Seventh Meeting of the Expert Group on Environment Statistics (Virtual) 10, 11, 12, 17 and 19 November 2020

Final Report

1. The Seventh Meeting of the Expert Group on Environment Statistics (EGES), organized by the United Nations Statistics Division (UNSD), was held virtually on 10, 11, 12, 17 and 19 November 2020 during three hour sessions for each of the days. The meeting was attended by around 100 experts from Australia, Belize, Botswana, Brazil, Cabo Verde, Estonia, Finland, Grenada, Hungary, Ireland, Italy, Jordan, Kyrgyzstan, Luxembourg, Mexico, Namibia, Nepal, The Netherlands, New Zealand, Norway, Philippines, Russian Federation, Slovenia, State of Palestine, Suriname, Sweden, Tanzania, Togo, Uganda, United Arab Emirates, Zimbabwe, the African Development Bank (AfDB), the Caribbean Community (CARICOM) Secretariat, the Convention on Biological Diversity (CBD), the European Environment Agency (EEA), the Food and Agriculture Organization of the United Nations (FAO), the Green Climate Fund (GCF), the Gulf Cooperation Council (GCC) Statistical Center, the Intergovernmental Panel on Climate Change (IPCC), the National Institute for Environmental Studies of Japan, the Organisation for Economic Co-operation and Development (OECD), the Statistical Office of the European Union (Eurostat), the United Nations Development Programme (UNDP) Kyrgyzstan, the United Nations Economic Commission for Africa (UNECA), the United Nations Economic Commission for Europe (UNECE), the United Nations Economic Commission for Latin America and the Caribbean (UNECLAC), the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), the United Nations Economic and Social Commission for West Asia (UNESCWA), the United Nations Environment Programme (UNEP), the United Nations Environment Programme - World Conservation Monitoring Centre (UNEP-WCMC), the United Nations Framework Convention on Climate Change (UNFCCC), the United Nations Human Settlements Programme (UN-HABITAT), the United Nations Human Settlements Programme-Geneva Office (UN-HABITAT-Geneva), the United Nations Office for Disaster Risk Reduction (UNDRR), the United Nations University (UNU), the World Health Organization (WHO), the World Meteorological Organization (WMO) and five independent experts from Burundi, Cote d'Ivoire, Jamaica, Mauritius and Mexico.
2. Ms. Reena Shah, UNSD, opened the meeting and expressed her appreciation to all experts who have contributed to the work of the EGES, given the current COVID-19 pandemic, and welcomed new experts to the meeting.
3. Ms. Ruth Minja, Director for Population Census and Social Statistics Directorate, National Bureau of Statistics of Tanzania, chaired the meeting. The chair introduced the agenda for discussion which was subsequently adopted.
4. The meeting was organized in five sessions as follows:

    Opening Session
    Session 1: Environment Statistics Toolbox
    Session 2: Climate Change Statistics and Indicators
    Session 3: Environment Statistics Data Collection
    Session 4: Capacity Development in Environment Statistics and Climate Change Statistics
    Session 5: Discussion of Priorities and Conclusions

5. The discussions were based on documents and the corresponding presentations were prepared by the EGES and UNSD.
6. Short descriptions of the presentations, the main discussion points and the conclusions are summarized in the paragraphs 8-117. 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.
7. The Expert Group expressed its appreciation to UNSD and to all experts who contributed to the work completed.

I. Opening Session: COVID-19 pandemic and environment statistics

8. The session contained three presentations: (i) impacts of and responses to the pandemic on environment statistics; (ii) COVID-19 statistical measures and the related SDGs; and (iii) information production to support coping with COVID-19 in Brazil.
9. UNSD presented on the Impacts of and responses to the pandemic on environment statistics, gave a brief overview of the Framework for the Development of Environment Statistics (FDES) for the first-time attendees, and provided examples of those countries and international organizations that continued monitoring of the environment and climate change, as well as UNSD's activities, during the COVID-19 pandemic.
10. Italy introduced the Italian National Institute of Statistics (Istat)'s statistical measures, the related SDGs during the pandemic, and the necessity to produce "special" subnational data. It was noted that attention to the SDGs should be given due focus during the pandemic and that one should make better use of existing data.
11. Brazil delivered on Information production to support coping with COVID-19 and highlighted the link between the FDES and the COVID-19 pandemic. Brazil also mentioned that investing in data was the key to rebuilding and displayed the Enterprise Pulse Survey (used to estimate the impacts of the COVID-19 on the Brazilian economy) and the PNAD COVID-19 (National Housing survey) – used to estimate the number of people with symptoms associated with grippe syndrome and monitor the impacts of COVID-19 on the Brazilian labour market. They also displayed their Interactive dashboard (which put on view Vulnerable population, Pandemic monitoring, Response of the healthcare system, etc) as well as displayed maps and databases at various scales.
12. **Discussion**
13. The main discussions focused on the development of environment statistics in real time, e.g., air quality by sensor and it was noted that real time environmental statistics will be the challenge. For energy products like electricity or natural gas, it was suggested to use the data from smart meters for countries who implemented these tools. It was mentioned that electricity meters generated big data in the Australian Bureau of Statistics (ABS) and Statistics Denmark. The environmental issue is also the availability and accessibility of urban green spaces and similar areas in times of confinement and how to release these data in a comparable way is still a challenge.

