Ninth Meeting of the Expert Group on Environment Statistics (Virtual)

25-28 October 2022

Final Report

1. The Ninth Meeting of the Expert Group on Environment Statistics (EGES), organized by the United Nations Statistics Division (UNSD), was held virtually from 25 to 28 October 2022 during three-hour sessions for each of the days. Approximately 148 experts from 39 countries[1] and agencies[2] and five independent experts registered for the meeting.

2. The meeting was organized into five sessions as follows:
   Opening Session
   Session 1: Climate Change Statistics and Indicators
   Session 2: Environment Statistics Data Collection
   Session 3: Environment Statistics Toolbox
   Session 4: Capacity Development in Environment Statistics and Climate Change Statistics
   Session 5: Discussion of Priorities and Conclusions

3. The discussions were based on documents and the corresponding presentations prepared by the EGES and UNSD. Short descriptions of the presentations and the main discussion points are summarized below. The meeting conclusions and recommended actions from Session Five are contained in Annex I. The agenda of the meeting is attached as Annex II, and the list of participants is attached as Annex III.

4. Ms. Reena Shah, Chief, Environment Statistics Section, UNSD, expressed her appreciation to all experts who have contributed to the work of the EGES and welcomed new experts to the meeting.

5. On behalf of Mr. Stefan Schweinfest, Director, UNSD, Ms. Reena Shah, Chief of Environment Statistics Section, UNSD opened the EGES and delivered Mr. Schweinfest's opening remarks. A

[1] Armenia, Australia, Bangladesh, Belize, Botswana, Brazil, Cabo Verde, Chile, Czech Republic, Estonia, Finland, Grenada, Hungary, India, Ireland, Italy, Japan, Jordan, Kyrgyzstan, Luxembourg, Mauritius, Mexico, Nepal, Netherlands, New Zealand, Norway, State of Palestine, Philippines, Russian Federation, Slovenia, Spain, Suriname, Sweden, Togo, Uganda, United Republic of Tanzania, United Arab Emirates, United Kingdom and Zimbabwe.

[2] African Development Bank (AfDB), Caribbean Community (CARICOM) Secretariat, Common Market for Eastern and Southern Africa (COMESA), Eurostat, European Environment Agency (EEA), Food and Agriculture Organization of the United Nations (FAO), Gulf Cooperation Council (GCC) Statistical Center, Organisation for Economic Co-operation and Development (OECD), Pacific Community (SPC), Paris21, Secretariat of the Convention on Biological Diversity (CBD), Intergovernmental Panel on Climate Change (IPCC), United Nations Environment Programme (UNEP), United Nations Office for Disaster Risk Reduction (UNDRR), United Nations Framework Convention on Climate Change (UNFCCC), UN-Habitat, United Nations University, World Health Organization (WHO), Economic and Social Commission for Asia and the Pacific (ESCAP), Economic Commission for Europe (ECE), Economic Commission for Latin America and the Caribbean (ECLAC), Economic and Social Commission for Western Asia (ESCWA), UN Women and the United Nations Statistics Division (UNSD).

warm welcome was given to all colleagues present, and gratitude was expressed to United Nations member states who have collaborated in kind with UNSD on the development of the Global Set of Climate Change Statistics and Indicators. In addition, appreciation was extended to the United Nations Framework Convention on Climate Change (UNFCCC) for the excellent support to the process of development of the Global Set, and to the chairperson of the EGES, Ms. Ruth Minja, for her dedication and commitment to the work of the EGES. It was stressed that the time has come for implementation of the work following the adoption of the Global Set at the 53rd session of the United Nations Statistical Commission in March 2022 as the framework for climate change statistics and indicators to be used by countries.[3] The focus should now be on the finalization of the implementation guidelines and the self-assessment tool for climate change statistics. The importance of the contributions of experts as part of the EGES in contributing to the advancement of this work was mentioned.

6. Owing to compelling circumstances, Ms. Ruth Minja, chair of the EGES was unable to attend the meeting. In her absence, Ms. Anjali Kisoensingh of the General Bureau of Statistics of Suriname assumed the role of Chair. The Chair introduced the agenda for discussion and subsequent adoption.

I. Session One: Climate Change Statistics and Indicators

7. This session included the following parts: (1) Towards globally coordinated work on climate change statistics and indicators; (2) Related intergovernmental, regional and national initiatives on climate change statistics; and (3) Methodology development and implementation of the Global Set (including group work).

Towards globally coordinated work on climate change statistics and indicators – global and national experiences

8. The session was initiated with a presentation by UNFCCC entitled “Implementation of the Paris Agreement, ETF and GST – Climate Change Statistics.” It was stressed that the Global Set was the most important framework for countries to use, since the Global Set was adopted by the Statistical Commission and that it contained most, if not all, the indicators needed for national monitoring and reporting. Updates were provided on the Paris Agreement objectives, national actions and reporting processes under the Enhanced Transparency Framework (ETF). The key message was that transparency contributes to trust among the parties and trust was being built through reporting and review of the reported information. UNFCCC also noted that a key challenge was to ensure that developing countries can access support which was required in particular for increasing the capacity to produce climate data. The increased cooperation with UNSD was also noted, especially during the process of developing the Global Set and also via joint events, workshops, etc.

[3] UNSD, Report on the fifty-third session of the Statistical Commission (28 February to 2 March and 4 March 2022). Available at: https://unstats.un.org/unsd/statcom/53rd-session/documents/2022-41-FinalReport-E.pdf

9. UNSD's presentation highlighted the processes of developing implementation support materials following the adoption of the Global Set. There has been a growing engagement of countries and agencies in climate change statistics. For capacity development, key activities include continuous online support, organizing or supporting regional workshops, and national missions to countries. UNSD has been very active with several regional or national processes including the ECE Task Force work, the Paris21 efforts to develop a Climate Change Data Ecosystem, and the UK ONS project on climate and health statistics.

Related inter-governmental, regional and national initiatives on climate change statistics

10. FAO underlined the long-standing participation in the EGES and shared highlights on greenhouse gas emissions from agri-food systems with global, regional and country trends over the last three decades. Data are available by country and region and are useful for assessing the performance across agricultural systems and supply chains. The share of the global agri-food systems emissions decreased from 39% in 2000 to 31% in 2020 due to much faster growth in non-food emissions. Statistical guidance has been prepared and aligned with the IPCC methodologies.

11. UNDRR briefly presented the process of about 30 years of global disaster and climate governance, which evolved from ad hoc disaster response towards a humanitarian architecture culminating with the adoption of the Sendai Framework. The advances in statistical guidance were highlighted including the usefulness of the Global Set to assist countries in identifying indicators and statistics that support monitoring of the Sendai Framework.

12. OECD presented its work on the International Programme for Action on Climate (IPAC) which aimed to support countries in their efforts to progress towards net zero and the more resilient economy by 2050. The initiative helps countries to strengthen, accelerate and coordinate their climate actions, and also by doing so, supports and compliments the efforts being carried out under the UNFCCC processes. A key product was the climate action dashboard which brings together selected indicators that provide an overview of the main trends and structural changes. This dashboard was supported by a broader set of indicators, development agenda and by a technical expert group, bringing together experts from countries and other international organizations. The indicators are sourced, from the OECD environmental and green growth indicators and it was noted that the Global Set was also used extensively in this work.

13. ECE presented the work of the new Task Force on the role of national statistical offices (NSOs) in Achieving National Climate Objectives. This new task force was built on more than 10 years of contributions including from many of the EGES members. The majority of the taskforce members are from NSOs and ministries. It was noted that the work is organized in four parallel groups to expedite the process and carried out mostly in a virtual manner. Key areas include reporting under the Paris Agreement, mitigation and adaptation policies and informing the broad public. The outputs of these groups will be compiled in a guidance document, illustrating how NSOs can contribute to achieving national climate objectives – identify concrete ways in which NSOs be involved and showcase what the statistical system already offers to support climate action.

National experiences

14. Luxembourg, STATEC, shared their experience on producing climate change statistics and indicators in the country, which started with the preparation of a national list of indicators that was expanded by applying indicators from the Global Set. All the indicators in the Global Set were assessed for this purpose, in terms of relevance (about 68%) and data availability (about 76% of the relevant indicators have data). STATEC also shared some lessons from its national experience and recommendations for further work at the international level.

