Global Set of Climate Change Statistics and Indicators: Introduction to group work

Eighth Meeting of the Expert Group on Environment Statistics
New York, 12-21 October 2021 (virtual)
Session 1: Climate Change Statistics and Indicators: Global Set
Outline

1. New indicators
2. Proposed modifications
3. Tier 3 work
4. Group work sessions
5. Additional points
### 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 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

Selections include:

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Area</th>
<th>Sources of data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growing degree-day [impact]1</td>
<td>Daily average temperature</td>
<td>- FAO post disaster needs assessment</td>
</tr>
<tr>
<td></td>
<td>Phenomenological stage</td>
<td></td>
</tr>
<tr>
<td>Reference evapotranspiration</td>
<td>Minimum temperature</td>
<td>- FAO emergency appeals</td>
</tr>
<tr>
<td></td>
<td>Maximum temperature</td>
<td>- National fisheries yearbook</td>
</tr>
<tr>
<td>Annual fisheries and aquaculture losses due to extreme weather and climate events</td>
<td>Impacts</td>
<td>- Biosecurity project data</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- EMPRES/aquatics</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Requests for technical assistance from affected countries</td>
</tr>
<tr>
<td>Number/frequency of mass mortality events of aquatic organisms (due to infectious diseases or environment-related factors or unknown causes – until diagnoses) &amp; Number of emerging diseases</td>
<td>Impacts</td>
<td>- HAEDAT data</td>
</tr>
<tr>
<td>Number/frequency of HABs events reported annually</td>
<td>Impacts</td>
<td></td>
</tr>
<tr>
<td>Annual production from newly emerging species due to climate-related fish distribution changes</td>
<td>Impacts</td>
<td></td>
</tr>
<tr>
<td>Number of countries using ecosystem-based approaches to managing marine areas</td>
<td>Adaptation</td>
<td>- SDG indicator 14.2.1 metadata</td>
</tr>
<tr>
<td>Degree of application of a legal-regulatory/policy/institutional framework which recognizes and protects access rights for small-scale fisheries</td>
<td>Adaptation</td>
<td>- SDG indicator 14.b.1 metadata</td>
</tr>
<tr>
<td>Proportion of management plans designed and implemented based on principles of ecosystem approaches to fisheries (EAF) and to aquaculture (EAA)</td>
<td>Adaptation</td>
<td>- EAFnet</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- EAF review in Africa</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Data collected through EAF-Nansen Programme</td>
</tr>
</tbody>
</table>
Examples of suggestions on new indicators

Countries have proposed various new indicators, such as:

- CO$_2$ emissions per capita
- Rate of decrease for the CO$_2$ emission per unit of GDP
- Rate of decrease for the final energy consumption per unit of GDP
- Proportion of non-fossil fuel energy consumption to final energy consumption
- Full utility rate of agricultural straws
- Increase of forest growing stock

IMF also proposed new indicators (including detailed metadata)

- Trade in low carbon technology products
- CO2 emissions in Gross Fixed Capital Formation of Direct Investment
- CO2 emissions in value added of Foreign Controlled Multinational Enterprises
Examples of country suggestion on indicator modification

Countries have:

• Provided suggestions to improve the statistics underlying Indicator 27: Renewable freshwater resources per capita, and Indicator 28: Freshwater abstracted as proportion of renewable freshwater resources.

• Suggested that indicators on “population” and “urban population” also capture the distribution by gender and age to show trends in population growth.

• Recommended the inclusion of data on age-dependency ratio, and sex disaggregated data in the "vulnerable population" topic as their own indicators.

• For indicator 81 Proportion of population with access to heating/cooling, the data available is for percentage of dwellings with access to heating/cooling.

• For Indicator 13 Number of (fossil-driven) vehicles per capita - Would be good to distinguish between emissions for freight and passenger transport - emissions per vehicle km traveled.
Modified indicators

UNSD screened all the feedback provided by agencies and countries which was structured in a single spreadsheet.

Suggestions for modifications were formulated often as a proxy, alternative measure or in the general comments.

These were flagged and included for review in the four groupwork sessions.

Other details were marked for metadata.
UNSD screened all the feedback provided on the tier 3 indicators

- Cases where countries answered ‘yes’ on methodological soundness were flagged
- Such cases (where more than 3 countries have methods) are included for review in the groupwork

<table>
<thead>
<tr>
<th>Area</th>
<th>Topic</th>
<th>Indicator</th>
<th>Statistics</th>
<th>explore</th>
<th>Themes</th>
<th>Proposed Review</th>
</tr>
</thead>
<tbody>
<tr>
<td>MITGATION</td>
<td>100</td>
<td>Climate change mitigation technology</td>
<td>3</td>
<td>Technology</td>
<td>OECD; UNFCCC</td>
<td>(18 countries, 29%). National methods: None</td>
</tr>
<tr>
<td>MITGATION</td>
<td>Number of hybrid and electric driven vehicles</td>
<td></td>
<td>3</td>
<td>Technology</td>
<td>OECD; UNFCCC</td>
<td></td>
</tr>
<tr>
<td>MITGATION</td>
<td>GHG removals by technological processes</td>
<td></td>
<td>3</td>
<td>GHG removals</td>
<td>IPCC; FAO; UNSD</td>
<td></td>
</tr>
<tr>
<td>MITGATION</td>
<td>104</td>
<td>Progress towards GHG emissions reduction target</td>
<td></td>
<td>3</td>
<td>GHG emissions</td>
<td>UNFCCC; IMF</td>
</tr>
<tr>
<td>ADA</td>
<td>Climate change adaptation policies, strategies and plans</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(34 countries, 54%). National methods: France, Philippines, Russian Fed, Slovenia, Ecuador, Mauritius (reference Japanese material), Paraguay, UK, Japan, Canada. Suggestion: National guidance exists; keep and consult EGES</td>
</tr>
<tr>
<td>ADAPTAT</td>
<td>105</td>
<td>Number of sectors planning, budgeting and implementing climate change adaptation action</td>
<td>3</td>
<td>Governance</td>
<td>OECD; UNFCCC</td>
<td>(28 countries/63 (44%) say it’s relevant); Armenia, Chile, Russian Fed.</td>
</tr>
<tr>
<td>ADAPTAT</td>
<td>106</td>
<td>Share of government adaptation expenditure in relation to GDP [UN-ECE 35]</td>
<td></td>
<td>3</td>
<td>Expenditures</td>
<td>OECD; Eurostat</td>
</tr>
<tr>
<td>ADAPTAT</td>
<td>108</td>
<td>Coverage of disaster shelters per capita</td>
<td></td>
<td>3</td>
<td>Governance</td>
<td>UNDRR</td>
</tr>
<tr>
<td>ADAPTAT</td>
<td>Number of disaster shelters</td>
<td></td>
<td></td>
<td>3</td>
<td>Governance</td>
<td>UNDRR</td>
</tr>
</tbody>
</table>
Work groups

We will break into four groups:
1. Drivers + Mitigation
2. Impacts
3. Vulnerability
4. Adaptation

Each break out group has a facilitator and a rapporteur.

The review outcome should be presented at plenary tomorrow.
Optional (on metadata)

• Rationale
• Limitations
• Interpretation
• Compilation formulae
• More disaggregation
• Tier revision
Optional (on list)

• **Linkages among the indicators [in metadata?]**
• **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 [no metadata]
Thank you for your attention!

For more information please contact the Environment Statistics Section at the United Nations Statistics Division:

E-mail: envstats@un.org

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_SatAndInd_global.cshtml