ISSUE 48
December 2020

envstats News and Notes

Environment Statistics Section
United Nations Statistics Division (UNSD)/DESA

FOCUS:

The Global Set of Climate Change Statistics and Indicators

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Introduction

The global COVID-19 pandemic continues to impact us all, as does climate change, and as the United Nations Secretary General, on Earth Day (22 April 2020) mentioned that "the climate emergency, just like the COVID19 pandemic, does not respect national boundaries". It is therefore critical to accentuate the importance of the need for timely and official statistics, both to monitor the pandemic and climate change.

In the area of climate change, the United Nations Statistics Division (UNSD) has stepped up its efforts in the development of the Global Set of Climate Change Statistics and Indicators, in collaboration with the United Nations Framework Convention on Climate Change (UNFCCC), as mandated by the Statistical Commission in 2016[1] and 2018[2]. This Global Set will benefit both countries and the international climate change reporting process to monitor the drivers of climate change and its impacts, assess mitigation and adaptation measures, as well as evaluate vulnerability. The Global Set will also be considered under the Enhanced Transparency Framework (ETF) and the Global Stocktake as a way of linking the reporting requirements stemming from the Paris Agreement and the necessary statistics or indicators to support climate policy action. The overall objective is to develop a Global Set of Climate Change Statistics and Indicators tailored for all countries while ensuring that the needs of countries with less developed statistical systems are taken into account. The Global Set will contain a thematically comprehensive list of indicators and statistics structured according to the five areas defined by the Intergovernmental Panel on Climate Change (IPCC): drivers, impacts, vulnerability, mitigation and adaptation, and accompanied by short metadata (including definitions, aggregations, measurement categories and data references).

Given the complexity of climate change monitoring and the broad multidisciplinary coverage of the above five IPCC areas, the Global Set will provide a statistical framework with suitable indicators to serve as guidance for countries to prepare their own sets. This statistical framework will link the reporting requirements stemming from the Paris Agreement and the agreed reporting modalities known as the 'Katowice package' to the indicators necessary to support climate policy action. Similarly to the Basic Set of Environment Statistics in the Framework for the Development of Environment Statistics (FDES)[3], the Global Set will be a comprehensive, but not exhaustive, set of indicators and statistics designed to support countries according to their individual concerns, priorities and resources.

[1] https://unstats.un.org/unsd/statcom/47th-session/documents/Report-on-the-47th-session-of-the-statistical-commission-E.pdf
[2] https://unstats.un.org/unsd/statcom/49th-session/documents/Report-on-the-49th-session-E.pdf
[3] See: https://unstats.un.org/unsd/envstats/fdes.cshtml

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It should be noted that given the request from the Statistical Commission in 2018 for UNSD and UNFCCC to strengthen the link between statistics and policy, the relevant articles of the Paris Agreement and the decisions from the Katowice package are mentioned for each indicator in the Global Set thereby clearly demonstrating this linkage. In addition, international frameworks and agreements such as the Sustainable Development Goals, the FDES 2013, the Paris Agreement, the Sendai Framework, as well as the UN Economic Commission for Europe (UNECE) set of climate change -related statistics and indicators, have been considered to promote consistency and harmonize the wording of the indicators to the extent possible.

Pilot Survey

A Pilot Survey on the draft Global Set was launched on 23 February 2020 with the main objective to test and assess the relevance, soundness and measurability of the proposed indicators. The main conclusions of the Pilot Survey were that the development of the Global Set, despite the global pandemic, was of utmost importance for countries and organizations. It was also clear that most of the proposed indicators were applicable, although some needed further methodological work. Despite the applicability of the indicators and the interest that the developing countries have clearly demonstrated towards this work, these countries, in particular, face enormous resource challenges and should be offered adequate support, with extended time and guidance to be able to embark on such comprehensive and interdisciplinary statistical work. Another conclusion was that the Global Set should be promoted by national statistical offices to facilitate the communication of comprehensive coverage of statistics and indicators to multiple stakeholders, especially those with narrow specialization, both in the context of national consultations and further work on international level.

Based on the outcomes of the Pilot Survey and consultations with a small group of countries, the draft Global Set was reworked into a new structure by presenting both indicators and the underlying basic statistics side-by-side since sophisticated indicators often require multiple statistics for their compilation. In this way, countries may incrementally build their climate change statistics programmes by moving from basic statistics toward sophisticated indicators. The new structure was presented at the seventh meeting of the Expert Group on Environment Statistics (EGES) in a session on climate change statistics and indicators on 11 and 12 of November 2020.[4]

Seventh meeting of the EGES (10-19 November 2020)

The first day of the session on climate change statistics included presentations and discussion on related work at the global, regional and national levels and the main conclusions were as follows:

a) The Global Set of Climate Change Statistics and Indicators is a comprehensive, but not exhaustive, set of indicators and statistics designed to support countries according to their individual concerns, priorities and resources.
b) The Pilot Survey demonstrates clearly that most of the proposed indicators in the Global Set are applicable although some indicators need further methodological work.
c) The matrix-based structure of the Global Set which links indicators and underlying statistics helps to promote transparency, comprehensiveness and is flexible for countries to select relevant indicators and statistics to compile, depending on their level of development.
d) Comprehensive metadata for the Global Set can be used as a guiding tool for countries to compile climate change statistics.
e) International and regional organisations should continue to collaborate to streamline concepts, definitions, methodologies, etc.
f) Complementarity should be promoted to the extent possible between global, regional and national sets of climate indicators.
g) UNSD and UNFCCC should continue to: undertake joint initiatives to develop climate change statistics and indicators; promote bridging the gap between policy and statistics and between NSOs and climate change reporting agencies at the national level; and collaborate on capacity development with support from other partners.
h) The role of NSOs as providers of activity data (economic statistics) is highlighted, including the need to include NSOs in the GHG compilation processes and reporting to UNFCCC.
i) NSOs can contribute or coordinate climate change statistics, as is done in environment statistics, based on their mandates to produce official statistics and their role in coordinating the national statistical system.

[4] See https://unstats.un.org/unsd/envstats/fdes/fdes_eges7.cshtml

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The second day of the session on climate change statistics was dedicated to detailed review of the individual statistics and indicators in the draft Global Set via group work addressing the five IPCC areas. The review affirmed that the areas of adaptation and vulnerability were especially important for the SIDS, developing and least-developed countries and these are also the most challenging areas to advance into internationally comparable statistics and indicators. The areas of drivers and mitigation were of more importance to developed countries and contain statistically better-defined indicators. The experts also recognized the importance of applying the relevant SDGs in the Global Set, even when some indicators may need further work to relate them to climate change.

Inventory of related work on climate change statistics and indicators

Several other international, regional and national institutions have been embarking on important work in climate change statistics, including on capacity development (e.g., see article below by the Green Climate Fund), data compilation and dissemination. Based on the growing need to share and coordinate such information, UNSD is planning to compile an inventory of related work on climate change statistics being carried out by partner organizations.

Participation in virtual discussions on "Building the Enhanced Transparency Framework (ETF)" organized by UNFCCC

UNFCCC has organized three virtual discussions on "Building the ETF" to hear the diversity of initiatives underway and the common goals to support countries under both the current Measurement, Reporting and Verification system and in the transition to the ETF. During the discussions, presentations were delivered by UNFCCC, UNSD and several other organizations and the importance of climate change statistics to support the ETF and eventually the Global Stocktake, has been emphasized repeatedly. Capacity development in climate change monitoring and reporting was also an important subject of discussion and proposals were made to strengthen coordination and collaboration in service delivery to countries.

Secretary-General's Report on Climate Change Statistics for the 52nd session of the Statistical Commission (2-5 March 2021)

UNSD has prepared the Report of the Secretary-General on Climate Change Statistics (E/CN.3/2021/20) for the 52nd session of the Statistical Commission (2-5 March 2021), in collaboration with UNFCCC and UNECE. The report, which will be for information, contains an update of the work of UNSD in climate change statistics in response to the mandates of the 47th and 49th sessions of the Statistical Commission, in particular with regard to the development of the Global Set of Climate Change Statistics and Indicators, as well to what has been undertaken to strengthen the policy and statistics cooperation on climate change at the international level. Complementarily, it describes the current work of UNFCCC on, inter alia, the reporting processes under the Enhanced Transparency Framework of the Paris Agreement. The report also describes the progress made in the UNECE work on climate change-related statistics and indicators. It will be made available, after formal editing and translation, into all UN working languages on UNSD's website (https://unstats.un.org/unsd/statcom/).

Planned Actions of UNSD in climate change statistics and indicators

In order to advance this work and finalize the Global Set of Climate Change Statistics and Indicators, UNSD, in collaboration with other institutions, is working on the activities outlined below:

a) Completion of the analysis of the Pilot Survey and the EGES review, and completion of the metadata for Tier 1 and 2 indicators;

b) Participation in and following of the relevant processes developing international standards, guidelines and frameworks to ensure that the related indicators and statistics are included in the Global Set to the extent possible, with the best references included in the metadata;

c) Undertaking of pilot projects or case studies on climate change indicators and statistics especially in developing countries;

d) Expanding of the dissemination of climate change statistics and indicators on the website of the Statistics Division;

e) Further widening the scope of the EGES to cover all topics related to climate change drivers, impacts, vulnerability, mitigation and adaptation and to ensure continuous technical support from the experts for the Global Set;

f) Setting up of an advisory group to assist in the revision and refinement of the draft Global Set;

g) Organizing an extraordinary session on climate change statistics of the EGES to discuss the revised draft Global Set and discuss a work plan for long-term work;

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h) Statistics and Indicators around March 2021 with all countries and relevant agencies, accompanied by an inventory of related activities;
i) Analyzing the results of the Global Consultation and develop implementation guidelines;
j) Submitting of the Global Set to the fifty-third session of the Statistical Commission in 2022 for adoption;
k) Further exploring ways to strengthen the relationship between the national statistical offices and national authorities reporting climate change information;
l) Further investigating the linkages between data producers and data users, and engaging the wider statistical community; and
m) Organizing side events on climate change statistics on the margins of the sessions of the Statistical Commission and the Conference of Parties' meetings under the Paris Agreement.