15. The environment statistics and climate change unit of Statistics Mauritius introduced the institutional dimension on the ongoing policies and projects related to climate change, and their experience with applying the Global Set that was carried out in consultation with stakeholders. The unit is responsible for the compilation and dissemination of environment statistics based on the FDES 2013 and also provides activity data for GHG emissions and reports compilation of the annual GHG emissions as required by UNFCCC.

16. The Central Bureau of Statistics (CBS) of Nepal shared recent experience on the development of a national set of climate change indicators based on the Global Set. The CBS has been involved and provided contribution throughout the process of the development of the Global Set. The national set contains 260 indicators of which 150 have data available and are being compiled for a publication.

17. The General Bureau of Statistics of Suriname also shared national experiences based on the Global Set, underlining its usefulness to related frameworks including the FDES, SDGs and the Sendai Framework. Forest, energy and oil indicators are especially relevant for Suriname. Each indicator in the Global Set was assessed in terms of relevance and data availability and about 48% of them had data available. Data quality and availability were the most critical issues in the country. There is a need for more technical capacity (training on the metadata & data collection process) which would be beneficial for the Global Set and also for the climate change-related SDG indicators and UNFCCC submissions.

Discussion

18. Experts expressed great appreciation for the Global Set which would be very useful for countries in national monitoring and reporting. It was also noted that given that UNSD was uniquely poised having a comprehensive overview of which countries have embarked on climate change statistics it would be imperative to share such information via its website for the benefit of all countries.

19. A related important point was raised on the possibility to design and operate a hub where countries can share national experiences on implementation of the Global Set, to which UNSD commented that the process of compiling such information was initiated via the Global Consultation in 2021 and that possibilities to expedite the process are being explored.

20. Following the presentations by UNFCCC and UNSD, a question was raised concerning advancements in methodology for Tier 3 indicators. UNSD clarified that the methodological issues pertaining to Tier 3 indicators are addressed in parallel to implementation support. Further, striking the right balance between advancing methodologies while moving ahead with processes already in place in countries is of prime concern.

21. Comment was raised how to prioritise among the indicators and establish a core set of indicators, to which UNSD advised that countries should complete the self-assessment on the Global Set, select the relevant indicators based on the tiering system as applied in the FDES statistics and the SDG indicators, as well as adapt them to national circumstances and prepare a national set of indicators and statistics.

22. Since wide gaps exist between countries' capabilities to compile climate change statistics and indicators was mentioned, a remark was made concerning the value of UNSD making countries' experiences in applying both the Environment Statistics Self-Assessment Tool (ESSAT) and the Climate Change Statistics and Indicators Self-Assessment Tool (CISAT) publicly available.

23. Identifying how to prioritise environment statistics relative to climate change statistics was discussed. Understanding overlaps, to what extent one may be considered a subset of the other and establishing what compendia or state of the environment reports to prioritise, was discussed. A comment was offered that contingent upon existing legal frameworks and mandates in a given country a decision can be taken to make priorities.

24. The fact that climate change has become such an omnipresent concern for a wide variety of government departments, ministries and central banks was mentioned. As an NSO, the need for guidance in identifying where to start and how to collaborate with such a broad range of stakeholders was mentioned. For this consideration, the forthcoming developments in the implementation guidelines and the CISAT were referenced as being the most relevant materials to service this need.

Session One: Climate Change Statistics and Indicators: Group Work

Methodology development and implementation of the Global Set

25. UNSD introduced recent advances on methodological development for the Global Set. Overall, methodological soundness was lowest for adaptation indicators and highest for drivers. Data availability was most challenging for the adaptation indicators (since most are Tier 3) in all regions. NSOs have a special role in the areas of adaptation and vulnerability due to their expertise in surveys and censuses and the amount of data required via these data collection instruments. Looking at the level of indicators it was not obvious, but at the level of statistics needed to compile these indicators, the areas of vulnerability and adaptation required substantially more data sourced from surveys and censuses than the other areas.

26. The UK ONS has undertaken a four-year project aiming to develop standards for official statistics on climate and health interactions. The project would contribute to reporting more comparable and reliable statistics internationally, with focus on the evidence and the impacts on health from climate change. The intention was to produce a series of metrics that would have clear unified definitions, in a way that was both similar and complementary to the Global Set. An online platform will be created and expected to be hosted by the UNSD Global Platform.

27. UNSD and UN Women introduced gender related statistical developments, with emphasis on the Statistical Commission Decision 51/115, b on adopting and integrating a gender perspective into all the agenda items of the Commission. Climate change has been prioritized, given that women and girls, particularly in developing countries and small island developing states, are disproportionately affected by the adverse impact of climate change and are at most risk of losing their livelihoods during and in the aftermath of disasters. UN Women introduced their work on environment and gender indicators. Many of the indicators are expected to be informed via a Gender-Environment Survey, with a special module on climate change and disasters.

28. A UNSD consultant introduced the work done on the draft implementation which were recently revised and distributed for review by the EGES members. The guidelines contained eight steps with key recommended actions for countries applying the Global Set. Feedback received from EGES members before the meeting was incorporated into the presentation and group work discussion.

29. A second UNSD consultant presented the new self-assessment tool on climate change indicators, also known as the CISAT. The CISAT combines the structure of the FDES-ESSAT with the one used during the Global Consultation on the draft Global Set. The CISAT was submitted to piloting in which several countries from the Caribbean, South American and African regions are currently engaged. Both CISAT and the implementation guidelines are planned to be completed before the end of the year.

30. The group work session started with an introductory presentation by UNSD – outlining the key issues which the EGES was expected to review. The groups were divided into: (1) climate and health; (2) gender and climate; (3) implementation guidelines; and (4) CISAT.

Group 1: Climate and health

31. The group had 10 participants, representing five countries, the UK, India, Cabo Verde, Chile and Italy and three international organizations, UN-ECE, SPC and UNSD. Overall issues on climate change and health were discussed first, with related practices in each of the countries (materials and references were also shared).

32. Selected Tier 3 indicators from the Global Set were introduced, including 'Incidence of cases of climate-related diseases' and 'Incidence of heat- and cold-related illnesses or excess mortality'. Attribution is among the key challenges for clarifying cause of illness/disease indicators and

statistics and needs a baseline (to compare the situation prior to climate change); after which an analysis of connection to climate events can be done. For temperature related impacts it is feasible to look analytically at excess mortality on hot/cold days. However, there are several factors to be considered, including geographic variations, for example heat and cold impacts will be inflicted by very different ranges of temperature in tropical and arctic areas hence the health impact will vary widely by region, even within countries. Guidance would be needed for countries to perform such analysis.

33. Health indicator(s) for the area of adaptation is currently missing in the Global Set. Adaptation efforts may be reflected in government actions, such as vaccinations as well as land management – for example, increase of green urban areas. In addition, health relates to several aspects and topics in the Global Set especially water quality and air pollution, therefore these topics can guide further methodology development on climate and health.

34. It was also discussed that adaptation measures vary by country, country context-specific knowledge is needed to clarify key issues before further efforts on recommending internally applicable indicators. More general guidance is also needed to support countries in this area.

Group 2: Gender and climate

35. The gender and climate group consisted of about 12 experts from countries, sub-regional organisations and international organisations. Upon being presented with a short slide presentation from UN Women and UNSD, the group revised a subset of indicators from the gender-environment indicators for Asia and the Pacific (updated set as of July 2022) closely related to already existing indicators in the Global Set of Climate Change Statistics and Indicators and considered the pertinence and feasibility of their calculation.

36. Among issues discussed were means via which data for gender and environment-related indicators could be sourced. The use of a stand-alone data collection tool (such as the gender-environment survey now being used in the Asia-Pacific) [Model questionnaire: Measuring the nexus between gender and environment | UN Women Data Hub] was discussed, as well as the idea of adding questions or modules of questions concerning gender and environment onto existing data collection instruments (e.g. population and housing censuses, multiple indicator cluster surveys, demographic and health surveys). The colleague from the State of Palestine referenced an experience involving the Palestinian Central Bureau of Statistics and other key federal level stakeholders (including the Ministry of Women, and the Ministry of the Environment) to conduct a biennial household environment survey. Adding questions or modules of questions to the Multiple-Indicator Cluster Survey (MICS) to capture gender and environmental phenomena was also discussed. The role of the NSO in this work was discussed and the need of engaging stakeholders to ensure good coordination and to formalize data collections.

