

# Climate Change Statistics and Indicators: Global Set



**Eighth Meeting of the Expert Group on Environment Statistics  
New York, 12-21 October 2021 (virtual)**

Session 1: Climate Change Statistics and Indicators: Group work - Vulnerability



# Outline

1. Vulnerability Indicators
2. New Indicators
3. Proposed Modifications
4. Tier 3 Indicators Work



# Vulnerability indicators and tiers in the Global Set

65	<a href="#">Prevalence of undernourishment (SDG 2.1.1)</a>	3010	2
66	<a href="#">Balance of food trade</a>	3040	1
67	<a href="#">Proportion of area of biofuels (and other non-food crops) from total agricultural area</a>	3020	3
68	<a href="#">Population relying on subsistence and pastoral farming</a>	3030	3
69	<a href="#">Vulnerable species</a>	3100	3
70	<a href="#">Vulnerable/fragile ecosystems</a>	3110	3
71	<a href="#">Vulnerable ecosystem services</a>	3120	3
72	<a href="#">Ecosystem carbon stocks</a>	2400	2
73	<a href="#">Infrastructure vulnerable to climate change</a>	3130	3
74	<a href="#">Buildings (settlements) vulnerable to climate change</a>	3140	3
75	<a href="#">Coverage of essential public health services (SDG 3.8.1)</a>	3200	2
76	<a href="#">Dependency on imported energy in total energy consumption</a>	3210	2
77	<a href="#">Proportion of population with access to electricity (SDG 7.1.1)</a>	3220	1
78	<a href="#">Proportion of population served by municipal waste collection</a>	3230	1
79	<a href="#">Proportion of population using (a) safely managed sanitation services and (b) a hand-washing facility with soap and water (SDG 6.2.1)</a>	3240	2
80	<a href="#">Proportion of population using safely managed drinking water services (SDG 6.1.1)</a>	3250	2
81	<a href="#">Proportion of population with access to heating/cooling</a>	3260	3
82	<a href="#">Proportion of population living in coastal areas [below 5m]</a>	3270	2
83	<a href="#">Proportion of population below the international poverty line (SDG 1.1.1)</a>	3280	2
84	<a href="#">Proportion of population living in other (than coastal) hazard-prone areas</a>	3290	3
85	<a href="#">Proportion of urban population living in slums, informal settlements or inadequate housing (SDG 11.1.1)</a>	3300	2
86	<a href="#">Indigenous population living in isolated areas</a>	3320	3
87	<a href="#">Proportion of population with disability</a>	3310	3
88	<a href="#">Coastal area vulnerable to climate change</a>	3500	3
89	<a href="#">Islands vulnerable to climate change</a>	3510	3
90	<a href="#">Water bodies vulnerable to climate change impacts</a>	3530	3

# Criteria for selecting new indicators

UNSD received suggestions for new indicators from 5 countries and 3 international agencies.

These were screened according to the following criteria:

- 1) link to one of the five climate change areas
- 2) suitability for national policy-making and monitoring purposes
- 3) fit into the area/topics structure in a balanced manner
- 4) possible to develop into the indicator/statistic/metadata structure



# Proposed new indicators

	New Indicators	Suggested by	Yes/No
Statistic in Topic [Freshwater resources]	<ul style="list-style-type: none"> <li>• Water production cost (euro per m<sup>3</sup>)</li> <li>• Customer price of drinking water (euro per m<sup>3</sup>)</li> <li>• Customer satisfaction with drinking water</li> </ul>	Country	
	<ul style="list-style-type: none"> <li>• Gender indicators: “It should be recognized that climate change might have gendered impact. Women might experience particular gender norms, roles, responsibilities, behaviors and power structures that imply that they experience climate change differently. Accordingly, indicators should attempt to capture heterogeneous climate change impacts through disaggregating the indicators by sex. Further, <b>mitigation policies should account for women’s vulnerabilities and should be targeted at women to make sure they benefit.</b>”</li> </ul>	UN-Women	