More information on the Global Set of Climate Change Statistics and Indicators can be found on the UNSD website.[5]

UNSD NEWS:

Seventh Meeting of the Expert Group on Environment Statistics, New York, 10-19 November 2020

The Seventh Meeting of the Expert Group on Environment Statistics (EGES), organized by UNSD, was held virtually on 10, 11, 12, 17 and 19 November 2020. The meeting was attended by approximately 100 experts in environment statistics and climate change statistics from countries and regional and international organizations. The meeting discussed, inter alia: (i) the COVID-19 pandemic and environment statistics; (ii) the Framework for the Development of Environment Statistics and draft methodology sheets of the Manual for the Basic Set of Environment Statistics; (iii) climate change statistics and indicators (refer to FOCUS article of this newsletter for detailed information); (iv) environment statistics data collection (including selected related SDG indicators, as well as the regular biennial data collection in water and waste statistics via the UNSD/UNEP Questionnaire on Environment Statistics which contributes to seven SDG indicators for which UNSD is co-custodian or partner agency); and (v) capacity development in environment statistics and climate change statistics.

Several experts made presentations on the above agenda items including on recent developments with regard to fulfilling the Enhanced Transparency Framework of the Paris Agreement and the monitoring of the Global Biodiversity Framework, and all experts participated in discussions based upon their extensive knowledge and experience. The meeting facilitated fruitful dialogue which allows UNSD to continue to lead and coordinate the implementation of the work programme on environment statistics, for example in response to the mandate of the Statistical Commission where UNSD was requested to develop a Global Set of Climate Change Statistics and Indicators, in close collaboration with the United Nations Framework Convention for Climate Change. Given the importance of UNSD's work on climate change statistics several experts from, inter alia, the Green Climate Fund, the World Meteorological Organization and the Inter-governmental Panel on Climate Change, participated in the EGES meeting for the first time.

Experts contributed to conclusions and recommended actions which help inform the Environment Statistics Section of UNSD how to prioritise its work programme, and how best to keep engaged together with experts for the advancement of environment statistics and climate change statistics.

[5] See: https://unstats.un.org/unsd/envstats/climatechange.cshtml

UNSD/UNEP Questionnaire 2020 on Environment Statistics (waste and water sections)

The UNSD/UNEP Questionnaire 2020 on Environment Statistics was sent out in November 2020 to more than 160 countries and territories, excluding OECD and European Union members (for which comparable data are collected as part of the OECD/Eurostat Joint Questionnaire on the State of the Environment). The Questionnaire was sent to both National Statistical Offices and Ministries of Environment and asked for coordination within the country. The Questionnaire was first administered in 1999 and follows the request and mandate of the United Nations Statistical Commission and its Working Group on International Programmes and Coordination at its twenty-eighth session, which was reinforced at its thirty-fourth session in 2003. This is the tenth round of the Questionnaire and since 2006, the Questionnaire has collected data purely on the themes of Waste and Water. Consequently, this has helped build an established time series.

The data will primarily be used for:

- compiling those Sustainable Development Goal (SDG) indicators that pertain to Goal 6 (Ensure availability and sustainable management of water and sanitation for all), Goal 11 (Make cities and human settlements inclusive, safe, resilient and sustainable) and Goal 12 (Ensure sustainable consumption and production patterns);
- UNSD's Environment Statistics Database and for dissemination on UNSD's website as Environmental Indicators and Country Snapshots;
- UNSD's Environment Statistics Database and for dissemination on UNSD's website as Environmental Indicators and Country Snapshots;
- United Nations Environment Programme's Global Environmental Outlook (GEO) series and the World Environment Situation Room Global Database; and
- a broad and diverse range of other users including large institutions, academia, researchers, media and the general public.

Recognizing the various demands for more data on water and especially wastewater-related statistics, UNSD, in collaboration with SDG custodian agencies may pursue the possibility, resources permitting, of conducting a pilot questionnaire on this topic. In so doing, collaboration of countries will be called upon.

Selected water and waste statistics with relatively good quality and geographic coverage compiled from the previous Questionnaire round, complemented by data from OECD and Eurostat, were published by UNSD through the UNSD Environmental Indicators webpage. The complete and validated data, as well as footnotes received from each respondent country was uploaded to the Country Files webpage. UNSD appreciates countries' continuing support on the improvement of timely and reliable global environment statistics. More details on the results of past data collections and plans for the UNSD/UNEP Questionnaire can be found in the Secretary-General's Report on Environment Statistics and Background Report.

Collaboration on Water Questionnaires by International Agencies (UNSD, Eurostat, OECD and FAO) and Wastewater Discussion

As an ongoing effort, Eurostat, OECD and UNSD have been collecting data on water from national statistical offices and/or ministries of environment in a harmonized manner starting with OECD work in 1979-80, and later in collaboration with Eurostat (1988), and UNSD (1999). In 2018, the Food and Agriculture Organization of the United Nations (FAO) also initiated a global data collection process through its Water and Agriculture Questionnaire. This FAO data collection has some overlap with regular data collection carried out by the OECD/Eurostat and the UNSD/UNEP joint questionnaires.

Since August 2018, UNSD, OECD, Eurostat and FAO have conducted 21 teleconferences on water statistics, with the latest one being in October 2020. This series of teleconferences aim to harmonize definitions and terminologies, synchronize data collecting schedules, and maintain an open, efficient channel to discuss various technical issues related to water statistics. Agenda items of the teleconferences include: (1) comparison of country data; (2) comparison of metadata and terminology used in the questionnaires, particularly on how these may apply to the mandates of, forexample, the Statistical Commission and the Inter-Agency and Expert Group (IAEG) on SDG Indicators, among others; (3) sharing of the questionnaires' country focal points; (4) written consultation with selected countries by multiple international agencies to clarify discrepancies in data; (5) possibility of the four agencies aligning dates for

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sending their respective questionnaires to countries; (6) frequency of data collection; and (7) regular information exchanges of meetings, workshops and capacity development activities.

Most recently, the international agencies have put focus on aligning the lists of water indicators in their questionnaires and harmonizing their definitions. In the recent teleconferences, key topics of discussion include a redeveloped water flow scheme by Eurostat and OECD, which aims at reducing confusion, especially on the concepts of "water use", "water consumption", and "losses during use." Another update to the UNSD 2020 water questionnaires was, "water returned without use" and "net freshwater abstracted" have been re-added to the questionnaire. "Losses during transport" and "leakages" have been clarified in the definitions. This ongoing series of work strives to ensure that no matter which agency the countries receive the questionnaire from, the variables will be well-defined and internationally comparable.

In 2020, UNSD was approached by UN-HABITAT and WHO to collaborate on wastewater data collection and analyses, in particular towards the SDG Indicator 6.3.1 "Proportion of domestic and industrial wastewater flow safely treated." In the latest teleconference, UN-HABITAT presented to the other agencies the metadata for SDG Indicator 6.3.1, and harmonization of units of measure and terminology such as "domestic" and "households" wastewater. WHO presented the linkage and difference between SDG Indicator 6.2.1 "Proportion of population using safely managed sanitation services and a hand-washing facility with soap and water," and Indicator 6.3.1, regarding the methodology, data sources and data availability. All the wastewater collecting agencies emphasized the importance to harmonize definitions concerning wastewater, and to address the data collection challenges collectively. UNSD is looking forward to further collaboration with all stakeholders in this area.

Updates on the Translations of the FDES 2013 and the Manual on the Basic Set of Environment Statistics

UNSD is pleased to inform that the African Development Bank (AfDB) has translated the FDES and some methodology sheets of the Manual on the Basic Set of Environment Statistics into French. They are currently being reviewed by UNSD and it is expected that they will be posted soon on the UNSD websites: https://unstats.un.org/unsd/envstats/fdes.cshtml and https://unstats.un.org/unsd/envstats/fdes/manual_bses.cshtml respectively. UNSD is very grateful to AfDB for their kind contributon in undertaking these translations which will be much appreciated by francophone countries and other users.

Updates on the Manual on the Basic Set of Environment Statistics of the FDES

UNSD continued to coordinate the drafting of several methodology sheets as part of the development of the Manual on the Basic Set of Environment Statistics of the FDES 2013. Recent activities include the completion of the methodology sheet on Greenhouse Gas Statistics and Marine Water Quality Statistics which are published online on the UNSD website. Additional reviews were done on the methodology sheet of Natural Extreme Events and Disaster Statistics. Given the dynamic nature of these topics, updates for future revisions of the Basic Set of Environment Statistics (BSES) are being compiled, including reflections on the latest advances in related terminology, classifications and international guidance.

The early drafts of two methodology sheets were presented at the 7th meeting of the Expert Group on Environment Statistics (EGES)[6], namely - Environmental Health Statistics and Wastewater Statistics. The former introduces linkages between the broader field of environmental health and the BSES of the FDES, key definitions, classifications, methods and references pertaining to the topic. There is a need to investigate further how to define an attributable fraction of diseases to environmental factors and complete the draft. On Wastewater, the scope and application of the FDES statistics is similarly addressed, in addition to the sources of global and regional environment statistics, the indicators series, and the data collection and its use and dissemination. Both methodology sheets are in the processes of a peer review by the EGES and will be completed shortly. Following the above two topics, a third one addressing Freshwater quality and nutrient budgets based on the experience in the Netherlands and the recommended statistics in the BSES, was presented at the 7th EGES by Statistics Netherlands which will be elaborated in a methodology sheet.

[6] See: https://unstats.un.org/unsd/envstats/fdes/fdes_eges7.cshtml

Development Account 10th Tranche Programme for Statistics and Data

As part of the Programme on Statistics and Data of the 10th Tranche of the United Nations Development Account (DA 10th Tranche) UNSD continued to maintain a close engagement with the newly appointed environmental statisticians in Namibia and The Gambia, as a result of which both countries completed their first National compendia on environment statistics, while their National Action Plans are being updated and revised. Partnerships between the NSOs and environmental institutions in these countries were further strengthened in the process.

Environment Statistics Compendia and Surveys

Following endorsement of the FDES 2013 by the United Nations Statistical Commission at its 44th session (2013) as the framework for strengthening environment statistics programmes in countries, many countries have compiled environment statistics compendia which apply the FDES 2013. There are about 42 compendia and similar publications from 25 countries that apply the FDES so far shared with UNSD which are available on UNSD's website at https://unstats.un.org/unsd/envstats/fdescompendia.cshtml in Arabic, English, French, Portuguese and Spanish. The most recent compendia posted are those from Ghana, Grenada, Guinea and Montserrat. It is planned to expand this website to include all environment statistics compendia, as well as specialized reports, such as on e-waste and climate change statistics, that countries are starting to produce.

UNSD has compiled over 90 specialized environment statistics surveys and censuses from countries which are available on the website (https://unstats.un.org/unsd/envstats/censuses/) and can be filtered by country, theme and year. The most recent survey posted is the "Waste Management Survey" conducted by the Central Bureau of Statistics of Nepal. Languages in which surveys are available include Arabic, English, French, Portuguese and Spanish.