37. It was also noted the complexity of gender statistics, an area not always familiar to those in charge on climate change data production, and it was acknowledged the need of more guidance on this

area. Disaggregating data by sex is a minimum requirement, or necessary condition, but integrating a gender perspective requires also identifying areas of concern related to climate change that affect differently men and women and incorporate them into concepts, definitions as well as data collection methods and indicators.

38. The importance of monitoring environment-related crime and violence, including violence against women and girls, was highlighted and it was acknowledged that this is a topic missing on the Global Set on Climate Change Statistics and Indicators.

39. The frequency of data collections to measure many of the slow-moving phenomena relevant to gender statistics was mentioned. In some cases, a biennial survey (such as was shared by State of Palestine), or even a five-yearly population and housing census may be a suitable frequency for measuring progress on certain phenomena. In other cases, an~~d~~ ad hoc approach (e.g. immediately following a major disaster or hazard, or irregular academic research) may be suitable for measuring a phenomenon, or may be the best data source available.

40. For some of the indicators discussed which contain location characteristics (e.g. Gender-Environment 14: Proportion of population whose dwelling unit or land is located in high environmental-risk areas, by sex and location), geospatial information and administrative data sources may be useful. In such an example as for this indicator, geospatial information may accurately measure the proportion of the population whose dwelling unit or land is located in high environmental-risk area. If such information can be used together with information on sex and location which may be captured via a demographic and health surveys, or population and housing census, such an indicator can potentially be accurately measured (by integrating multiple data sources). Metadata require clear definitions to guide correct calculation of the indicator and ensure international comparability (e.g. a precise definition for “high environmental-risk area” is needed).

41. Comment was made that there is overwhelming evidence to devote attention and resources toward addressing issues pertaining to gender. At the same time, a further comment was made that for an NSO, now is the time for further research and understanding on the topic of gender statistics. Similar to the broader issue of balancing the implementation of the Global Set of Climate Change Statistics and Indicators with further research into certain indicators, such an issue may confront gender statistics. In this regard, applying proxies in cases where a given indicator may not be immediately achievable, and striking a balance between supply and demand of statistics can be carefully considered.

Group 3: Implementation guidelines

42. The experts assembled in this breakout group were asked to respond to questions that relate to certain aspects of the draft implementation guidelines. Other comments were also welcomed. Experts were asked to respond to whether or not modifications or additions needed to be made to the key steps in the implementation process. It was agreed that the steps of the process were

very comprehensive**.** Synergies to Paris21 Climate Change Data Ecosystems Assessment Framework were observed.

43. In order to smoothen the flow in the steps, it was proposed that the national implementation plan introduced in 5.1. (Table 1) could come after the 5.2 institutional and organization dimensions. In section 5.1 (conduct a self-assessment), it would be good to add a sentence that this task must be approved or have the support of high-level stakeholders.

44. Another suggested change in the flow was that Section 5.5. on National institutional arrangements could be introduced before Section 5.3. Multi-disciplinary approach and 5.4. Training and capacity building at national level. As many elements are previously introduced and mentioned in the proposed steps of the implementation plan.

45. One suggestion in the group was the inclusion, at the end of the document, of sections on strategic plans and how to move forward, as well as and lessons learnt.

46. A comment was made that countries should provide the necessary additional resources to ensure the continuity of the process (not shifting resources from one activity to another). It was noted that the UN Secretary-General has mentioned that climate change is one of the biggest threats for humans, but this is not matched with resources on national and international level to produce the information for informing related policies. It was further noted that funding for producing climate change statistics through the National Statistical Systems or NSOs should be a part of the funding of the entire national climate change mitigation and adaptation strategy.

47. It was suggested that reference to national SEEA implementation should be referred to in the guidelines, and also that that the SEEA should be used to the extent possible for producing SEEA-relevant climate change indicators, analytical work, etc.

48. During a discussion on including national examples best practices, experts suggested that the guidelines could include text on the importance of climate change statistics to the countries. NSOs and stakeholders often feel that climate change statistics is new work and can be overwhelming. Highlighting the usefulness of the statistics may make the producers more willing to work on climate change statistics. It was also suggested that the NSO should first get approval of higher authorities for support in establishing a Technical Working Group (TWG) which would increase chances for budget approval, etc.

49. Brazil shared that in their case, with regard to inter-institutional relations, they are trying to reconnect institutions and focal points. For the following year, there are plans for a publication, a guide of recommendations on environment statistics, attempts to sensitize the institutions that produce environmental data and the importance of the theme and the need to structure standards and build indicators on climate change. These advances are in the preliminary stage.

50. Mauritius shared that ministries and organisations tend to work in silos and to most of them, climate change is not a priority. Therefore, the comment on making climate change a priority or

making officers and the public at large more aware of the seriousness of the issue is of paramount importance so that there can be a concerted effort to generate the climate change statistics and indicators.

51. In the discussion of *Table 1: Elements of a national programme*, it was suggested that the steps can be developed as a tool box where countries can 'pick and choose' the steps. Another suggestion was that steps 5 and 6 should go before other steps.

52. As part of the EGES comments on the addition of other appropriate funding sources, it was suggested that the United Nations Development Account project (UN DA projects), UNDP and COMESA should be included. It was noted that multi-annual plans are needed, and implementation of the Global Set should be included into strategic plans and implementation programmes of NSOs and other organizations involved. More information on funding sources may come from discussions under capacity development on the last day of the EGES meeting.

53. Regarding the figure illustrating the key stakeholders, it was suggested that the simple diagram supplied by UNEP could be more useful and that the word 'Agencies' should be added to the box with Ministries. Another change suggested was to add or highlight the focal points reporting to UNFCCC.

54. The EGES concluded in the group work that use could be made of approved alternative sources of official statistics. Information should also be included on the IMF and other quality assurance frameworks. Feedback from an expert before the meeting suggested expert fora, as well as producers and users meetings, as examples of quality assurance. More emphasis could be made on quality assurance by including more information on UN quality assurance work.

Group 4: CISAT

55. Thirty-three experts assembled into a breakout group and focussed their discussion on the CISAT. The discussion focussed on the structure and utility of the self-assessment tool, as well as on the data transferability of work done between the Global Set and the related correspondences, e.g. FDES statistics, SDGs, Sendai Framework, CES indicators.

56. It was pointed out that the transferability of the work could be feasible. One of the ideas mentioned was to transfer the information that countries might already have from the ESSAT at the statistics level, by identifying those statistics that both the FDES and the Global Set have in common, and transferring this information when conducting the CISAT. However, it was suggested to develop an integration system between all the global indicator sets from different frameworks, since there were several common indicators among them. Similarly, the same could be done for the statistics and one template could be prepared for many users or for many purposes.

57. Regarding the question about the mobilisation of resources Suriname indicated that it is sometimes possible. Although the GBS doesn't usually get large funding they were successful after a lot of effort to obtain some resources. Although these were not direct funds they were available to be spent on capacity building.

58. The importance of keeping the CISAT as a self-evaluation tool was acknowledged, based on the experience from the experts using the different tools and from feedback received from countries. It was suggested that prioritization of the indicators goes beyond this tool. How the tool is implemented at the country level and how engaged the different stakeholders are in this process, would help countries to identify those indicators that are a priority for them. It seems that there is no need to develop another tool, unless there is a specific functionality that can be added to the Excel file that already exists.

59. It was pointed out that the CISAT has 158 indicators which could take quite a lot of time to populate. However, some comments indicated that it is not necessary to complete the entire self-assessment tool because the relevance of the tool lies in its ability to select those indicators that are priority for the country and then evaluate them.

60. For the structure of the CISAT Part I it was suggested to keep it simple and using the same structure as the ESSAT. Additionally, regarding the order of the questions in the CISAT Part II, experts recommended following the structure of FDES ESSAT as close as possible. Nevertheless, the experts also suggested to explore the idea of building an online hub for a simplified version of the questionnaire.

61. Finally, there were several comments related to the questions of the CISAT Part II and a few proposals were made to clarify some of the questions and potential responses which would be incorporated in the conclusions and recommended actions contained in Annex I.

