36)	
5	Households	
6	Agriculture, forestry and fishing (ISIC 01-03)	
7	Manufacturing (ISIC 10-33)	
8	Electricity industry (ISIC 351)	
9	Other economic activities	
10	Desalinated water	
11	Reused water	
12	Imports of water	
13	Exports of water	
14	**Total freshwater available for use (=3+10+11+12-13)**	
15	Losses during transport	
16	**Total freshwater use (=14-15)**	
17	Of which used by: Households	
18	Agriculture, forestry and fishing (ISIC 01-03)	
19	Of which for: Irrigation in agriculture	
20	Manufacturing (ISIC 10-33)	
21	Electricity industry (ISIC 351)	
22	Other economic activities	

Table W3: Water Supply Industry (ISIC 36)

Line	Category	Unit
1	Gross freshwater supplied by water supply industry (ISIC 36)	Millions m^3 per year
2	Losses during transport by (ISIC 36)	
3	Net freshwater supplied by water supply industry (ISIC 36) (=1-2) (=4+5+6+7+8)	
of which supplied to:		
4	Households	
5	Agriculture, forestry and fishing (ISIC 01-03)	
6	Manufacturing (ISIC 10-33)	
7	Electricity industry (ISIC 351)	
8	Other economic activities	
	Population supplied by water supply industry (ISIC 36)	
19	Total population supplied by water supply industry (ISIC 36)	%
10	Urban population supplied by water supply industry (ISIC 36)	
11	Rural population supplied by water supply industry (ISIC 36)	

W4: Wastewater Generation and Treatment

Line	Category	Unit
1	Total wastewater generated	Millions metres^3 per year
2	By: Agriculture, forestry and fishing (ISIC 01-03)	
3	Manufacturing (ISIC 10-33)	
4	Electricity industry (ISIC 351)	
5	Other economic activities	
6	Households	
7	Wastewater treated in urban wastewater treatment plants	
8	Of which: Primary treatment	
9	Secondary treatment	
10	Tertiary treatment	
11	Wastewater treated in other treatment plants	
12	Of which: Primary treatment	
13	Secondary treatment	
14	Tertiary treatment	
15	Wastewater treated in independent treatment facilities	
16	**Non-treated wastewater**	
17	Sewage sludge production (dry matter)	1000 t

Waste Questionnaire

Waste

R1: Generation of Waste by Source

R2: Management of Hazardous Waste (SDG-related)

R3: Management of Municipal Waste (SDG-related)

R4: Composition of Municipal Waste

R5: Management of Municipal Waste – City Data (SDG-related)

http://unstats.un.org/unsd/environment/questionnaire.htm

Table R2: Management of Hazardous Waste

Line	Category	Unit
1	Stock of hazardous waste at the beginning of the year	tonnes
2	Hazardous waste generated during the year	
3	Hazardous waste imported during the year	
4	Hazardous waste exported during the year	
5	**Hazardous waste treated or disposed of during the year (=6+7+9+10)**	
6	*Amounts going to:* Recycling	
7	Incineration	
8	*of which:* with energy recovery	
9	Landfilling	
10	Other, please specify in the footnote	
11	Stock of hazardous waste at the end of the year (=1+2+3-4-5)	

Those variables highlighted in yellow are of interest to SDG monitoring.

Table R3: Management of Municipal Waste

Line	Category	Unit
1	Municipal waste collected from households	1000 t
2	Municipal waste collected from other origins	
3	**Total amount of municipal waste collected (=1+2)**	
4	Municipal waste imported for treatment/disposal	
5	Municipal waste exported for treatment/disposal	
6	**Municipal waste managed in the country (=3+4-5)**	
7	*Amounts going to:* Recycling	
8	Composting	
9	Incineration	
10	*of which:* with energy recovery	
11	Landfilling	
12	*of which:* controlled landfilling	
13	Other, please specify in the footnote	
14	Total population served by municipal waste collection	%
15	Urban population served by municipal waste collection	
16	Rural population served by municipal waste collection	

Table R5: Management of Municipal Waste – City Data

Line	Category	Unit
1	Total population of the city	1000 inh.
2	Percentage of city population served by municipal waste collection	%
3	Municipal waste collected from households	1000 t
4	Municipal waste collected from other origins	
5	**Total amount of municipal waste collected (=3+4)**	
6	*Amounts going to:* Recycling	
7	Composting	
8	Incineration	
9	*of which:* with energy recovery	
10	Landfilling	
11	*of which:* controlled landfilling	
12	Other, please specify in the footnote	

UNSD/UNEP Questionnaire on Environment Statistics

- To promote data quality assurance, UNSD carries out extensive data validation procedures that include built-in automated procedures, manual checks and cross-references to national sources of data.