UNSD welcomes further contributions of both country compendia that apply the FDES 2013, other environment statistics compendia and specialized reports, as well as surveys or censuses on environment statistics. They can be shared with the Environment Statistics Section (contact: envstats@un.org) where they may then be made available on UNSD's website.

Joint Online Workshop towards regional harmonization of national waste electrical and electronic equipment (WEEE) policies, regulations and standards in the Arab states (2-3 December 2020)

The Environment Statistics Section of UNSD participated in this workshop organized by the International Telecommunications Union, United Nations Environment Programme and United Nations University. UNSD presented on its collection of e-waste statistics via the UNSD/UNEP Questionnaire on Environment Statistics, and the widespread use of those statistics per SDG demand. UNSD emphasized the value of countries compiling data on e-waste, and demonstrated how country efforts are the preferred source for contributing to policies and decision-making on this issue. Participation in such workshops gives UNSD an invaluable opportunity to hear back from countries, and discussion demonstrated how best to address issues of the presence or absence of e-waste records within countries, how to capture data regarding the work of the informal sector, and how the NSO can be involved with these and other important stakeholders.

Expert Group Meeting on Resource Efficiency in the Arab Region: Monitoring Progress of SDG 12 and Building Back Better from COVID-19, virtual, 7-8 October 2020

The Environment Statistics Section participated in this meeting and presented on Waste Statistics and their relationship to the Framework for the Development of Environment Statistics (FDES), SDG indicators; and data collection. The relevance of the UNSD/UNEP Questionnaire on Environment Statistics was emphasised, which, following dialogue with key stakeholders including countries and international agencies, continues to be a preferred data source for several SDG indicators. It was stressed that statistics typically sourced from NSOs are imperative for contributing to important policy frameworks such as SDGs and others. The meeting also gave opportunity for UNSD to showcase latest methodological documents now or soon to be available in Arabic (e.g. FDES, Generation and Management of Waste methodology sheet), to inform of its data collection effort in 2020, and to learn of latest research and work by ESCWA countries and international agencies concerning SDG 12 and sustainable consumption and production. By collaborating with ESCWA and its member states at this Expert Group Meeting, UNSD looks forward to increased responses from ESCWA member states to the 2020 UNSD/UNEP Questionnaire on Environment Statistics, and is always grateful at the opportunity to have direct interaction with these member states.

Seventeenth session of the Joint Task Force on Environmental Statistics and Indicators (Geneva, Switzerland, 26 October 2020)

UNSD staff members from the Environment Statistics Section attended the virtual meeting held by the United Nations Economic Commission for Europe (UN-ECE) on 26 October 2020. The Joint Task Force Session discussed several environmental themes, including that on climate change, water, and waste statistics, and various environment data, guidelines, and ongoing development.

During the session, UNSD presented work on the UNSD/UNEP Questionnaire on Environment Statistics, the ongoing effort to incorporate more freshwater resources and electronic waste data into the questionnaires, updates on the "Generation and Management of Waste", "Water Resources" and "Wastewater" methodology sheets in the Manual on the Basic Set of Environment Statistics, and the Global Set of Climate Change Indicators and Statistics. The mandate, roadmap, schedule, structure, and current status of the Global Set were communicated to the Joint Task Force participants.

UNSD reported to the Joint Task Force that the Framework for the Development of Environment Statistics (FDES 2013) has been translated into Russian, and appreciated the support from the Russian Federal State Statistics Service (ROSSTAT) on translation work. Member states and organizations also expressed interest and appreciation of the work of UNSD, especially on the efforts at harmonizing water and waste data terminologies and definitions with other international organizations involved in data collection.

INTERNATIONAL NEWS:

Current work by the UNFCCC Secretariat in the areas of data management and statistics under the Climate Change Convention, the Kyoto Protocol and the Paris Agreement

(Contributed by Vlad Trusca, UNFCCC)

Under the global climate change action, countries require a consistent stream of information and data about their greenhouse gas emissions trends and projections, the effects of their policies and measures, their climate vulnerabilities and risks, their opportunities and actions to reduce greenhouse gas emissions and enhance resilience, and the support needed and received. In this way, the information supports evidence-based national decision-making and the timely submission of reports under the UNFCCC, the Kyoto Protocol and in the future, under the Paris Agreement.

The continuous collection, analysis and use of reliable information on climate action and support to reduce greenhouse gas emissions and increase resilience, and data on greenhouse gas emission levels and trends is essential for evidence-based decision-making and information-sharing, building trust and understanding, and promoting stakeholder engagement. The process for data collection and reporting activity forms a critical component of the measurement, reporting and verification system under the UNFCCC and Kyoto Protocol, and has recently been encompassed in the ETF of the Paris Agreement.

The current measurement, reporting and verification system under the UNFCCC and the Kyoto Protocol provides a set of requirements concerning information to be reported, the timetable for the submission of national reports and the extent of international analysis/review of information which are different for developed and developing countries. The ETF of the Paris Agreement builds on the current measurement, reporting and verification system and provides a basis for all Parties to operate under a common set of modalities, procedures and guidelines (part of the Katowice climate package agreed at the first Conference of the Parties serving as the meeting of the Parties to the Paris Agreement in 2018) with flexibility for those developing countries that need it in the light of their capacities.

Countries that are parties to the UNFCCC will continue to communicate a large amount of information under the Convention considering the different requirements for developed and developing countries, and different vectors such as the national communications (all parties); national greenhouse gas inventories (all parties, in differing formats); biennial reports (developed countries) and biennial update reports (developing countries); national adaptation plans (developing countries); and national adaptation programmes of action (the least developed countries).

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Additionally, countries that are parties to the UNFCCC and have ratified the Paris Agreement, are currently submitting their new or updated nationally determined contributions (NDCs) and their long-term low emissions development strategies. All Parties to the Paris Agreement are also required to submit a Biennial Transparency Report every two years starting from December 2024 (except for SIDS and the Least Developed Countries which may submit this information at their discretion). The Biennial Transparency Report provides country-specific information on the implementation of the Paris Agreement, including a national GHG inventory and information necessary to track progress in implementing their NDCs. All Parties to the Paris Agreement should also provide information on climate change impacts and adaptation. Moreover, developed countries shall provide information on the financial, technology development and transfer and capacity-building support provided and mobilized to developing countries. Developing countries that need it in the light of their capacities are provided with specific flexibilities for reporting some of the information mentioned above.

The regular information currently submitted by Parties to the UNFCCC, Kyoto Protocol and Paris Agreement already contains a vast amount of data concerning all aspects of national activities to address climate change, including on vulnerability and adaptation, mitigation, financial and technological support, research and observation. The UNFCCC secretariat makes all information communicated officially by countries publicly available on its website, including both the primary data (as submitted by Parties) and secondary information (the information/data compilations, reports and online databases).

Some examples of the information submitted by Parties are: national communications and biennial reports of developed countries (available at https://unfccc.int/NC7 and https://unfccc.int/BRs); national communications and biennial update reports of developing countries (available at https://unfccc.int/non-annex-I-NCs and https://unfccc.int/BURs); national greenhouse gas inventories of developed countries (available at https://unfccc.int/ghg-inventories-annex-i-parties/2020) whereas detailed/aggregated data are displayed in an online database (available at https://di.unfccc.int/time_series); national adaptation plans of developing countries (available at https://www4.unfccc.int/sites/NAPC/Pages/national-adaptation-plans.aspx); national adaptation programmes of action of the least developed countries (available at https://unfccc.int/topics/resilience/workstreams/national-adaptation-programmes-of-action/napas-received); market-based mechanisms under the Kyoto Protocol such as the Clean Development Mechanism (available at https://cdm.unfccc.int/Projects/projsearch.html); and nationally appropriate mitigation actions under the United Nations Framework Convention on Climate Change (available at https://www4.unfccc.int/sites/publicnama/SitePages/Home.aspx).

In addition, NDCs under the Paris Agreement are available in the interim NDC Registry (see http://www4.unfccc.int/ndcregistry/Pages/Home.aspx) and adaptation communications under the Paris Agreement are also available online (https://unfccc.int/topics/adaptation-and-resilience/workstreams/adaptation-communications). The forthcoming submissions of Parties under the ETF of the Paris Agreement, such as the Biennial Transparency Reports, including their tabular formats, will also be presented in a similar manner on the webportal of the UNFCCC secretariat and the respective data will be included in the online data interface.

More information about the work of UNFCCC related to climate change statistics and indicators can be found in the Secretary-General's Report on Climate Change Statistics prepared for the 52nd session of the Statistical Commission (2-5 March 2021) that will be made available, after formal editing and translation, into all UN working languages on UNSD's website (https://unstats.un.org/unsd/statcom/).

Green Climate Fund News

(Contributed by Linus Ikpyo Hong, Portfolio Analyst, GCF)

First participation at the Meeting of the Expert Group on Environment Statistics (EGES)

On 19 November 2020, Green Climate Fund (GCF) made its debut to the Expert Group on Environment Statistics at the Seventh Meeting of EGES in Session Four: Capacity Development in Environment Statistics and Climate Change Statistics. During the session, GCF gave an overview and mandate of the organization and explained about the financial support provided to countries for capacity development activities through the Readiness Programme, monitoring and reporting of the climate impact results and data, and potential areas of collaboration in supporting the capacity building of National Statistical Offices (NSOs) and contributing to the Global Set of Climate Change Statistics and Indicators. The presenters from GCF were Pa Ousman Jarju, Director of Division of Country Programming and Lilian Macharia,

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Head of Office of Portfolio Management. The presentation can be accessed from the link below:
https://unstats.un.org/unsd/envstats/fdes/EGES7/Sess4_GCF%20Capacity%20dev.pdf

Update on the GCF's results architecture
At the 27th meeting of the Board in the week of 9 November 2020, the Integrated Results Management Framework (IRMF) was presented which is intended to supersede existing frameworks for monitoring and managing results of the GCF portfolio. The IRMF is designed to measure and track both quantitative impacts from GCF portfolio and its contribution to paradigm shift towards low-emission and climate-resilient development pathways while enhancing its alignment with the GCF Investment Framework. The update also takes into account the linkages with the Paris Agreement and Sustainable Development Goals (SDGs) given that the initial framework predates the adoption of the two major milestones in advancing the climate change agenda. The framework has yet to be adopted by the Board. The relevant document can be found at below link:
https://www.greenclimate.fund/document/gcf-b27-inf14

UN-Habitat/WHO NEWS

(Contributed by Graham Alabaster, UN-Habitat, and Rick Johnston, WHO)

UNSD Environment Statistics to populate SDG indicator 6.3.1 on the flows of wastewater generated and treated
Sustainable Development Goal 6 (SDG 6) calls for ensuring the availability and sustainability of water and sanitation for all by 2030. SDG Target 6.3 sets out to improve ambient water quality, which is essential to protecting both ecosystem and human health, by eliminating, minimizing and significantly reducing different streams of pollution into water bodies. The purpose of monitoring progress using SDG indicator 6.3.1 (*Proportion of domestic and industrial wastewater flows safely treated*) is to provide necessary and timely information to decision makers and stakeholders to make informed decisions to accelerate progress towards reducing water pollution, minimizing release of hazardous chemicals and increasing wastewater treatment and reuse.