Discussion

62. After a short summary each group presented to plenary and the following points were raised. For the implementation guidelines it would be good if additional contributions were submitted on evaluating practices for policy effectiveness by the countries. In addition, more work was needed on quality assurance.

63. On CISAT, the key recommendation was for UNSD to explore the possibility of developing an online tool for both Part I and Part II. COMESA consultants commented that similar experience was already in place for the purposes of the activities in that region. An online questionnaire was designed to assess the level of implementation of both the FDES and the Global Set in the member states of COMESA.

64. In addition to gender and health, experts recommended further topics such as migration and land degradation be prioritised for methodological development.

II. Session Two: Environment Statistics Data Collection

65. This session was divided into three sections: Water statistics, Waste statistics and Other data collection and reporting requirements (data collection instruments).

Water Statistics

66. In the first section on Water statistics, the following presentations were delivered: (i) UNSD/UNEP Questionnaire on Environment Statistics – water; (ii) Advancements in wastewater data for informing SDG indicator 6.3.1; (iii) The joint OECD/Eurostat Questionnaire: international harmonisation, alignment with SEEA and SDG reporting; (iv) FAO's data collection on water statistics in the 2022 cycle and demands for SDG indicators in Goal 6; (v) Armenia's experience with the UNSD/UNEP Questionnaire on Environment Statistics (water section); and (vi) Assessment of the current status of Water statistics: the Italian experience.

67. UNSD presented the UNSD/UNEP Questionnaire on Environment Statistics – water. Examples were demonstrated of how countries' data are used for multiple purposes, such as for SDG indicator compilation, Climate Change Statistics (per the Global Set of Climate Change Statistics and Indicators), Environment Statistics (per the Framework for the Development of Environment Statistics (FDES)), and for Environmental-Economic Accounts (per the System of Environmental-Economic Accounting (SEEA) Central Framework, and its associated Water Accounts). Advancements made in improving response rates, and in identifying variables of greatest interest for various policy demands were demonstrated. Countries were reminded that the 2022 cycle of data collection is still taking responses.

68. WHO presented on behalf of itself and UN-HABITAT on advancements in wastewater data for informing SDG indicator 6.3.1. The way by which country data sourced from the UNSD/UNEP Questionnaire on Environment Statistics, and the Joint OECD-Eurostat Questionnaire on Inland Waters are used for the monitoring of SDG indicator 6.3.1 was emphasised. Variables from the UNSD/UNEP Questionnaire of direct interest into to SDG indicator 6.3.1 were shown, as well as diagrammatical representations of what this indicator endeavours to measure. Results for the world and its regions of data provided were also shown.

69. OECD presented on behalf of itself and Eurostat on the Joint OECD/Eurostat Questionnaire: international harmonisation, alignment with SEEA and SDG reporting. Efforts to align definitions used in international questionnaires and to meet demand for SEEA and the concept of "environmental flow requirements" were raised. A flow scheme was presented as well as expectations and plans for improved data to meet various demands in the future.

70. FAO presented on its data collection on water statistics in the 2022 cycle and demands for SDG indicators in Goal 6. Its methodology applied to SDG indicators 6.4.1 and 6.4.2 as well as its dissemination system were shown. Comment was also provided on its Questionnaire, response rates, data quality and main challenges moving forward.

71. Armenia has provided good data to the UNSD/UNEP Questionnaire on Environment Statistics and presented on its experience in doing so for the water section. Armenia detailed procedures and sources used from a wide variety of stakeholders in order to provide data. Detailed analysis of several tables was provided and conceptual issues on reused water and compilation of supply and use tables for SEEA-Water was shown. Further, a flow chart depicting Armenia's approach to providing data for SDG indicator 6.3.1 was shown.

72. The Italian experience on the Assessment of the current status on Water Statistics was also presented. This presentation detailed work concerning public water supply, water use in agriculture and industry, water balance and the generation and discharge of wastewater. Italy also commented on its national and international commitments regarding water and future steps concerning water use, sludges, wastewater treatment and participatory approaches.

Discussion

73. During discussion, colleagues showed keen interest in knowing response rates to the international Questionnaires relating to water. Those present who undertake international data collections concerning water showed commitment to continue to do so while bearing in mind that such information can help inform with respect to the debate of what the supply of data is pertinent to key demands related to SDG indicators, the Global Set of Climate Change Statistics and Indicators, the FDES, and so on.

74. The value of UNSD, UNEP, OECD, Eurostat and FAO (all of whom are involved in collecting water data at international level via Questionnaires sent to countries) maintaining regular dialogue with one another, and, as appropriate, countries, was stressed. This pertains to decisions to modify variables for inclusion within international data collection instruments.

75. Use of specialised expertise at international level for informing international data collections was also emphasised. A good example of this is the participation of WHO and UN-HABITAT applying expertise to wastewater for measurement of SDG indicator 6.3.1. Further, and as appropriate, while conducting data validation of countries' responses to the UNSD/UNEP Questionnaire, UNSD shall involve those at international level with expertise as appropriate, especially where such involvement may help improve quality and quantity of country-owned data.

Waste Statistics

76. In the second section on Waste statistics, the following presentations were delivered: (i) UNSD/UNEP Questionnaire on Environment Statistics – waste; (ii) SDG indicators consolidation and SDG 12 Hub; (iii) Progress of monitoring SDG indicator 11.6.1 and trend in plastic leakage sources in the world cities; and (iv) Waste statistics in United Arab Emirates.

77. UNSD presented on the UNSD/UNEP Questionnaire on Environment Statistics – waste. Similar to when the water section of same Questionnaire was presented, examples were demonstrated of how countries' data are used for multiple purposes. Like data for water, waste data apply to many policy contexts related to SDG indicators, climate change, environment statistics, etc. Country-owned data submitted to UNSD was shown as it applies to informing SDG indicators (e.g., concerning hazardous and municipal waste treatment).

78. UNEP presented on both its SDG indicator consolidation and its SDG 12 Hub[4]. UNEP demonstrated its custodianship for many SDG indicators within Goal 12 and how many of the data series in the UNSD/UNEP Questionnaire on Environment Statistics are used as a preferred source. Concerning the SDG 12 Hub which is a one-stop shop for progress on SDG 12, the format of data dissemination was shown as well as the inter-agency collaboration involved. Moving "beyond beta", the Hub aims to raise the profile of SDG 12 and encourage implementation, streamline and simplify reporting processes for member states, and inform Voluntary National Reviews and national policy interventions.

79. UN-HABITAT presented on Waste Wise Cities Tool and outcomes so far, with emphasis on the progress of monitoring SDG indicator 11.6.1 and trend in plastic leakage sources in world cities. Methods and flow charts related to the Waste Wise Cities Tool (WaCT) as well as its application to many cities around the world. Collaboration between UN-HABITAT and UNSD for indicator 11.6.1 was also mentioned, bearing in mind scope for future collaboration to continue monitoring for SDG 11.6.1.

80. United Arab Emirates (UAE) presented on its experience in providing waste statistics to the UNSD/UNEP Questionnaire on Environment Statistics. The many stakeholders involved in the statistical system in the UAE were mentioned, as was the way the UAE applies international statistical methodologies such as the Framework for the Development of Environment Statistics. How the UAE uses various data sources, such as administrative records and surveys, to compile waste statistics was demonstrated.

Discussion

81. The discussion raised technical questions pertaining to liquid hazardous waste and how this can be converted to mass, for measurement in tonnes. UNSD informed of its standard practice for data collection which requests for countries to report data as best they can per the definitions provided in the UNSD/UNEP Questionnaire on Environment Statistics and to then explain for any anomalies or unique characteristics to the reported data via footnotes. Doing so means that when a country's data are disseminated publicly side-by-side with other countries' data, a user of the data can understand reasoning for any unusual observations which may be justified by a footnote description.

[4] https://sdg12hub.org/

Other data collection and reporting requirements (data collection instruments)

82. In the third section on other data collection and reporting requirements (data collection instruments), the following presentations were delivered: (i) data sources used in environment statistics and climate change statistics; (ii) climate change-related data collections via survey/ censuses; (iii) construction of a survey module on climate change; and (iv) data collection for climate change.