# Proposed modifications

Indicators	Global Set	Proposed Changes	Yes/No
Indicator 67	Proportion of area of biofuels (and other non-food crops) from total agricultural area	Alternative indicator: <b>Biofuels use for transport.</b>	
	Statistics 3022: Area under land use categories (agriculture) (FDES 2.3.1.a)	Why not using <b>Utilized Agricultural Area</b> as defined by Eurostat in their Farm Structure Surveys and other agricultural statistics? If available, countries should use UAA.	
Indicator 68	Population relying on subsistence and pastoral farming	Disaggregated by gender.  There is information on the number of households according to the household book, which are under the jurisdiction of local executive bodies. Household accounting is conducted once every six months, information is generated only for settlements, villages and rural districts. The information is generated by the Bureau of National Statistics.	
	Statistics 3031: Area of rainfed agricultural systems	Definition and guidance are needed to retrieve the specific vulnerable areas, related to climate change aspects, as mentioned in the meta.	
	Statistics 3032: Area under land use categories (agriculture) (FDES 2.3.1.a)	Disaggregated by gender. In the agricultural sector, <b>rural women in developing countries</b> are the primary producers of staple food, a sector that is highly exposed to the risks that come with drought and uncertain rainfall. [ <a href="https://www.undp.org/sites/g/files/zskgke326/files/publications/Resource.pdf">https://www.undp.org/sites/g/files/zskgke326/files/publications/Resource.pdf</a> ].  Why not using Utilized Agricultural Area as defined by Eurostat in their Farm Structure Surveys and other agricultural statistics? If available, countries should use UAA.	
	Statistics 3033: Population engaged in subsistence farming	<b>Proxy: Number of units below the farm threshold.</b>  Definition and guidance are needed, since 'population engaged' is too vague (the farmers? their families? their villages? ....) and its number should also be combined with some total population number (what is the share of subsistence farming in a country? such share could also be based on area or food production, why population based?).	



# Proposed modifications

Indicators	Global Set	Proposed Changes	Yes/No
Indicator 75	Coverage of essential public health services (SDG 3.8.1)	As one of the tracker indicators within the scope of the index is the WASH indicator, this indicator is relevant to the framework.  There are data on "Percentage of currently married women (15-49 years) who use any modern family planning method"	
	Statistics 3201: ???	Missing statistics? <b>Reproductive, maternal, newborn and child health, infectious diseases, non-communicable diseases and service capacity and access, among the general and the most disadvantaged population.</b>	
Indicator 76	Dependency on imported energy in total energy consumption	Relevance of this indicator, in relation to climate change, is not clear (and should be considered as not relevant, until proven otherwise). The <b>vulnerability to price fluctuations</b> seems more important than to build resilience of energy supply.  Eurostat calculates indicator " <b>Energy imports dependency</b> ". For this EU energy Indicator is in charge of Ministry of Mining and Energy.  Proxy: <b>Net imports/TPES (Total Primary Energy Supply)</b> (Eurostat)	
Indicator 77	Proportion of population with access to electricity (SDG 7.1.1)	Disaggregate by whether household headed by men or women, and/or by household composition (number of women, number of men).  The share of the population with access to electricity in the total population, excluding the population living in bed-type hostels and other residential premises (yurt, chum, etc.)	
	Statistics 3221: ???	Proxy: <b>household consumers.</b>	
Indicator 78	Proportion of population served by municipal waste collection		
	Statistics 3231: Population served by municipal waste collection (FDES 5.1.2.c)	Disaggregate by whether household headed by men or women, and/or by household composition (number of women, number of men).  Also the sum of 'Municipal waste' and 'Industrial waste' may be considered, and the share ' <b>Municipal/(Municipal + Industrial)</b> '.	



# Proposed modifications

Indicators	Global Set	Proposed Changes	Yes/No
Indicator 81	Proportion of population with access to heating/cooling	<p>Disaggregate by whether household headed by men or women, and/or by household composition (number of women, number of men).</p> <p>Actual number having access to heating/cooling will not be available, however we can estimate the household information.</p> <p>The data available is <b>Percentage of dwellings with access to heating/cooling</b>, not Proportion of population with access to heating/cooling.</p>	
	Statistics 3261: Proportion of population with access to heating	Proxy: <b>district heating, gas heating.</b>	
	Statistics 3262: Proportion of population with access to cooling	<p>Proxy: <b>Proportion of dwellings with coolings; Share of dwelling with air-conditioning.</b></p> <p>Relevance of this indicator, in relation to climate change, is not clear (and should be considered as not relevant, until proven otherwise). Access to cooling may be relevant for Adaptation purposes (global warming; more heat waves), but its relationship with vulnerability is not clear.</p>	
Indicator 83	Proportion of population below the international poverty line (SDG 1.1.1)	<p>Disaggregate by gender.</p> <p>Important; these are straight-forward if the data is there.</p>	
	Statistics 3281: Population below international poverty line	Proxy: <b>The total population living below the national poverty line.</b>	