The United Nations Human Settlements Programme (UN-Habitat), the United Nations Statistics Division (UNSD), and the World Health Organization (WHO) are co-custodians for this indicator at the global level. UNSD leads on collecting, compiling, and processing of data submitted by National Statistical Offices (NSOs) through the UNSD/UNEP Questionnaire on Environment Statistics for the non-OECD/Eurostat member states. UN-Habitat leads on collecting, compilation, and processing of data from UNSD and OECD/Eurostat databases. WHO leads on collection, compilation and processing of additional data on wastewater generation and treatment from households.

Wastewater statistics are in an early stage of development in many countries and not regularly produced or reported, so that there is to date a relative lack of knowledge about the global volumes of wastewater generated and treated. While some data are available about wastewater treatment in centralized urban wastewater treatment plants, there are large data gaps regarding decentralized and independent treatment, both of industrial and domestic wastewater flows. Thorough monitoring of wastewater along the full chain from generation to disposal or (re)use is in fact relatively complex, costly, and frequently data are not systematically aggregated to the national level and/or disclosed; especially industrial wastewater data which are in general poorly monitored and seldom aggregated at national level.

UN-Habitat and WHO will disseminate information about the existing data collection processes, and will liaise with their technical focal points in regions and countries, to work with them to produce estimates which could then feed into the official statistical system via the NSOs. In mid-2021, an indicator report drawing on the available data on wastewater generation and treatment will be published, to the extent possible disaggregating generation into industrial and domestic flows, and disaggregating discharges by level of treatment. However, given longstanding challenges regarding the completeness and quality of data reported in the UNSD/UNEP and OECD/Eurostat questionnaires, it is likely that data gaps will limit the level of analysis possible in the indicator report, especially for low- and middle-income countries. It is expected that over time, a better reporting of the wastewater statistics collected can be made to populate the SDG Indicator 6.3.1.

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In 2019, UN-Habitat participated in SDG 6 indicators workshops in Tashkent (Uzbekistan) and Ashgabat (Turkmenistan), with support from UNDP, UNECE and UN Environment, in order to explain the indicator 6.3.1 methodology to relevant stakeholders and line ministries. In 2020, in partnership with UN-Habitat, UNDP Cap-Net launched its first Massive Open Online Course (MOOC) on "Water Pollution Management in Achieving SDG Target 6.3" to explain the monitoring parameters and methodologies to various stakeholder groups from the entire water sector worldwide. WHO and UN-Habitat continue to plan for further capacity development for sanitation and wastewater monitoring in 2021.

UNEP NEWS

Measuring Progress II: Nature and the SDGs

(Contributed by Therese El Gemayel, United Nations Environment Programme)

In March 2019, the United Nations Environment Programme (UNEP) launched the report 'Measuring Progress: Towards monitoring the environmental dimension of the SDGs', which analysed the state of the environmental dimension of sustainable development, including the availability of statistical and spatial data. UNEP is currently working on a second edition of the Measuring Progress publication which is aligned with the UN Environment Assembly 5 theme, 'Nature and the SDGs'.

The second report identifies the correlations and interactions between various SDG goals and indicators. The report analyses the progress made in nature-related SDG indicators to date and analyses the potential correlations identified between the direct drivers of change and the state of the environment on one hand, and the state of society and the state of the environment on the other. The report also discusses data availability, challenges and opportunities that are essential in developing environment data for targeted policies aiming at protecting and restoring nature and ecosystems. The report is expected to be published during the first half of 2021; more information can be found here.

Chemicals and Waste statistics

(Contributed by Therese El Gemayel, United Nations Environment Programme)

UNEP is finalizing the chemicals and waste indicators review document, detailing SDG indicators namely municipal solid waste collection and management (11.6.1), food waste (12.3.1.a), hazardous waste generation (12.4.2) and national recycling rate (12.5.1), and presenting methodological guidelines to develop these indicators at the national level. It is accompanied with a data assessment tool that allows countries to collect information on waste management practices through providing a better understanding of national waste management system characteristics, assessing the gaps and challenges related to waste management generation and reporting and offering insight on possible ways to facilitate data reporting. The manual was developed in collaboration with UNSD and UN-Habitat.

In addition, UNEP is currently implementing a Chemicals and Waste Statistics project in India and West Asia with the aim to enhance national capacities in the development, collection and publishing of chemicals and waste statistics. For instance, India is developing the National Chemicals and Waste Data Report, in consultation with concerned ministries at local and central government levels, that will be used to inform national policy makers on the status and characteristics of chemicals and waste management systems at local and national levels and improve international reporting towards relevant Multilateral Environmental Agreements.

Webinar on E-waste Legislation, Management and Statistics in CIS countries plus Georgia, Turkmenistan and Ukraine, 2-3 November 2020

(Contributed by Dany Ghafari, United Nations Environment Programme)

E-waste statistics are important in the context of reporting by the Basel Convention Secretariat and for measuring progress towards the Sustainable Development Goals (SDGs), in particular SDG indicators 12.5.1 National recycling rate, tons of material recycled, and 12.4.2 (a) Hazardous waste generated per capita; and (b) proportion of hazardous waste treated, by type of treatment.

A virtual meeting (webinar) organized by the United Nations University (UNU) and the United Nations Environment Programme (UNEP) on E-waste Legislation, Management and Statistics in Commonwealth of Independent States (CIS) countries plus Georgia, Turkmenistan and Ukraine was held from 2 to 3 November 2020. The webinar was a follow up of the first workshop held in Moscow in January 2020 within the framework of "The Regional E-waste Monitor CIS plus Georgia, Turkmenistan and Ukraine" project. The project is implemented by the Sustainable Cycles (SCYCLE) Programme jointly with UNU and the United Nations Institute for Training and Research (UNITAR), in partnership with UNEP and the project is funded by the German Environment Agency (UBA), the International Telecommunication Union (ITU) and the International Solid Waste Association (ISWA).

The regional system for E-waste monitoring will serve as a valuable tool to assist CIS countries plus Georgia, Turkmenistan and Ukraine in collecting relevant information needed in the context of reporting by the Basel Convention Secretariat and for measuring progress towards the SDGs, in particular SDGs 12.5.1 and 12.4.2, which also address E-waste.

The webinar was attended by 40 professional participants representing 10 countries, from National Statistical Offices, Ministries of Environment and other government agencies dealing with E-waste data, ministries dealing with ICTs and the private sector. Representatives from the donor agency (UBA) and four international organizations (UNU, UNEP, UNITAR and ITU) have also attended. The majority of the participating countries are close to having a complete dataset on E-waste statistics and should be able to finalize it by the workshop that will take place in early 2021. UNU will continue providing its active support to countries whenever possible.

The webinar has also identified possible areas of interest for participants that could be explored during the future workshop in 2021:

- Changing the lifespan of Electrical and Electronic Equipment (EEE) according to country information,
- Explanation on how the average lifespan of EEE in the E-waste Tools has been derived,
- Developing a methodology describing the minimum standards for deriving lifetime data on Electrical and Electronic Equipment (Weibull lifespans),
- PV panels methodology,
- Transboundary movements of hazardous waste,
- Forecasting of E-waste generated for future years and extrapolating in the past years,
- Using household surveys to estimate items lifespan and service life.

Some countries expressed their interest and availability to conduct country-specific studies and to develop national reports.

UNU news on E-waste Statistics and Capacity Building

(Contributed by by Kees Baldé, United Nations University and United Nations Institute for Training and Research)

The use of electronic and electrical equipment contributes positively to the realization of the Sustainable Development Goals (SDGs). However, at end-of-life, it becomes waste electronic electrical equipment (WEEE), or e-waste: a waste stream that is fast growing and containing substantial valuable and hazardous materials. Due to political, societal and environmental importance, e-waste has a sub-indicator under SDG indicator 12.5.1 (national recycling rate).

The amount of e-waste generated is 54 Mt in 2020[7], and is expected to double to 110 Mt in 2050[8]. The rapid growth of global e-waste is driven by growing consumption, short product life cycles, and little repair.

In high income regions an e-waste management infrastructure exists. However, collection rates are on average substantially below 50% with the consequence that the majority of all e-waste is not recycled in an environmentally sound manner. E-waste is often mixed with other recyclable waste streams, without taking the necessary depolluting steps of the hazardous substances, and recycling all valuable materials such as the gold and palladium. E-waste is often categorised as re-usable goods which can also be exported to other lower income countries.

In middle- and low-income countries, the e-waste management infrastructure is not yet developed, or totally absent and inadequate to manage the e-waste that is locally generated and illegally imported. Thus, the e-waste is managed mostly by inappropriate means of the informal sector, causing severe health effects to workers, but also to the children who often also live, work and play on the sites.

Needless to say, but good quality national data on e-waste are essential in all stages of the policy cycle, such as to plan e-waste management infrastructure, prepare baseline information for legislation, set appropriate collection targets in e-waste legislation, and to evaluate developments over time. Therefore, the United Nations Institute for Training and Research (UNITAR) is strongly committed to improve national data of e-waste, and to ensure that the developed statistics are internationally comparable and support national policy decisions.