83. UNSD presented an Introduction to data sources for environment statistics and climate change statistics with a main focus on surveys and censuses. The presentation highlighted countries' responses to Questions D5 and D6 on the use of specialized climate change surveys, or modules in existing censuses/surveys of Part I of the Global Consultation on the draft Global Set conducted in 2021. It was mentioned that there is an increase in the number of countries including environmentally related questions in surveys and censuses and that countries are now embarking on such efforts in climate change statistics. Reference was made to the UNSD webpage which houses country environmentally related censuses and surveys for public consumption.[5] Special mention was made of the collaboration between the Environment Statistics Section and the Demographic Statistics Section on the use of census questionnaires from their database. The presentation highlighted some of the environment and climate change questions asked during 2000-2020 rounds of Population and Housing Censuses (PHCs). Similarly, it showcased a few countries that included a dedicated section on the environment in the PHC questionnaire. It was noted that although many questions are based on the perception of the population, they are very useful in raising awareness and moving towards advocacy on environmental issues. Further, some statistics and indicators from the Global Set that can be sourced from PHCs were presented.

84. Nepal presented on its data collection for environment and climate change statistics. This detailed the climate change situation in Nepal, as well as the status of data collections and publications in climate change and environment statistics in Nepal. In particular, Nepal described the sample design, structure of the survey instrument, themes covered, the planned approaches for data collection and current status of the second National Climate Change Impact Survey that is being conducted by the Central Bureau of Statistics (CBS). This survey is based on national frameworks which embrace the concepts of vulnerability and risk as well as loss and damage and comprises 12 modules. It was emphasised that the challenges encountered and lessons learnt in the first survey helped to inform and improve the overall approach to the current survey.

85. Tanzania provided an overview of its environment statistics data collection, environment and climate change questions in the 2022 Population and Housing Census (PHC), and main challenges and recommendations. It stated that the main objective of including questions related to environment and climate change was to, inter alia, collect baseline data for some environment and climate change statistics; raise awareness of environment and climate change for all persons in the country; and seek public opinion on various aspects related to knowledge and perceptions

[5] UNSD, Compilation of environmentally-related censuses and surveys and specialized environmental surveys, available at: https://unstats.un.org/unsd/envstats/censuses/ (accessed 25 October 2022).

about climate change. The presentation demonstrated that in 2022 the PHC includes a new environment section with additional environmentally related questions such as on electronic waste disposal, as well as innovative questions on climate change. The EGES noted that Tanzania was the first country to feature specific questions on climate change in the PHC. It was also recommended that NSOs consider using various data sources to bridge data gaps for environment and climate change statistics, in particular with a view to implementing the Global Set.

86. Bangladesh presented on its data collection for environment and climate change statistics. This detailed the climate change situation in Bangladesh, as well as the status of data collections and publications in climate change and environment statistics in Bangladesh. It was noted that Bangladesh conducted two surveys on climate change and disasters in 2015 and 2021 respectively. These surveys were aligned with the SDGs and Sendai Framework and the Bangladesh Bureau of statistics published Bangladesh Disaster-related Statistics (BDRS) 2021 and Climate Change and Natural Disaster Perspectives and Bangladesh Environmental Statistics 2020. The Bureau is in the process of publishing the report on the Bangladesh Environmental Protection, Expenditure, Resource and Waste Management Survey 2022 and is currently compiling the report on Environment Statistics 2023.

87. The Pacific Community (SPC) expressed its appreciation for the opportunity to collaborate and share its work on developing a survey module on climate change and disasters for the Pacific Islands. The SPC was also developing an accompanying source book. It was noted that given the existing commonalities with SIDS in particular, the survey and source book would be very useful to other regions. The survey is designed to address climate change indicators and statistics from the Global Set, the FDES, Sendai Framework and the SDGs and aims to provide data at a disaggregated level.

88. FAO presented on its agri-environmental data collection which focused upon land use, irrigation and agricultural practices; pesticides use and trade; and mineral and chemical fertilizers. The presentation demonstrated the collections' relevance to SDG indicator 2.4.1 (Productive and Sustainable Agriculture) and its many sub-indicators. The presentation also provided information on thematic coverage of FAOSTAT which included forestry and fishery as well as on the joint questionnaires used for data collection. It was also noted that for the 2020 round the agricultural census includes coverage of greenhouse gas emissions.

Discussion

89. Experts expressed support for the work of the Environment Statistics Section and welcomed the internal UNSD collaboration which led to the review of census and survey instruments. Experts also, welcomed the collaboration with the Pacific Community to develop a module on climate change and disasters and an accompanying source book which could be applied to other regions. Further, experts encouraged countries to continue their efforts towards developing a separate environment section in the PHC or expand existing environment sections to include more questions on the environment, as well as on climate change, as was done in the case of Tanzania.

III. Session Three: Environment Statistics Toolbox

90. The session, focusing on the FDES and the Basic Set of Environment Statistics, included presentations on: the status of completion of the Manual on the Basic Set of Environment Statistics[6]; the methodology sheet on freshwater quality statistics; the application of the FDES in Jordan; and the results of application of the Environment Statistics Self-Assessment Tool (ESSAT) in Belize.[7]

91. UNSD provided an overview of the status of development of the Manual of the Basic Set of Environment Statistics, underlining remaining topics and issues related to the Tier 3 statistics. Remaining topics may need to be grouped in a separate methodology sheet as some contain very few statistics, soil pollution, noise, ozone depleting substances, other substances, chemical substances with few Tier 3 statistics. Several topics in particular in Component 6 contain rather large number of Tier 3 statistics and the needed methodology should be developed in conjunction with those included in the Global Set.

92. The second presentation on freshwater quality was delivered by Statistics Netherlands. This provided an update on progress of this methodology sheet following close collaboration, since the eighth EGES meeting in 2021, between The Netherlands and UNSD. The colleague from The Netherlands expressed interest in countries sharing diagrams detailing discharges of water, data portals concerning freshwater quality statistics and other examples of disseminating freshwater quality statistics. Further, countries' methods to compile data and statistics for SDG 6.3.2 were welcomed.

93. Jordan presented on its use of the FDES where it applied the six components of the FDES to the way it structures its dissemination of environment statistics via the website of the Department of Statistics[8]. Statistics are available in tabulated format, structured in accordance with the FDES' Basic Set of Environment Statistics (BSES). Wherever possible, statistics are disaggregated to the finest level spelt out in the BSES (either component, sub-component, topic, or statistic level). Metadata is available in Arabic and English, and time series go back many years (for instance, some data have time series available from 1994 to 2021).

94. Belize presented on its experience in applying the Environment Statistics Self-Assessment Tool (ESSAT), demonstrating on how, via its application, a country can undertake a thorough review of its environment statistics work programme. In the case of Belize, the NSO (Statistical Institute of Belize) led the completion of the ESSAT in partnership with the Department of the Environment while many others (some 15 or more agencies, departments, authorities, units, etc.) participated. The ESSAT helped identify data gaps, reasons for the unavailability of certain statistics, and future

[6] UNSD, *Manual on the Basic Set of Environment Statistics*, available at: https://unstats.un.org/unsd/envstats/fdes/manual_bses.cshtml (accessed 25 October 2022).
[7] UNSD, *Environment Statistics Self-Assessment Tool (ESSAT)*, available at: https://unstats.un.org/unsd/envstats/fdes/essat.cshtml (accessed 25 October 2022).
[8] https://jorinfo.dos.gov.jo/Databank/pxweb/en/Environment/

steps to address these shortcomings. In the case of Belize, improvements in metadata, data sharing, data protection and the formalisation of information sharing agreements are planned.

Discussion

95. Finland provided an example, upon the request of The Netherlands, which may be considered for the methodology sheet on Freshwater Quality Statistics.

96. Observing the method by which Jordan disseminates its environment statistics, colleagues commented that either via an interactive online database (such as shown by Jordan), or via a static, time-stamped, compendium-style product, countries may compile and disseminate environment statistics per their mandates and user demands. UNSD continues to collect and share countries' good efforts to compile FDES-coherent environment statistics compendia.[9]

97. Following the presentation delivered by Belize, comment was made that where a country may wish to focus more closely on advancing climate change statistics, use of the CISAT (in lieu of the ESSAT) may be preferred. UNSD shall compile a concordance product for convenience of those who may have used one of the two assessment tools and wish to undertake analysis of both environment and climate change statistics.