- Communication carried out with countries for clarification and validation of data.

- **No estimation or imputation for missing values made by UNSD** so the number of data points provided are actual country data which are considered to be official statistics.

- Only data that are considered accurate or those confirmed by countries during the validation process are included in UNSD's environment statistics database and disseminated.

SDG Indicators and FDES Statistics

- One SDG indicator, but many statistics with:
  - different sources (surveys, admin records, …)
  - various agencies
  - different periodicities

- Need for a framework to:
  - structure the data
  - provide interlinkages
  - give additional information on data

=> The FDES can play this role.

SDG indicators and FDES statistics: Example

Indicator 6.4.2: Level of water stress: freshwater withdrawal as a proportion of available freshwater resources

Agencies: Hydro and/or meteorological institutions
Sources: Hydrological/meteorological data and research data

Agencies: Water authorities, municipalities, agricultural authorities, …
Sources: Water survey and admin records

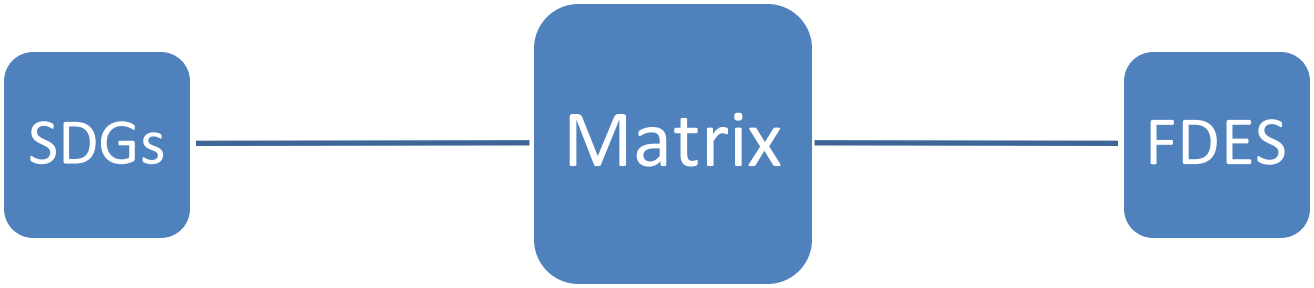
Line	Category
W1,5	Renewable freshwater resources
W2,3	Freshwater abstracted
W2,10	Desalinated water
W2,11	Reused water

(Lines W2,3 + W2,10 + W2,11)/Line W1,5

SDG indicators and FDES statistics: Example Matrix

SDG Indicator	FDES: Component Sub-Component and Topic	FDES Statistics used in the SDG Indicator (SDG Indicator can be compiled either fully or partially from BSES statistics)	FDES statistics related but not directly used in SDG Indicators OR used to derive statistics used in the indicators according to the methodology OR Statistics related to Tier III indicators	Comments
6.4.2: Level of water stress: freshwater withdrawal as a proportion of available freshwater resources (Tier I)	Component 2: Environmental Resources and their Use Sub-component 2.6: Water Resources Topic 2.6.1: Water resources	2.6.1.a Inflow of water to inland water resources 2.6.1.a.1 Precipitation 2.6.1.b.2 Inflow from neighbouring countries 2.6.1.b.3 Inflow subject to treaties 2.6.1.b.1 Evapotranspiration		Long term annual average required.
	Topic 2.6.2: Abstraction, use and returns of water	2.6.2.a. Total water abstraction 2.6.2.f. Desalinated water 2.6.2.g. Reused water	2.6.2.b. Water abstraction from surface water 2.6.2.c. Water abstraction from groundwater 2.6.2.c.1. From renewable groundwater resources 2.6.2.c.2. From non-renewable groundwater resources	Breakdown by ISIC economic sector required

Details and uses of the Matrix



- Developed by UNSD using the available metadata of the SDG indicators
- Correspondence between the environmentally-related SDGs indicators and the Basic Set of Environment Statistics contained in the FDES
- For Tier I and II indicators the BSES may provide either some or all statistics needed to compile the indicators
- For Tier III indicators workplans are under development => tentative correspondence
- Includes FDES statistics directly used in the SDG indicators and related statistics

⇒ Provides a framework for underlying statistics for SDG indicators
⇒ Links SDG indicators to existing statistics
⇒ Gives an idea of required statistics per SDG indicator

Thank you for your attention!

Please contact us:
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