The United Nations University (UNU) and UNITAR have developed an E-waste toolkit, which comprises of easy to use Excel files to calculate Electronic Products entering Market 1980-now, and e-waste generated, as well as manuals and international recognized statistical guidelines.[9] More information can be found at: https://globalewaste.org/capacity-building/

Between 2018 and 2020, UNU and UNITAR have conducted:

- Global E-waste Monitor
    - https://publications.globalewaste.org/v1/file/271/The-Global-E-waste-Monitor-2020-Quantities-flows-and-the-circular-economy-potential.pdf
- Capacity development in Tanzania which led to national produced datasets
    - https://www.nbs.go.tz/nbs/takwimu/Environment/EWASTE-REPORT-TZ-2019.pdf
- Capacity development in Jordan which led to national produced datasets
    - https://www.unescwa.org/sites/www.unescwa.org/files/events/files/jordan_e-waste-202010.1007s00267-020-01341-1.pdf

[7] https://publications.globalewaste.org/v1/file/271/The-Global-E-waste-Monitor-2020-Quantities-flows-and-the-circular-economy-potential.pdf
[8] https://collections.unu.edu/eserv/UNU:7440/FUTURE_E-WASTE_SCENARIOS_UNU_190829_low_screen.pdf
[9] https://collections.unu.edu/view/UNU:6477

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- Capacity development in Uganda and Bosnia-Herzegovina
    - https://publications.globalewaste.org/v1/file/271/The-Global-E-waste-Monitor-2020-Quantities-flows-and-the-circular-economy-potential.pdf
- An in-depth analysis of all e-waste flows in the Netherlands
    - https://globalewaste.org/proxy/?publication=/v1/file/273/The-Dutch-WEEE-Flows-2020-What-happened-between-2010-and-2018.pdf
- In-depth review on the e-waste collection rates in the European Union
- https://globalewaste.org/proxy/?publication=/v1/file/275/In-depth-review-of-the-WEEE-Collection-Rates-and-Targets-in-the-EU-28-Norway-Switzerland-and-Iceland.pdf
- Several training and workshops in the Commonwealth of Independent States (CIS) and Arab Countries organised by UNU/UNITAR, UNEP and the ITU, and in and Latin American Countries by UNU/UNITAR in collaboration with UNIDO.

In December 2020 and in 2021, we are planning to realize:

- Publication of three regional e-waste monitors
- Develop self-paced learning, to be published at www.globalewaste.org
- Virtual workshop on 2 and 3 December 2020 workshop for the Arab States
- Virtual or in person Workshop early 2021 for CIS+ Region
- Capacity development for Namibia, Botswana and Malawi
- Capacity development for the East African Community
- National Training and report for Bahrain

For more information, please contact Kees Baldé, balde@vie.unu.edu

Monitoring the Global Biodiversity Framework

(Contributed by Jillian Campbell, Secretariat of the Convention on Biological Diversity)

A draft monitoring framework for the 2050 Goals and the 2030 Targets of the post-2020 Global Biodiversity Framework is now available online (https://www.cbd.int/conferences/sbstta24-sbi3). The draft monitoring framework was developed on the basis of the indicators identified in decisions XIII/28 and X/3, existing reporting processes under the Convention and its Protocols, the indicators used for monitoring the implementation of the Sustainable Development Goals, as well as indicators developed by the members of the Biodiversity Indicators Partnership.

Three groups of indicators, defined as follows, are proposed for monitoring the implementation of the post-2020 Global Biodiversity Framework. Many of these indicators align with the Framework for the Development of Environment Statistics and the System of Environmental Economic Accounting. There is a clear need for national statistical offices, ministries of environment and other stakeholders to collaborate to finalize and operationalise the monitoring framework.

Group 1 - Headline indicators
A minimum set of high-level indicators which capture the overall scope of the goals and targets of the post-2020 Global Biodiversity Framework which can be used for tracking national progress, as well as for tracking regional and global progress. These indicators could also be used for communication purposes. Additionally, some countries may wish to use a subset of these indicators or only the goal-level headline indicators for high-level communication and outreach.

Group 2 - Component indicators
A set of indicators for monitoring each component of each goal and target of the post-2020 Global Biodiversity Framework at the national level as well as for tracking regional and global progress;

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Group 3 - Complementary indicators

A set of indicators for thematic or in-depth analysis of each goal and target and which are less relevant for a majority of countries, have significant methodological or data collection gaps, are highly specific and do not cover the scope of a goal or target component or can only be applied at the global and regional level;

Within these three groups, different types of indicators are proposed for the goals and targets of the post-2020 Global Biodiversity Framework. The indicators proposed for the goals focus on the status and trends of biodiversity, including the benefits biodiversity provides to people and the conditions necessary for achieving the framework. The indicators proposed for the targets aim to monitor the actions taken to reach the targets and their impacts.

Way forward

Under agenda item 3, SBSTTA-24 is expected to discuss the document and propose a way forward. The current proposal includes establishing a technical expert group to further guide the process.

REGIONAL NEWS:

ECLAC Activities in Latin America and the Caribbean

(Contributed by the Statistics Division, Economic Commission for Latin America and the Caribbean)

The FDES finally available in Spanish

After intense efforts from Mexico's NSO and ECLAC over the past years, a Spanish version of the FDES has finally been released on UNSD and ECLAC websites. The document is now undergoing the final graphic design stages.

First ECLAC online introductory course on Environment Statistics

As part of the 10th Tranche UN Development Account (DA) project, ECLAC has worked on a year-long project to design and create ECLAC's first online introductory course on Environment Statistics in Spanish. The course covers topics, going from statistical definitions and data sources to inter-institutional arrangements and production of environment indicators. It features a team of 11 trainers, 8 sessions and a total of 6h30 of training videos. Each session includes a training video, a Power Point presentation, a bibliography and an evaluation test. The course was designed in the Moodle online platform, with the support of ECLAC's Latin American Economic and Social Planning Institute, which has more than 20 years of experience in online training.

ECLAC remote support to Panama for production of environment and climate change indicators and administrative records assessment

Due to the Covid-19 pandemic, the ECLAC technical assistance mission to Panama was cancelled and instead delivered a first-time online course and remote technical assistance on SDG environment, climate change and disaster indicators production to 65 participants from 12 Panamean institutions. From the beginning of October to the end of November 2020, the training used a blended methodology combining self-paced modules from the online course with weekly live webinars with the trainers. The training was inaugurated live by the Minister of Environment, the Director of the National Institute of Statistics and Census, the UNDP Country Representative in Panama, and the ECLAC Statistics Director. Each participant was supported by one tutor for 8 weeks to solve any doubts or questions. During the last week of the training, the participants were split into 12 groups to assess the quality of 12 administrative registers covering waste, water, disaster, marine biodiversity, fisheries and environmental standards in companies. These assessments triggered 12 work plans to strengthen those administrative records and, if possible, transform them in statistical registers.

Regional Network of Environment Statistics Webinars: SDG 12 indicators

Within the framework of the Regional Network of Environment Statistics, which now gathers more than 210 practitioners from all 20 Latin American countries, ECLAC went on with its series of webinars. The eleventh webinar on

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Production of SDG 12 indicators related to hazardous waste took place in August 2020 and was co-organized with the United Nations Environment Programme regional office for Latin America and the Caribbean. It showcased experiences from Colombia, Costa Rica and Mexico. More than 60 officers from National Statistical Offices, Water Authorities, Central Banks and Environment Ministries from 17 Latin American countries attended the online event, which is available online.

ECLAC Regular Data Collection on Environment Statistics: CEPALSTAT, SDG Gateway and Statistical Yearbook 2020

ECLAC's environment statistics team is carrying out the compilation and validation of environment statistics data series to update the CEPALSTAT database with the most recent data (http://estadisticas.cepal.org/cepalstat/WEB_CEPALSTAT/Portada.asp?idioma=i). It includes new environment series to better showcase the most relevant issues in the Latin American and Caribbean region, in particular water intensity and efficiency.

Planned activities

December 2020:

- Training webinar on biodiversity indicators for Chile and Mexico (in partnership with ECLAC's Division of Natural Resources)
- High-level meeting with Directors of National Statistical Offices for a briefing on the current Global Consultation of the SEEA Experimental Ecosystem Accounting (in partnership with the United Nations Statistics Division)

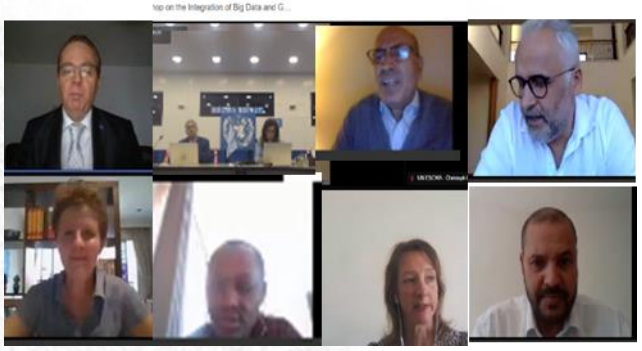
ESCWA News

(Contributed by Wafa Aboul Hosn, Chief Economic Statistics, United Nations Economic and Social Commission for Western Asia)

The Development Account programme on Data and Statistics, Pillar 2 on environment allowed ESCWA to continue the implementation of several activities in 2020 on SDGs and environment pillar, some are listed below:

Regional Workshop on the "Integration of Big Data and Geospatial Information for the Compilation of SDG Indicators in Arab Countries", 13-14 October 2020

ESCWA's Cluster on Statistics and Technology opened the regional workshop on the "Integration of Big Data and Geospatial Information for the Compilation of the SDGs in Arab Countries" presenting the achievements and challenges of each partner in the project on Data and Statistics UNSD, UNEP, UNHabitat, UNESCAP, UNDRR, AITRS, along with international and regional experts and more than 70 participants from Arab National Statistical Offices and surveying agencies. The workshop addressed in six sessions: the use of non-traditional data sources in the compilation of SDGs indicators; the use of Geospatial information in compilation of SDGs Urban Indicators namely, open space and public transport, SDGs Environment Indicators and Disaster risk management and SDGs water, land and agriculture indicators; and the use of big data and administrative records in measuring SDGs indicators. Success stories and case studies from Bahrain, Egypt, Lebanon, Tunisia, United Arab Emirates, and the Gulf Cooperation Council Stat, were shared. A snapshot of the status of the integration of data sources in compiling SDGs indicators was presented through the findings of a questionnaire designed and analysed by ESCWA.



Expert Group Meeting on "Resource Efficiency in the Arab Region: Monitoring Progress of SDG 12 and Building Back Better from COVID-19" Online Virtual Meeting, 7-8 October 2020, 12:30 to 15:30 Beirut time in cooperation with LAS and UNEP.

ESCWA organized the Expert Group Meeting on "Resource Efficiency in the Arab Region: Monitoring Progress of SDG 12 and Building Back Better from COVID-19" virtually via Kudo during 7-8 October 2020, in collaboration with the League of Arab States (LAS) and the UN Environment Programme (UNEP). The meeting brought together about 143 representatives of Arab Environment Ministries in charge of Sustainable Consumption and Production (SCP), member country representatives to the Technical Committee on Environment as well as senior officials from national statistical offices in the region, in addition to concerned regional institutions, United Nations agencies and relevant experts.

Unsustainable patterns of consumption and production are a primary cause of climate change, and natural resource depletion. SCP comes as one of the main responses to those challenges and contributes to environmental protection, enhancing human wellbeing, and achieving sustainable development. The meeting reviewed SCP status in the Arab States and actions towards a green economic recovery from COVID-19. It also focused on the importance of addressing unsustainable patterns of natural resource use and extraction, and the need for a radical change in current unsustainable developmental trends involving changes in environmental, social, and economic development patterns, and integrated cross-sectoral policies.