IV. Session Four: Capacity Development in Environment Statistics and Climate Change Statistics

Global capacity development

98. UNSD introduced an overview of the capacity development activities at various levels and forms, online, via consultants, on-site and future work. UNSD is compiling a database on demands, activities and progress by countries on climate change statistics, and planning to complement this information with the implementation of the FDES and data collection. On climate change statistics most of the information comes from the Global Consultation (86), statements to the 53rd session of the Statistical Commission (about 40), as well as individual requests. Implementation support is being provided via capacity development materials and sessions. In person training is also being organized, before the year end – a regional workshop for the COMESA countries and a national mission in Peru.

99. Paris 21 presented the CCDE assessment framework for developing countries. Based on an approach of complementarity [to UNSD's CISAT and other existing assessment tools etc.], this framework utilizes a data ecosystem approach as an enabler for targeted capacity building. Faced

[9] United Nations Statistics Division, Environment statistics and related compendia compiled applying the FDES 2013, available at: https://unstats.un.org/unsd/envstats/fdescompendia.cshtml (accessed 1 November 2022).

with limited resources, as well as institutional and technical challenges in using and integrating very different types of data and data sources, countries find themselves having to confront a variety of non-governmental organizations such as research institutes, meteorological organizations and even across their private sector and civil society. The Paris 21 assessment framework takes into account those needs and actually puts them into action by trying to provide crucial information and evidence to develop a climate change data action plan that will then be leveraged to transform countries. This approach while gathering and consolidating information on all actors and the data countries have will build upon work already done. The EGES was advised that the framework will be pilot tested and adapted as necessary to meet country needs.

Activities led by regional institutions

100. The presentations on regional activities referenced both multilateral and bilateral assistance. These activities were generally carried out when there were resources available, and country requests had been made. Concrete examples of the challenges were discussed, stressing the need for regular statistical cooperation among the NSOs and other stakeholders. Various projects were held and several tools, activities, training modules, e-learning modules, manuals, etc. were produced.

101. ECE shared the diversity in their Member States and its main objective: support countries in the production and online sharing of environmental data; their target audience and the platforms used for exchange of knowledge and experience. To support the production of environment data ECE has existing guidelines which were adopted in 2007 and these are being used by both NSOs and ministries to guide the list of statistics and indicators to be produced as well as the concepts and methodologies used for their production. These guidelines were organised under 10 traditional topics with metadata available for each indicator. With the adoption of many new global policies such as the SDGs, Paris Agreement and Sendai Framework and the need to report on these ECE embarked upon updating the 2007 guidelines. In this process the FDES 2013 was very useful in structuring the updated ECE guidelines which takes into account the cross-cutting issue of climate change and the various new global policies and initiatives.

102. ECLAC gave a brief background on their work showcasing their various products and platforms. They shared current and ongoing projects, planned activities and challenges. ECLAC presented an overview of their activities under the DA12 project on Climate Change and Disaster Statistics in the Caribbean, 2021-2023. This project was rolled out in close collaboration with UNSD, OECS, CARICOM, PARIS21 and CDEMA and focuses on eight Caribbean countries - Antigua and Barbuda, Belize, Dominica, Grenada, Saint Lucia, St Kitts and Nevis, St Vincent and the Grenadines, and Suriname. It sought to build capacity in these countries to overcome challenges in the production and dissemination of climate change statistics and indicators. Utilizing the ESSAT and applying the Global Set of Climate Change Statistics and Indicators through the conduct of hybrid workshops, the DA12 project helped countries to identify existing data gaps and needs etc. Further, it was acknowledged that strengthened collaboration at the global and regional level enables the delivery of much greater capacity building to countries.

103. ESCAP used a demand-driven approach in supporting Member States to meet their needs for environment statistics and accounts. They presented their tools and modalities used for capacity building in countries, such as their training courses including e-learning courses as well as webinars. Capacity building is also provided to Member States to streamline strategic planning and this was done through a number of modes. Strengthening of institutional capacity in the countries was also done through facilitating stakeholder dialogues with the main data producers and users of environment and climate change statistics. Technical assistance was provided upon request utilizing both in country and online modes of delivery. Further, the EGES was informed of the DA14 which is a global project coordinated by UNSD. The DA14 is being implemented by a number of United Nations partners, and one work stream of the project is co-led by ESCAP and UNEP to support countries to broaden production and use of key policy-driven statistics and indicators focusing on climate change and disaster-related statistics. The project is expected be tailored to national concerns, priorities, and resources and would be utilizing technologies and innovation for official statistics. It is also expected to enhance institutional coordination and collaboration and promote south-south cooperation. The DA14 will be rolled out from 2022 to 2025.

104. ESCWA shared proposed indicators related to climate change for the Arab region and noted that 90% of these matched those of the Global Set. Projects, workshops and use of GIS technology were presented along with a recently approved (April 2022) five-year canvas project plan entitled "Leave no location behind, iSEE the Arab world". The plan reflects SEEA's Applications and Extensions approach to integrating society, economy and the environment. The presenters showcased preliminary results from their Geospatial Laboratory: From Lab to Policy and Society, that is being supported by the Leave No Location Behind project. A time series showing trend analysis on land cover change, for the entire region, 1992 to 2020 was presented. This preliminary series is a prerequisite product to integrate spatial data with statistical data to help address socioeconomic, environmental and climate change characteristics of the region. Quarterly geo-statistical releases for the region on SEEA related themes are expected to be disseminated from March 2023. These releases will inform an online flagship publication: The Geo-Statistical Atlas of the Arab World which will include dashboards for measuring, gauging and valuing the things pertinent to the region. Also presented was the spatial distribution of economic gross output across the 12 governates and the 51 districts of Jordan using geo-spatial parameters such as population densities, urban buffers, industrial facilities, farmlands, banks and institutions, roads and highways. ESCWA intended to collaborate with other member states to prepare similar outputs. Collaboration has been established with the regional UN Habitat office and the German Space Agency on built-up areas and settlements and this was expected to continue with international, national and local counterparts in an effort of cross-pollination.

105. CARICOM shared their in-country capacity building activities, current work and their areas of success. They recommended: more capacity-building and investment and related support from their respective governments as well as from international development partners. The representative reported on capacity building activities for countries which included in-country technical support, regional workshops and meetings of the technical working group on

environment and climate change statistics. Further, CARICOM reported that starting with UNSD in 1999, these activities were conducted in collaboration with regional and international development partners and led to the sustainability and expansion of the environment statistics programme. It was noted that CARICOM has produced its fifth regional environment statistics report and more recently its first climate change statistics regional report. To continue to support countries in the region the CARICOM Statistics Programme outlined the need to work closely with environmental agencies that produce data for administrative purposes and to have dedicated personnel to enable concerted attention to this area of statistics.

106. The representative of COMESA gave a presentation on current capacity building initiatives in the African region for eastern and southern Africa. It was mentioned that COMESA was embarking on a project funded by the African Development Bank with technical support from UNSD. The overarching objective of the programme was to build or strengthen capacity of the 35 African development fund countries to develop environment statistics and climate change statistics and indicators. Currently, COMESA was in the process of setting up the foundation for the development of blue economy fisheries satellite accounts which also related to the Pro Economy database. In this regard it was also noted that COMESA is organising a regional workshop with support from UNSD and UNFCCC for 28 November to 1 December 2022 in Kenya.

Discussion

107. The participation of international organizations makes it possible to share their capacity building experiences among and with countries, which contributes to improving the complementarity, comprehensiveness and coherence of these activities at the global level.

108. UNSD raised a point on the conduct of inventories of agencies working on different capacity development activities. These were initially based on environment and during the global consultation, climate change was added. Experts were asked to advise if these should remain combined as a single product or cover climate and environment as two separate products? UNSD was inclined to keep one inventory because of the real interlinkages and many projects or programs like in ECLAC. Also, other regional commissions like ESCAP, combined climate and environment, or climate and disasters.

109. Given that UNSD was involved in the early development of environment statistics in the CARICOM region, appreciation was expressed for the cross fertilization and collaboration among partners, in particular ECLAC, was very instrumental to sustain the production of environment and climate change statistics programmes in the region.