# Proposed modifications

Indicators	Global Set	Proposed Changes	Yes/No
Indicator 85	Proportion of urban population living in slums, informal settlements or inadequate housing (SDG 11.1.1)	<p>Disaggregate by gender.</p> <p>Proportion of homeless persons, against the total resident population.</p> <p>This indicator was nationalized and divided into 11.1.1.a. Proportion of population with monthly expenditures for dwelling maintenance that exceed 30% of the household monthly disposable income (accessibility - adequate dwelling) and 11.1.1.b. Proportion of persons living in dwellings with more than 2 persons per room (overcrowded). Planned to be disseminated within the SDG platform.</p> <p>Proxy indicator: <b>Share of total population living in a dwelling with a leaking roof, damp walls, floors or foundation, or rot in window frames or floor.</b></p> <p>For national purpose proxy-indicator 11.1.1.1 "Ratio of the urban population residing in premises not classified as residential to the total urban population" is used.</p>	
Indicator 87	Proportion of population with disability	<p>SDG 1.3.1 Proportion of persons with disabilities receiving benefits is not yet available. Also, the 1.3.1 indicator is not identical to the proposed indicator.</p> <p>Proxies: <b>Number of persons receiving benefits due to persons with reduced working capacity, number of persons receiving disability benefit; Number of Persons Receiving Social Package.</b></p> <p>Source: ENAHO National Household Survey; the Demographic and Family Health Survey (ENDES) and the National Survey of Budgetary Programs (ENAPRES).</p> <p>Need to clarify the definition. For national purpose proxy-indicator 1.3.1.4 "Proportion of persons with disabilities and older persons covered by social services (per 10000 of the population (non-working invalids of the 1st, 2nd groups; elderly people 60 years and older; disabled children)" is used.</p>	



# Tier 3 Indicators Work

Code	Global Set	Assessment	Conclusion
Indicator 69	Vulnerable species	25 countries (about 40%) assessed Yes for relevance. Five countries provided methodology assessments. Also suggested to consider “endangered species.”	
Indicator 70	Vulnerable/fragile ecosystems	<p>SERFOR has been incorporating the information on fragile ecosystems to the Sectoral List of Fragile Ecosystems, which are part of the Forest Cadastre.</p> <p>Most of the ecosystems are vulnerable to climate change specially the high mountain regions, coral reef, seagrass and mangroves. The data on this indicator is available with IUCN and for the mountain region with G.B Pant Development Institute, Almora. The ZSI do not compile this information, however, the status of faunal components in these ecosystems are available with ZSI.</p> <p>25 countries (about 40%) assessed Yes for relevance. Four methodology assessments.</p>	
Indicator 88	Coastal area vulnerable to climate change	<p>Is already covered by indicators 38 and 82. Name of indicator 38 should be changed such that it not only includes a population share but also an area share. The meta for indicator 88 could be included in the meta for indicators 38 and 82. See also the comments on indicators 73 and 74; the coastal area is simply one example of a hazard-prone area. Some re-grouping and new definitions seem needed here. First, the climate-related hazard-prone areas should be identified. Second, what vulnerability shares need to be calculated for each identified area (infrastructure, buildings, population, area ... and GDP, ...). Please, combine indicators 28, 73, 74, 82, and 88 in a smart way.</p> <p>18 countries (about 29%) assessed Yes for relevance. Three countries provided methodology assessments.</p>	



## Optional (on metadata)

- Rationale
- Limitations
- Interpretation
- Compilation formulae
- More disaggregation
- Tier revision



## Optional (on list)

- Linkages among the indicators
- How to handle indicators which belong to more than one area
  - Share of climate change mitigation expenditure in relation to GDP (UN-ECE 30)
  - Share of government adaptation expenditure in relation to GDP (UN-ECE 35)
- Repeated statistics:
  - E.g.: precipitation, sea level rise, land cover, land use, forest area
- Social and economic statistics: GDP and population



# Thank you for your attention!

For more information please contact the Environment Statistics Section  
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Website: <https://unstats.un.org/unsd/envstats/>

Climate Change Statistics Website

<https://unstats.un.org/unsd/envstats/climatechange.cshtml>

and

[https://unstats.un.org/unsd/envstats/ClimateChange\\_StatAndInd\\_global.cshtml](https://unstats.un.org/unsd/envstats/ClimateChange_StatAndInd_global.cshtml)