The meeting also addressed ways to measure indicators and monitor national and regional progress towards resource efficiency in consumption and production (target 8.4) and sustainable management and efficient use of natural resources (target 12.2). This included discussion of the international statistical frameworks for environment statistics in relation to waste and E-waste data collection, and to accounting frameworks such as SEEA, natural capital accounts and ecological footprint.

ESCWA provided the Arabic Translation to important guidelines and training material on environment statistics. In November, and in cooperation with the Palestine Central Bureau of Statistics (PCBS), UNSD and UNEP, the new Arabic Version of the Framework for the Development of Environment Statistics (FDES 2013)[Arabic] is now available at: https://unstats.un.org/unsd/envstats/FDES/FDES-2015-supporting-tools/FDES_Arabic.pdf.

In addition to the Arabic version of the E-learning course on the System of Environmental-Economic Accounting 2012 - Central Framework (SEEA CF) that ESCWA added to the e-learning platform on SEEA, ESCWA provided the e-learning material on energy accounts and water accounts in Arabic. An on-line training on energy accounts is of high interest to the Arab countries, and it will be delivered in collaboration with UNSD and partners in 2021.

ESCWA contributed to the Seventh Meeting of the Expert Group on Environment Statistics with a presentation on "Capacity development in environment statistics and climate change statistics in the Arab Region".

ESCWA launched a regional data portal and dashboards in English and Arabic, https://data.unescwa.org/ on main socio-economic, energy and environment, gender and SDGs for the Arab countries. The Environment database provides data on freshwater resources, fisheries, biodiversity, air pollution and GHG emissions in relation to climate change, energy consumption, and waste management. Data were collected from national statistical offices and related ministries in Arab countries, some international agencies and the UNSD/UNEP Questionnaire on Environment Statistics.

UNECE NEWS

(Contributed by Malgorzata Cwiek and Michael Nagy)

Sixth Joint OECD/UNECE Seminar on SEEA Implementation will be held online from 9-11 March 2021

The sixth Joint OECD/UNECE Seminar on the Implementation of the System of Environmental-Economic Accounting (SEEA) will be organised as an online event from 9-11 March 2021.

The overarching theme of the seminar will be on storytelling with SEEA. The different sessions will discuss how SEEA Central Framework and SEEA Ecosystem Accounts can inform policies on biodiversity, circular economy, climate change and sustainable finance. One specific focus will be on the implementation and policy uses of waste accounts.

The concept note, registration link and other documents will be made available at the meeting website https://unece.org/statistics/events/joint-oecdunece-seminar-seea-implementation.

Participants who are interested to share their experience in form of a presentation or by participating in a panel discussion are invited to contact Daniel Clarke (daniel.clarke@oecd.org) or Michael Nagy (michael.nagy@un.org) by 15 January 2021 at the latest.

Joint EFTA/UNECE Training Webinars on Climate Change-related Statistics for EECCA Countries (18 November – 2 December 2021)

UNECE in collaboration with EFTA and other partners (National Statistical Committee of the Kyrgyz Republic, Statistics Luxembourg, UNDP Kyrgyzstan, FAO Kyrgyzstan, UNEP, UNEP/CBD and UNESCAP organized a series of three training webinars on climate change-related statistics which were held on 18 November, 25 November and 2 December. The webinars replaced an in-person training which was originally planned in June 2020 in Bishkek (Kyrgyzstan).

The online format provided an opportunity to open the training for more experts from many more countries. More than 100 experts from countries of South-Eastern Europe, Eastern Europe, Caucasus, Central Asia and the Pacific region participated in the webinars, which were held with English and Russian interpretation.

The webinars discussed:

- Climate change-related statistics and its role in national and international climate change policies (18 November 2020);
- Using climate change-related statistics in the context of the Paris Agreement (25 November 2020); and
- Statistics and accounts needed for producing selected climate change-related indicators (2 December 2020)

If travel restrictions are lifted, the webinars will be complemented with an in-person training in Bishkek in 2021.

All meeting documents and presentations are available in English and Russian and can be downloaded from https://www.efta.int/Statistics/Climate-Change-related-Statistics.

17th Session of the UNECE Joint Task Force on Environmental Statistics and Indicators (online meeting, 26 October 2020)

The seventeenth session of the Joint Task Force on Environmental Statistics and Indicators (JTFEI) was held as a hybrid meeting on 26 October 2020 in Geneva (Switzerland). JTFEI assists the countries of Eastern and South-Eastern Europe, the Caucasus and Central Asia in their efforts to:

- Apply the Shared Environmental Information System principles and methodologies for the United Nations Economic Commission for Europe (ECE) core environmental indicators and data production in line with international statistical standards;
- Analyse and communicate environmental data;
- Develop capacity to implement the System of Environmental-Economic Accounting; and to
- Develop capacity for the compilation and integration of environmental data in support of measuring progress in the context of sustainable development and green economy initiatives.

At its 17th session JTFEI discussed the progress made on the review of the "UNECE Guidelines for the Application of Environmental Indicators" (https://www.unece.org/env/indicators.html) and organized a special session on data needs, statistics and indicators on environment and health in response to the COVID-19 pandemic. All meeting documents are available at https://www.unece.org/index.php?id=53474.

The 8th UNECE Expert Forum for Producers and Users of Climate Change-related Statistics (28 September - 1 October 2020, online)

The 2020 UNECE Expert Forum for Producers and Users of Climate Change-Related Statistics took place on-line from 28 September to 1 October 2020.

The main objective of the annual Expert Fora is to provide a platform for sharing experience in developing official statistics and capacity for climate change-related reporting, discussing concepts and measurement issues, and identifying areas for practical guidance. This year, over a hundred participants representing 33 countries, 17 international organizations, academia and private sector attended the meeting. Participants discussed the importance of climate change -related statistics in post-pandemic world, developments and challenges in measuring climate change adaptation, role of the statistical community in climate action and linkages between climate change and comprehensive wealth and well-being.

All presentations and summary of discussions are available in English and Russian at: http://www.unece.org/index.php?id=53848.

Recent developments in indicator production at the EEA and beyond

(Contributed by Eva Ivits-Wasser, Jana Tafi and Roberta Pignatelli, European Environment Agency)

Over the past months, the European Environment Agency (EEA) has updated several indicators related to Energy ('Final energy consumption by sector and fuel in Europe', 'Primary energy consumption by fuel in Europe', and 'Emissions of air pollutants from large combustion plants in Europe'), Water and marine environment ('Changes in fish distribution in European seas', 'Urban waste water treatment in Europe'), Climate change ('Greenland and Antarctic ice sheets', 'Production and consumption of ozone-depleting substances in Europe', 'Ocean acidification', 'Average CO2 emissions from newly registered motor vehicles in Europe', and 'Global and European temperatures'), Land use ('Imperviousness and imperviousness change'), Biodiversity ('Vegetation productivity', 'Ecological footprint of European countries', 'Abundance and distribution of selected European species', 'Natura 2000 sites designated under the EU Habitats and Birds Directives'), and Air pollution ('Exceedance of air quality standards in Europe').

A new indicator has also been produced, on 'Vegetation response to water deficit in Europe'. Because of their long-lasting socioeconomic impacts, droughts are considered the most damaging of natural disasters. The immediate impacts of short-term droughts (i.e. a few weeks duration) are, for example, a fall in crop production, poor pasture growth and a decline in fodder supplies from crop residues. Prolonged water shortages (e.g. of several months or years duration) may lead to a reduction of hydro-electrical production and potentially increase wildfire occurrences in natural and managed ecosystems. Severe and frequent droughts cause habitat loss, the migration of local species and the spread of invasive alien species, leading to biodiversity loss. In Europe, this is a major obstacle to achieving the targets of the EU biodiversity strategy for 2030, which aims to protect and restore nature.

Therefore, monitoring vegetation response to water deficit due to droughts is necessary to be able to introduce effective measures to increase the resilience of ecosystems in line with the EU's nature restoration plan — a key element of the EU biodiversity strategy for 2030.

The EEA indicator on vegetation response to water deficit addresses anomalies of vegetation productivity derived from remote sensing observed time series of vegetation indices in areas that are pressured by drought. The observed physiological response of vegetation to water deficits indicate different levels of sensitivity and resilience of terrestrial ecosystems to drought pressure, and ultimately indicate the type of drought impacts, i.e. differentiating those impacts that slow growth, those that lead to loss of biomass and those where ecosystems recovered. Drought pressure is computed as the combination of significant Pearson correlation coefficients (r) derived between time series anomalies of yearly vegetation productivity and the anomalies of various drought hazards (dH) during the growing season. Drought impact intensity is then indicated as the most severe negative productivity anomaly under drought pressured areas. Drought impact area is computed as the sum of grid cells where the annual negative productivity anomaly is severe, i.e. below –1 standard deviation from the long-term average.

Significant changes in the amount of vegetation productivity provide an indication/early warning of imminent irreversible impacts in ecosystems' equilibrium states. The EEA indicator shows that between 2000 and 2016, Europe was affected by severe droughts, causing average yearly vegetation productivity losses covering around 121 000 km^2. This was particularly notable in 2003, when drought affected most parts of Europe, covering an estimated 330 000 km^2

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of forests, non-irrigated arable land and pastures. Drought impact was also relatively severe in 2005 and 2012, with ca. 183 000 and ca. 221 000 km^2 impacted respectively. The indicator[10] and statistical analytics[11] are available in the EEA website.

The EEA has also contributed to the production of environmental indicators, and related reporting, in Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine. Compliance with international reporting obligations in relation to UN SDGs, UN/ECE conventions and the contribution to the "Environment for Europe" process requires regular environmental reporting in the form of indicators and integrated assessment reports. This was closely intertwined with the main activities carried out under the ENI SEIS II East project[12] in the Eastern Partnership (EaP) countries.

The Agency shared innovative knowledge and best European practices in the context of environmental indicators and assessment reports. A number of activities supported by experts from the EEA, the Slovak Environment Agency (SEA), the Netherlands Environmental Assessment Agency (PBL) and the French Centre for Agricultural Research for International Development (CIRAD) analysed countries' objectives, the status of environmental reporting and the needs for environmental assessments. As a result, the EaP countries received methodological support in preparing environmental assessment reports and indicators-based assessments in accordance with the European practices, methods and tools based on the UN Framework for the Development of Environment Statistics (FDES) and the derived Basic Set of Environment Statistics.