110. UNSD also raised a point on the dissemination of the results from the Global Consultation held in 2021 before the information becomes outdated. Experts were asked to advise whether UNSD should reach out to the other regions and countries, as was done with ECE and ESCAP, to complete the process of dissemination.

111. Suriname raised a point on promoting the Global Set of Climate Change Statistics and Indicators through environment and statistical climate change publications. These can be very useful in attracting resources from international or other numerous organisations which are actively involved in supporting climate change activities.

Annex I

Conclusions and recommended actions

V. Session One: Climate Change Statistics and Indicators

1. UNFCCC underlined the usefulness of the Global Set for the reporting by Parties under the Enhanced Transparency Framework of the Paris Agreement and recommended that NSOs enhance their cooperation with national authorities responsible for reporting climate change-related information to UNFCCC.
2. UNSD in collaboration with UNFCCC to continue coordinating work on methodology development and implementation support on the Global Set of Climate Change Statistics and Indicators in a balanced way.
3. UNSD to continue collecting national examples of countries implementing the Global Set and develop a hub of national practices and examples of sets of climate change indicators that could be made public.
4. UNSD to prioritise the completion of the draft implementation guidelines and CISAT and publish them before the end of year, as NSOs may need guidance on how to collaborate with a broad range of stakeholders.
5. Countries are advised to follow the existing legal frameworks and mandates in their country and define the institutional structure of environment and climate change statistics (in a single or separate units).
6. Countries are advised to complete the self-assessment on the Global Set, select the relevant indicators and adapt them to national circumstances and prepare a national set of indicators and statistics.

Group 1: Climate and health

7. Guidance is needed to establish baselines, define climate change and perform attribution analysis, given that attribution to climate change is a key challenge in clarifying cause of illness/mortality/disease, as the causes are often multiple and can be country specific.
8. Countries will be encouraged to conduct analyses of excess mortality/illness following climate events in an effort to clarify causal relations to climate change.
9. Since adaptation measures vary by country and local/national level knowledge is needed, countries need more general guidance on how to define these issues (such as adaptation measures related to air quality and water quality/access).

Group 2: Gender and climate

10. UN WOMEN and UNSD to continue a close collaboration, including through the work of the Inter-Agency and Expert Group on Gender Statistics and the Expert Group on Environment Statistics, in clarifying the nexus for gender and climate change statistics and identifying data gaps as well as methodological advances, and be in consultation with countries as work in this field advances.

11. Close coordination should be maintained and harmonization of metadata should be promoted on the work on the Gender-Environment Indicator and the Global Set of Climate Change Statistics and Indicators. Careful consideration should be given to how the Global Set may, beyond sex-disaggregated data, consider certain statistics and indicators which capture key phenomena for measuring issues pertaining to both climate change and gender.
12. The importance of monitoring violence against women and girls was highlighted and it was recommended to address this issue in the Global Set in a future revision.
13. More work is needed to improve the definition of tier 3 indicators and the best data sources needed for their compilation.
14. NSO's are encouraged to prioritise and address gender statistics further in their work.

Group 3: Implementation guidelines

15. Experts expressed overall support for the draft implementation guidelines, noting that the document was very comprehensive and covered the main steps for a country implementing a climate change statistics programme.
16. Countries are encouraged to draw upon the relevant parts of the guidelines as they apply to suit their context, given that they have different needs and priorities. In addition, countries can re-order the steps of implementation according to their national circumstances and legal mandates.
17. Experts urged that funding for producing climate change statistics through the National Statistical Systems or NSOs should be a part of the funding of the entire national climate change mitigation and adaptation strategy, based on the UN SG statement that climate change is one of the biggest threats for humankind.
18. Experts made several proposals to enrich the document, including on providing country examples such as on funding sources and innovative methods of collaboration, the importance of applying existing statistical frameworks to better inform climate policies, of quality assurance and criteria for official statistics, the need for high-level buy in, and way forward.
19. For resource mobilization, experts recommended that multi-annual plans are needed, and implementation of the global set should be included in strategic plans and implementation programmes of NSOs and other organizations involved.

Group 4: CISAT

20. Experts expressed appreciation for the efforts in developing the CISAT, which will be very useful for countries to assess the status of climate change statistics and policy needs before implementing a national programme on climate change.
21. Experts advised that the ESSAT and the CISAT remain as separate instruments for their specific applications while appreciating their complementarity and linkages to other statistical frameworks.
22. Experts made proposals clarifying some of the questions (policy links, e.g. national development plans) and potential responses (in the cells) which will be incorporated to the extent possible in the final version.
23. Experts proposed that UNSD consider the development of a simplified web version of the tool (parts I and II), that will enable countries to populate their information and update as necessary. This information will be especially useful to share lessons among countries, as well as inform

potential donors to help countries to mobilize resources. Functionalities need to be explored, including how to manage confidentiality and access to this information.

Plenary

24. In addition to gender and health, experts recommend further topics to be prioritised for methodology development, specifically migration and land degradation.

VI. Session Two: Environment Statistics Data Collection

Water Statistics

25. International agencies (WHO, UN-HABITAT, UNSD, FAO, OECD and Eurostat) to continue close collaboration while bearing in mind the cost and burden when multiple or duplicate questionnaires on water statistics are sent to countries.
26. UNSD together with international agencies to continue to support countries in compiling wastewater data and analysing wastewater issues for better understanding wastewater volumes generated by industries, as opposed to households.
27. Countries to strengthen collaboration at the national level by organizing multistakeholder platforms consisting of both users and producers of data.
28. UNSD to welcome dialogue on response rates, quality and quantity of data disseminated with a view to increasing supply of data sourced from the Questionnaire to meet demands.
29. UNSD should continue to carefully consider revising existing variables collected via the Questionnaire.
30. UNSD to continue to organize information sessions to discuss technical issues concerning the Questionnaire among countries and international organisations where specialized expertise applies (FAO, WHO, HABITAT).

Waste Statistics

31. International agencies (UNEP, UN-HABITAT, UNSD, UNITAR, OECD and Eurostat) to continue harmonization of terminology and coordination of data collection in waste statistics and provide support to countries in compiling waste data.
32. UNSD to organize more detailed/focused discussions in between EGES meetings to provide a forum of exchange among agencies and countries aiding in the countries' completion of the questionnaires such as remote calls.
33. Experts encouraged UNSD to continue to promote and share the experience of countries and showing the different production processes to reach waste statistics and indicators.

Other data collection and reporting requirements

34. Countries are encouraged to develop specialized environmental/climate change surveys and/or include related questions in population and housing censuses and household surveys to increase data availability and disaggregated data, raise awareness of climate change and to seek public opinion.

35. Countries to continue sharing national examples of censuses and surveys on environment-related and climate change themes to UNSD for public information at: https://unstats.un.org/unsd/envstats/censuses/
36. UNSD to organize a more detailed/focused discussions in between EGES meetings to provide a forum of exchange among agencies and countries.
37. Experts appreciated the effort of the Pacific Community to develop the survey module on climate change and encouraged it to be shared with other regions.

VII. Session Three: Environment Statistics Toolbox

38. Concerning advancements in methodological sheets, Statistics Netherlands, in collaboration with UNSD, shall continue to take comments from experts on the Freshwater Quality chapter. As appropriate, Statistics Netherlands and UNSD may liaise with those who have already offered comments (Armenia, UNEP, GCCSTAT).
39. Countries, and in particular NSOs, to consider application of the Environment Statistics Self-Assessment Tool (ESSAT) for conducting comprehensive reviews of their environment statistics programmes of work. Where prioritisation may be more focussed upon climate change statistics, the CISAT may be a preferred tool to use for conducting a similar review. Such assessments will contribute to streamline national data collection, reduce duplication, establish data sharing protocols, data protection legislation, metadata, MoUs and leverage resources for further development of environment and climate change statistics.
40. As illustrated by Jordan, countries are encouraged to share their examples of applying the FDES statistics to inform sectoral policies and plans, as well as mitigation and adaptation to climate change. Countries are welcome to consider either or both of dissemination via an online database, or a large-scale flagship publication (e.g. a Compendium).

VIII. Session Four: Capacity Development in Environment Statistics and Climate Change Statistics

Global capacity development

41. Experts appreciate the efforts of international agencies and regional institutions and recommend further alignment with and use of the FDES, ESSAT and the Global Set, CISAT.
42. Experts recognise that ESSAT contributes to assess climate statistics, while CISAT contributes to assess FDES, also SDGs, SEEA-derived indicators, IRES and Sendai indicators linked to climate change.
43. Experts recommend that agencies focus further effort on understanding country needs when responding to and implementing capacity development.
44. The regional institutions and UNSD are delivering multiple capacity development activities on environment, climate change and disaster statistics, in partnership with specialized agencies and

other development partners, yet further engagement and cooperation is encouraged given limited resources and the need to minimize duplication of effort.

45. Experts stressed the value of the alignment of activities among international and regional organisations. A common platform may assist with this, and a platform where pre-recorded materials may be stored and made available.
46. Experts recognised that geospatial data are critical input in environment and climate statistics and indicators, and platforms for disseminating such data are appreciated. The statistical frameworks can facilitate the communication and application of this data to assist policies via official statistics.
47. Appreciation was expressed for the work of Paris21 in the development of their climate change data ecosystem framework, in particular how it takes the climate change statistics self-assessment one step further by linking data needs to policy action via national plans and strategies.
48. Experts recommend that UNSD requests all the [remaining] countries who responded to the Global Consultation to share their responses with the respective regional commissions.
49. International agencies appreciate sharing their capacity development experiences among each other and with countries which contributes towards enhanced complementarity and consistency of these activities at global level.

Annex II

Final Agenda

Tuesday, 25 October 2022

Opening session

08:00 – 08:30 Opening and objectives of the meeting [Reena Shah]

Welcome speech by Stefan Schweinfest, Director, UNSD

Logistical matters [Reena Shah]

Adoption of the agenda [Anjali Kisoensingh assuming the role of Ruth Minja, Chair]

Session One: Climate Change Statistics and Indicators

08:30 – 9:00 **Towards globally coordinated work on climate change statistics and indicators**

a) Implementation of the Paris Agreement ETF and Global Stocktake – climate change statistics (UNFCCC, 10 min)
b) Global Set on Climate Change Statistics and Indicators (UNSD, 10 min)
c) Discussion (plenary, 10 min)

Coffee break 10 min

9:10 – 11:10 **Related inter-governmental, regional and national initiatives on climate change statistics**

a) Emissions from agri-food systems: Global, regional and country trends: 1990–2020 (FAO, 10 min)
b) Disaster-related statistics and link to climate change statistics (UNDRR, 10 min)
c) Progress towards net-zero greenhouse gas (GHG) emissions and a more resilient economy by 2050: IPAC (OECD, 10 min)
d) UNECE Task Force on the role of NSOs in achieving national climate objectives (ECE, 10 min)
e) Discussion (plenary, 15 min)

National experiences

a) Country experiences on applying the Global Set (10 min each)
    - Climate change related indicators - Luxembourg experience (Luxembourg)

- Application of the Global Set of Climate Change Statistics and Indicators in the Republic of Mauritius (Mauritius)
- Climate change related indicators of Nepal, 2022 (Nepal)
- Suriname's experience with applying the Global Set (Suriname)

b) Discussion on country experiences on climate change statistics (plenary, 15 min)

Wednesday, 26 October 2022

Session One: Climate Change Statistics and Indicators: Group work

8:00 – 9:00 **Methodology development and implementation of the Global Set**

a) Updates of the Global Set and revision of the metadata (UNSD, 10 min)
b) Standards for Official Statistics on Climate-Health Interactions (UK ONS, 10 min)
c) Mainstreaming gender into climate change statistics (UNSD/UN-Women, 10 min)
d) Implementation guidelines for the Global Set of Climate Change Statistics and Indicators (UNSD, 10 min)
e) Climate Change Statistics and Indicators Self-Assessment Tool (CISAT) (UNSD, 10 min)
f) Discussion and Introduction to group work (UNSD, 10 min)

09:00 – 10:20 **Group work** according to the above thematic areas, implementation guidelines and climate-ESSAT

- Introduction to key issues and options in each group (10 min)
- Review and discussion (50 min)
- Preparation of reporting to plenary (20 min)

Coffee break 10 min

10:30 – 11:20 **Group work conclusions and priorities for future work**

a) Group work conclusions (5 min each)
b) Discussion (plenary, 30 min)

Thursday, 27 October 2022

Session Two: Environment Statistics Data Collection

08:00 – 09:15 **Water Statistics**

a) UNSD/UNEP Questionnaire on Environment Statistics – water (UNSD, 10 min)
b) Advancements in wastewater data for informing SDG indicator 6.3.1 (UN-Habitat/WHO, 10 min)
c) The Joint OECD/Eurostat Questionnaire: international harmonisation, alignment with SEEA and SDG reporting (OECD/Eurostat, 10 min)
d) FAO's data collection on water statistics in the 2022 cycle and demands for SDG indicators in Goal 6 (FAO, 10 min)
e) Country experience providing water data to the UNSD/UNEP Questionnaire and the OECD/Eurostat Questionnaire (10 min each)
    - UNSD/UNEP Questionnaire on Environment Statistics (water section) - Armenia (Armenia)
    - Assessment of the current status on Water Statistics: the Italian experience (Italy)
f) Discussion – [with questions focusing on user requirements] (15 min)

Coffee Break 10 min

09:25 – 10:20 **Waste Statistics**

a) UNSD/UNEP Questionnaire on Environment Statistics – waste (UNSD, 10 min)
b) SDG indicators consolidation and SDG 12 Hub (UNEP, 10 min)
c) Progress of Monitoring SDG indicator 11.6.1 and Trend in Plastic Leakage Sources in the World Cities (UN-HABITAT, 10 min)
d) Country experience collecting waste data
    - Waste Statistics in United Arab Emirates (United Arab Emirates, 10 min)
e) Discussion – [with questions focusing on user requirements] (15 min)

10:20 – 11:30 **Other data collection and reporting requirements (data collection instruments)**

a) Data sources used in environment and climate change statistics (UNSD, 10 min)
b) Climate change-related data collections via surveys/censuses (10 min each)
    - National Climate Change Impact Survey II (Nepal)

- Climate change related data collections via Population and Housing Censuses (Tanzania)
- Climate change-related statistics - an example of Bangladesh (Bangladesh)

c) Construction of a survey module on climate change (Pacific Community, 10 min)
d) FAO data collection on climate change statistics (FAO, 10 min]
e) Discussion – [with questions focusing on user requirements] (10 min)

Friday, 28 October 2022

Session Three: Environment Statistics Toolbox

08:00 – 08:45 **FDES and the Basic Set of Environment Statistics**

a) Status and completion of the Manual on the Basic Set of Environment Statistics (Overall, including geology, health) (UNSD, 5 min)
b) Methodology sheet on Freshwater Quality Statistics (Netherlands, 10 min)
c) Application of FDES in Jordan (Jordan, 10 min)
d) Results of application of ESSAT (Belize, 10 min)
e) Discussion (plenary, 10 min)

Session Four: Capacity Development in Environment Statistics and Climate Change Statistics

08:45 – 10:05 **Capacity development**

a) Global capacity development (UNSD, 10 min)
b) Related initiatives
    - Climate Change Data Ecosystems for Better Climate Action: Introducing an assessment framework (Paris21, 10 min)

c) Activities led by regional institutions
    - Review of the ECE Guidelines for the Application of Environmental Indicators (ECE, 5 min)
    - DA12 Project: Climate Change and Disaster Statistics in the Caribbean (ECLAC, 5 min)
    - ESCAP Environment Statistics Capacity Development: Activities and Approaches (ESCAP, 5 min)
    - Leave No Location Behind: iSEE* the Arab World (Integrating Society, Economy, and the Environment) (ESCWA, 5 min)

- Capacity Development related to Environment and Climate Change Statistics in the Caribbean Community (CARICOM) (CARICOM, 5 min)
- Climate change statistics development in COMESA region (COMESA, 5 min)

d) Discussion (20 min)

Coffee break 10 min

Session Five: Discussion of Priorities and Conclusions

10:15 – 11:00 **Review and decisions on future actions**

Annex III

List of Participants

Name	Title	Organization / Office	Country
Nelli Baghdasaryan	Member of State Council on Statistics	Statistical Committee	Armenia
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