The annual assessment of the availability and accessibility of regional environmental indicators and environmental assessment reports in the EaP countries has facilitated and strengthened national environmental reporting in Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine. For this purpose, a digital dashboard and scoreboard for monitoring and mapping indicators and reports was developed. This initiated the creation of an interactive web platform for environmental indicators and assessment reports, which was released in June 2020[13]. The platform provides interactive online access to EaP country indicators and environmental reports. It tracks information online and measures the availability of UNECE environmental indicators. The UNECE set of environmental indicators includes data and indicators on air pollution and ozone depletion, climate change, water resources, biodiversity, land and soil, agriculture, energy, transport, waste, environmental financing. Users can download information on indicators and reports by country, learn about country performance in the reporting process, as well as consult the "stress table" and the web versions of indicators and reports.

The core indicators and reports are available on the project website and some of them can be found in the Indicators and Assessments Work Area sections . The whole picture shows how EaP countries prepare and publish reports on environment and sustainable development, and showcases their statistical publications and indicators.

For policy development and awareness raising purposes, a set of analytical products of different nature has been developed and published for six Eastern countries. It includes six country briefings on the state of the environment reporting[14] and a regional brochure “Environment in Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine: Facts and Figures”[15]. Six thematic assessment leaflets on priority topics are available in national and English languages[16]. All these assessments are based on indicators and provide an overview of the main environmental trends in the EaP countries. In addition to indicators and statistics, time infographics showed changes, highlighting evolution, and making outcomes clear and simple for effective dissemination of key messages.

The integration of environmental assessments with the publication of indicators is one of the key areas in which further development is needed. This is essential to build bridges between the environmental and the statistical communities, to ensure shared participation and involvement in assessment and indicator work, and forward this knowledge to policy makers.

[10] https://www.eea.europa.eu/data-and-maps/indicators/drought-impact-on-vegetation-productivity/assessment/view
[11] https://www.eea.europa.eu/data-and-maps/data/data-viewers/vegetation-productivity-loss-under-drought
[12] Implementation of the principles and practices of the Shared Environmental Information System (SEIS) in the Eastern Partnership countries, funded by the European Neighbourhood Instrument (ENI) and implemented by the European Environment Agency (EEA) - https://eni-seis.eionet.europa.eu/east
[13] https://eni-seis.eionet.europa.eu/east/countries
[14] https://eni-seis.eionet.europa.eu/east/areas-of-work/Indicators%20and%20Assessment
[15] https://eni-seis.eionet.europa.eu/east/areas-of-work/Indicators%20and%20Assessments/products/Facts%20and%20figures_24%20June%202020.pdf
[16] ‘Waste Management and the Republic of Armenia’, ‘Nature Protection in the Republic of Azerbaijan’, ‘Climate Change and the Republic of Belarus’, ‘Air Pollution in Georgia’, ‘Air Protection in Moldova’, ‘Waste Management and Ukraine’.

Recent Eurostat activities

(Contributed by Arturo de la Fuente, Eurostat)

An overview of Eurostat activities on environmental statistics, environmental accounts and sustainable development indicators can be found at: http://ec.europa.eu/eurostat/web/environment/overview. The following is a summary of developments in the last six months.

Sustainable Development Goals (SDGs) and other policy monitoring frameworks

Eurostat has a dedicated website for SDG indicators. The latest Eurostat SDG communication package was published in June 2020, including the full monitoring report on progress towards the SDGs in the EU context - edition 2020, the brochure with key findings, and the digital publication 'SDGs & me'. The review process for the list of indicators for the upcoming 2021 monitoring report is due to be finalised by the end of 2020.

Eurostat supports the methodological development of several tier III indicators in the UN list of SDG indicators for global monitoring, closely cooperating with the relevant custodian agencies. Eurostat participates in the working groups of the Inter-agency and Expert Group on SDG indicators (IAEG-SDGs) on "Geo-spatial Information" and on "SDMX", and follows the work of the IAEG-SDGs as an observer.

Environmental statistics

The main entry points for Eurostat environmental statistics are the dedicated sections in its website for environment, waste statistics and climate change-related statistics. Eurostat also maintains the European Commission monitoring framework for the circular economy in this dedicated website.

The Eurostat waste statistics data are available here. The results of the 2020 data collection on waste statistics according to Regulation (EC) 2150/2002 are published (new data for 2018) and there are online articles here and here. The results of the 2020 OECD/Eurostat Joint Questionnaire on municipal waste are due for update in early 2021 in this online article. The data collections on waste streams (packaging waste, waste electric and electronic equipment, end of life vehicles and batteries) were completed in September-October. The online article on waste packaging is due for update in December and those on electrical and electronic equipment, and batteries next spring.

The results of the 2019 data collection on inland waters, including regional information, are published here. There is enhanced methodological coordination with OECD, FAO and UNSD to better serve the information needs of SDG 6 – Ensure availability and sustainable management of water and sanitation for all. The results of forestry statistics are available in this article. Data on the production and trade in wood products collected with the Joint Forest Sector Questionnaire were published. Both physical and monetary forest accounting data are published and new data for the reference year 2016 are being collected with the European Forest Accounts questionnaire. An overview of data published on forestry and forests by Eurostat can be accessed on this link.

SEEA environmental accounts

An overview of SEEA environmental accounts is available here. Eurostat runs several data collections on air emissions, including greenhouse gases and pollutants (explained here), material flow accounts (explained here), environmental taxes (explained here), environmental sector (explained here), expenditure on environmental protection (explained here) and energy flows (explained here). All these data collections are annual and mandatory for EU Member States. Eurostat publishes the data results in the Eurostat online database, as well as articles (see Statistics Explained pages) and other material (see dedicated section on environmental statistics). Eurostat also publishes air emission footprints and two datasets with material footprints (aggregate and detailed).

Eurostat co-ordinates an experimental project on an integrated system of national capital and ecosystem series accounting (INCA) in collaboration with other EU partners. The final report on the first phase of the project (on feasibility and design) is available here. The second phase (on implementation) is advancing and scheduled to end in 2020. Results will be published in a dedicated website in early 2021. Several methodological reports are available in the methodology section under 'Ecosystem accounts'.

Eurostat also facilitated training courses on environmental statistics and SEEA for European compilers on the following subjects: physical environmental accounts, water statistics and accounts, monetary environmental accounts, indicator systems (SDGs etc.), and ecosystem accounting. A course on waste statistics took place on 1-2 December (webex). Material from past courses is available here. Courses scheduled for 2021 are: water statistics, ecosystem accounts, monetary environmental accounts and energy accounts (dates to be confirmed).

ESCAP News

(Contributed by ESCAP Statistics Division and SIAP)

New Regional Advisor on Environment Statistics at ESCAP

Dr. Anthony Dvarskas took up this position on 1 December 2020. Dr. Dvarskas has extensive experience in many areas related to environmental statistics, including implementation of components of the System of Environmental-Economic Accounting (SEEA); development and compilation of indicators for monitoring ecosystem services; creation of joint models linking economic and environmental sectors in marine and coastal areas; valuation of ecosystem services; accounting approaches for greenhouse gas emissions; and assessment of community vulnerability to climate change. Further, he has expertise in using Geographic Information Systems (GIS) to visually represent and analyze environmental data, as well as the use of statistical software for analyzing trends and developing predictive models.

Countries in Asia and the Pacific can request assistance from the Regional Advisor. For more information please contact Anthony Dvarskas <anthony.dvarskas@un.org> or the Statistics Division at stat.unescap@un.org.

The Technical Working Group on Disaster-related statistics for Asia-Pacific kicks off

The TWG on Disaster-related Statistics had its inaugural virtual meeting last 28 October 2020. It will function as a community of practice to support the implementation of the Disaster-related Statistics Framework (DRSF) and capacity development in the Asia-Pacific region. Information on the first TWG meeting may be found in this link: https://www.unescap.org/events/first-meeting-technical-working-group-twg-disaster-related-statistics

Climate Change Indicators based on SEEA (UNSIAP E-learning course)

In January 2021, UNSIAP will launch the facilitated e-learning course "Compiling Climate Change Indicators: An Accounting Approach". The course provides details on using an integrated approach based on the System of Environmental Economic Accounting (SEEA) to produce indicators relevant to climate change. It will be available on the UNSIAP e-learning platform (https://siap-elearning.org/).

COUNTRY NEWS:

Environmental Accounts and Statistics in Brazil

(Contributed by Maria Luisa Pimenta, Brazilian Institute of Geography and Statistics)

Brazil has a large territory and an immense biodiversity. This poses a major challenge for its institutions in terms of the production and compilation of national environmental data. Several efforts have been made by the Brazilian Institute of Geography and Statistics (IBGE) and the Ministry of the Environment to develop a compendium of environmental statistics and indicators relevant to public policies; however, the country is still in the process of developing a unified system for their dissemination.

During recent years, IBGE has focused on the development of environmental-economic accounts on a national scale. IBGE is the organization responsible for coordinating this compilation, and, in this sense, it has acted especially - but not exclusively - on ecosystem accounting. This performance was promoted by Brazil's participation in the 'Natural Capital Accounting and Valuation of Ecosystem Services' project (NCAVES), a partnership between UNSD and UNEP with the European Union.

Recently, the work on Water Accounts has focused on the regionalization of results for the use of water for economic activities, an activity that was carried out in partnership with the National Water Agency (ANA). For the ecosystem accounts, analyses about the extent of remnants from the natural areas of the Brazilian biomes were developed, highlighting the main vectors of changes in the land use and land cover in these ecological units. In addition, data on threatened species from the Ministry of the Environment were compiled on the various types of ecosystems in the national territory using a spatially explicit approach, a valuable topic for the development of environmental condition indicators.

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In addition, IBGE created a series of new surveys and an interactive dashboard containing geospatial and statistics information to provide the Brazilian government and society with better responses in coping with the COVID-19 pandemic. The interactive dashboard, for example, presents information about the national public health system with social and economic aspects in political-administrative clippings like the Health Systems Response Capacity. All data is available, free of charge, to the entire population on a special hot site.

Environmental accounts are presented on the thematic page of the IBGE-Brazil portal: https://www.ibge.gov.br/en/geosciences/environmental-information/environmental-indicators-and-statistics.html

More information on the performance of Brazil in the international NCAVES project can be found here: https://seea.un.org/content/natural-capital-accounting-and-valuation-ecosystem-services-brazil

Information on COVID-19 statistics can be found on https://covid19.ibge.gov.br/

Environmental Statistics and Environmental-Economic Accounting in Ghana

(Contributed by Dr. Bernice S. Ofosu-Baadu, Ghana Statistical Service & Kwame Fredua, Environmental Protection Agency)

Ghana produced its first national compendium of Environment Statistics in December 2019 based on the Framework for the Development of Environment Statistics (FDES) 2013 with the technical support of the Economic Commission for Africa (ECA) through its Africa Centre for Statistics. An official launch and dissemination of the document scheduled to take place this year have been delayed due to the impacts of COVID-19. The Compendium is available and accessible to various users via http://www.epa.gov.gh/epa/sites/default/files/downloads/publications/Ghana%20Compendium%20of%20Environment%20Statistics%202019_Final_300320.pdf.

Ghana is currently exploring opportunities towards the establishment of an Integrated Environmental Statistical Information System, and will also commence the preparation of the next compendium of environment statistics in 2021. The Ghana Statistical Service (GSS) and the Environmental Protection Agency (EPA) jointly contributed to the 2018 United Nations Statistics Division's (UNSD) Biennial Questionnaire on Water and Waste and presently working on the 2020 Questionnaires due to its long-standing institutional collaboration and cooperation.

Since 2016, Ghana has pursued studies and actions aimed at the feasible adoption and implementation of environment-economic accounts based on the System of Environmental- Economic Accounting (SEEA). A discussion paper[17] and a feasibility study report[18] have been prepared, which led to the compilation of pilot asset account for mineral resources (2006-2014)[19] and Physical Supply-Use Tables for Energy 2013[20]. The next round of compilation of Physical Supply-Use Tables for Energy will include data from the year 2014 to 2019, working closely with the Energy Commission. More so, plans are underway to compile SEEA water and forestry.

News from Ireland

(Contributed by Gerry Brady, Central Statistics Office of Ireland)

Environment and Climate Division

In Ireland, the Central Statistics Office (CSO) has two Divisions undertaking work in relation to the environment. An Environment and Climate Division was set-up in 2015 (previously it had been Trade and Environment) while an Ecosystem Accounts Division was created in February 2020.

The core work of the Environment and Climate Division is environment accounts and statistics, environment indicators, and climate and energy data. Annual environmental accounts statistical releases on environment taxes, environment subsidies, air emission accounts, material flow accounts, and fossil fuel subsidies. See https://www.cso.ie/en/statistics/environmentaccounts

[17] http://www.epa.gov.gh/epa/sites/default/files/downloads/publications/Discussion%20Paper_Building%20a%20Natural%20Capital%20Accounting%20in%20Ghana.pdf
[18] http://www.epa.gov.gh/epa/sites/default/files/downloads/publications/Feasibility%20Study%20on%20the%20Establishment%20of%20Building%20Natural%20Capital%20Accounts%20in%20Ghana.pdf
[19] http://www.epa.gov.gh/epa/sites/default/files/downloads/publications/Asset%20Accounts%20for%20Mineral%20Resources_Pilot_Ghana.pdf
[20] https://statsghana.gov.gh/gssmain/fileUpload/Agriculture%20&%20Environment/2013%20Ghana%20PSUT_Energy_Accounts.xlsx

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The Division obtains access to confidential administrative microdata on a broad range of topics under the Statistics Act, 1993. These data are used to publish statistical releases and as inputs into environment accounts modules. Examples of administrative microdata include:

- Electricity, mains gas, and water utilities meter readings;
- Domestic and non-domestic Building Energy Ratings;
- Fish landings;
- Emissions Trading Scheme, Large Industry Energy Network, and the Public Sector Energy Efficiency Programme; and
- Licensed waste generation data collected by the Environmental Protection Agency (EPA).

The administrative energy microdata are combined with the Business Energy Use survey to enlarge the effective sample to enable the Division to weight the combined data file at NACE division level. See https://www.cso.ie/en/statistics/climateandenergy/businessenergyuse/

The licensed waste data facilities are excluded from the Waste Generation survey sample to keep the response burden down on enterprises that have already submitted data to the EPA and to achieve more coverage by combining both data sources.

The 2011 and 2016 Censuses of Population microdata at household level were combined to publish a new report on the Census of Population from an Environment Perspective. See https://www.cso.ie/en/statistics/environmentstatistics/censusofpopulationfromanenvironmentperspective/

The Division is in the process of combining Census of Population and Building Energy Ratings data to look at the socio-economic situation of households in energy inefficient dwellings.

In March 2018 the Division started a climate data rescue project with Met Eireann, the Irish Meteorological Service. This involves keying and checking detailed daily data from eight meteorological stations for the period from around 1870 to 1959. Met Eireann already have daily data from 1960 so the data rescue project will extend the daily data series from around 60 years to around 150 years which will allow us to examine trends in many climate indicators such as droughts, heatwaves, very wet days, storms, etc. See https://www.cso.ie/en/methods/climateandenergy/csoclimatedatarescue/

In terms of future work, the Division has recently been given responsibility for forestry statistics. It is planned to publish a set of agri-environment indicators and develop the socio-economic and health aspects of environment statistics. The creation of more anonymised microdata research files that can be used in research funded by environment protection and energy organisations is also envisaged.

Waste Management Baseline Survey, Nepal

(Contributed by Sushil Kumar Sharma, Central Bureau of Statistics, Nepal)

Solid Waste Management (SWM) is a crosscutting issue that affects and impacts various areas of sustainable development in each of the three sustainability domains: environment, economy and society. The emerging literature has established direct linkage with solid waste management issue to 12 out of the 17 SDGs. The Solid Waste Management Act 2011 of Nepal has made local bodies responsible for the construction, operation, management of infrastructure for collection, treatment and final disposal of Municipal Solid Waste (MSW). Nepal's urban population is 59.9% of the total population covering 293 municipalities. It remains a socially complex and technically ever-challenging task for municipal authorities because of the limited information about the status of solid waste. The quantity of solid waste is increasing every year in all the municipalities and in emerging cities mainly due to fast urban population growth and changing livelihood styles. Most of the municipalities, including newly declared municipalities, have no planned activities on SWM. It is required to scale up all over the country to develop baseline of the SWM which will ultimately provide sustainable and environmentally friendly SWM services at municipal levels.

In this perspective, the Central Bureau of Statistics (CBS) which is under the National Planning Commission, conducted the waste management baseline survey in 2019/20. The major objectives of the survey are to find the baseline data and information on SWM, including the quantity and composition of municipal solid waste (MSW) and other vital information on the state of SWM in the municipalities of Nepal, to develop the SDG indicator 11.6.1 "Proportion of

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municipal solid waste collected and managed in controlled facilities out of total municipal waste generated, by cities", to develop the statistics designated by the FDES on the solid waste sector, and to provide a clear recommendation for appropriate sustainable waste management solutions that are low cost and locally appropriate, provide sustainable development benefits, and ultimately create transformational change towards low carbon, resource efficient, resilient, and sustainable cities. The coverage of the survey is 293 municipalities of Nepal.

The contents of the questionnaire are:

- introduction,
- land use information,
- infrastructure,
- organizational and managerial information,
- financial information,
- composition and collection of solid waste,
- information on Transfer Station,
- information on Landfill site,
- policy arrangement, and
- challenges/needs in waste management of the municipalities.

The major output variables of the survey are:

- percentage of population served by municipal waste collection,
- expenditure on waste management,
- total revenue collection from service provided,
- total amount of municipal waste generated (Tonnes/day),
- municipal waste collected from households and from other origins (Tonnes/day),
- solid waste collection by type (organic, inorganic, others) (Tonnes/day),
- total hazardous waste generated (Tonnes/day),
- per capita annual municipal waste collection (in kg),
- percentage of population with access to waste disposal service, and
- recycled, composted, incinerated and landfilled percentage of total municipal waste collected.

About 80 percent of the municipalities, which are formed after federalism in the country in 2013, do not have enough physical infrastructure and mechanism for waste management and record keeping. So, it became challenging to collect all the information. However, the draft report of the survey has now been prepared and it will be shared once the report has been officially disseminated. The survey has clearly revealed that waste generation has been gradually increasing over the years in the past and it is likely to grow further in the years to come. Increasing consumption and production activities of all subsectors of the economy along with the growing population, settlements, urbanization, industrialization etc. will continue to contribute to increased waste generation. Government has to develop effective measure to respond to the challenges in this sector. Local governments have to play a vital role in planning and implementation of their specific activities for waste management remaining within the national framework of waste management plans and policies.

It is planned to conduct the waste management survey on a regular basis with a two to three year interval.

Environment Statistics in Suriname

(Contributed by Anjali De Abreu-Kisoensingh, General Bureau of Statistics (GBS) Suriname)

Since 2002 Suriname has published eight environment statistics compendia. The ninth will be published in December 2020.The environment statistics publication is an important tool that is used by ministries and other organizations responsible for policy making in Suriname. This year's compendium will also contain some environment related SDGs. Like the previous years the UNDP provided financial resources for the workshop and the launch of the environment statistics compendium. UNDP provided GBS with a paid Zoom license for one year, which made it possible for GBS to host three virtual working group sessions on the 12th, 18th and 21st of August 2020 from 9.00 until 13.00 pm. In total circa 34 persons from various ministries and institutes, including Reena Shah from UNSD, participated actively in the meetings, discussing inter alia issues regarding data collection and data gaps. Although there was a delay due to COVID-19, the stakeholders provided the requested data to the GBS and the draft publication is at the preparation stage ready to be validated and sent to the printer.

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Suriname has actively taken part in regional (CARICOM) and international co-operation (UNSD, IDB, IEA) activities, including contributing to the revision of the Framework for the Development of Environment Statistics (FDES 2013) and participating in the Expert Group on Environment Statistics (EGES). This year the GBS also contributed to the development of the draft Global Set of Climate Change Statistics and Indicators led by UNSD, which was also introduced at the working group sessions at the recent national environment statistics workshop. In February 2020 Suriname responded and also made revisions to the Pilot Survey on Climate Change Statistics and Indicators which is a complex but very important instrument, especially for the climate change policy in Suriname. The experience with the environment statistics compendia, various environment workshops in Suriname and abroad, as well as the good relationship between the GBS and the stakeholders and the clarification and feedback received from UNSD staff made it possible to respond to the Climate Change Pilot Survey.

The last four environment statistics compendia are presented on the General Bureau of Statistics website: https://statistics-suriname.org/en/environment-statistics-2/

And some are also available on the UNSD website: https://unstats.un.org/unsd/envstats/fdescompendia.cshtml

FORTHCOMING EVENTS

52nd Session of the Statistical Commission (2-5 March 2021) – exact dates to be confirmed

envstats is produced by the Environment Statistics Section of the United Nations Statistics Division (UNSD). The views expressed here do not necessarily reflect those of the United Nations.

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