14. It was mentioned that COVID-19 not only affects the current statistical trends, but also the forecast models that are dependent on statistical data. For example, the future emissions by road traffic might be modelled using the number of vehicles. This is not a good explanatory variable anymore, if people don't use their car that often due to working at home. Models should be changed, e.g., using fuel use as an explanatory variable instead.
15. More information was sought from Italy about the survey of the economic situation and the underlying methodology. The meeting was informed that on the Istat website, there is information on special analysis and elaborations that Istat has done, and is continuing to do e.g., death, illness, population, social surveys, etc., together with the Ministry of Health. The results are disseminated on Istat's website and other questions were added to a multi-purpose social survey and included questions related to environmental themes, as well as a focus on the SDGs. It was mentioned that water and impacts on the environment were the most dynamic enterprises.
16. Brazil was asked how much of the visual infrastructure was already in place - i.e., dashboards, and whether there was money available for additional data collection to which they responded that they already had some visual infrastructure, but they improved it with a special effort and money from the Ministry of Health.
17. There was a discussion on whether there is much of a difference between the adoption of the FDES and the System of Environmental-Economic Accounting (SEEA) across different countries and whether countries generally preferred one over the other or doing them together. One expert responded that generally, 'traditional' environmental statistics on water, air, forests etc. are made according to FDES. Those statistics are used in SEEA-type environmental accounting by combining environmental data with economic data, e.g., by the International Standard Industrial Classification of All Economic Activities (ISIC). There was agreement from another expert who also stated that in their technical cooperation project with a developing country, the same was done.
18. Ireland mentioned that under the Statistics Act, the Central Statistics Office of Ireland obtained access to the COVID-19 patient level data. This allowed for access to all data pertaining to that patient (date of testing, result of test, municipality, etc.) and made the micro data available as an anonymized research data file, so that a professional such as an epidemiologist could then examine very detailed data and obtain a more thorough understanding of the people who were testing positive, their age group pending any underlying condition, location, clustering, etc. Under the Statistics Act, a national statistical office (NSO) can make available anonymized micro data research files for specialized approved researchers.
19. **Conclusions**:
    a) There are positive and negative impacts of the COVID-19 pandemic on the environment and the importance of reliable and timely nationally produced environment statistics and climate change statistics is increasing.
    b) There is a time lag in environment statistics in that data are not available so quickly and regularly and it is important to expedite the production of data and statistical measures.
    c) Given the pandemic it is even more important to consider interlinkages among indicators and interrelations among statistical frameworks so that the environmental, social and economic impacts can be captured accurately and in a timely manner.

d) Investing in data is key to rebuilding and countries have increasingly been using surveys to assess the impacts of the pandemic as well as using spatially explicit data to assess most vulnerable and affected groups.
e) The pandemic well demonstrated the value of a Statistics Act to empower NSOs to collect COVID-19 related information from individuals while upholding their confidentiality.

II. Session One: Environment Statistics Toolbox

20. This session included four presentations: (i) Status and completion of the Manual and implementation tools (ESSAT and NAP reporting templates); (ii) Draft chapter on Environmental Health Statistics; (ii) Draft chapter on Wastewater Statistics; and (iv) Water quality, nutrient budgets.
21. UNSD reported on the status and completion of the Manual and implementation tools: Basic Set of Environment Statistics (BSES), Environment Statistics Self-Assessment Tool (ESSAT) and National Action Plans (NAPs) as well as the ESSAT and NAP reporting templates.
22. UNSD presented the draft chapter on Environmental Health Statistics and showed the linkage from environmental health to FDES, the data collection and the data gaps, and the use and dissemination of environment health data. It was mentioned that there is a need to investigate further and how to define an attributable fraction of diseases to environmental factors, as well as the linkage between environment health data and SDG indicators.
23. UNSD presented the draft chapter on Wastewater Statistics that demonstrated the use of the FDES and scope of wastewater, the sources of global and regional environment statistics, the indicators series, and the data collection and its use and dissemination.
24. The Netherlands presented on Water quality, nutrient budgets which consisted of Freshwater quality statistics in the BSES, for both statistics and concentration measurements, the Netherlands measurement systems and lastly, Nutrients budgets. It was also mentioned that based on the use or absence of trend methods, application of the average vs. median, and the means which local data are aggregated could lead to completely different results.
25. **Discussion**
26. It was stated that in the ESSAT, in relation to the type of data source, only one option could be selected and whether it is possible to adjust it to select more than one option. After discussion, it was revealed that it is possible to modify the ESSAT.
27. The implication of emerging issues on the tiering of statistics, for instance for COVID-19, was also mentioned. It was raised to the floor whether any analysis on indoor air quality and the use of solid heating fuels and housing conditions were done.
28. Further discussion prompted the question of where diseases affecting flora and fauna are captured in the FDES (or in any other frameworks). It was mentioned that pathogens were included in fresh and marine water quality but addressing human health, not flora and fauna.
29. It was also mentioned that some topics are challenging to complete because of very dynamic developments such as the new classification of disasters. In addition, several topics need to have updates reflected in the BSES, while others are hard to address in statistics.

30. **Conclusions**:
    a) The Manual on the BSES is close to completion. UNSD will reach out to experts to seek collaboration for the outstanding topics.
    b) Given the dynamic nature of some of the topics, such as disasters and GHGs, updates for future revision of the BSES are being compiled.
    c) For the methodology sheets on wastewater and environmental health, UNSD will follow up with experts to provide comments by mid-December 2020.
    d) Based on the presentation on water quality and nutrient budgets, the Netherlands and UNSD will draft a methodology sheet on freshwater quality.
    e) The Expert Group will share further experiences with the ESSAT and the NAP to help UNSD revise the templates and improve their communication.

III. Session Two: Climate Change Statistics and Indicators

31. The session on climate change statistics and indicators was divided into three sections: Towards globally coordinated work on climate change statistics and indicators, Towards the Global Set of Climate Change Statistics and Indicators, and Group work on climate change statistics and indicators.
32. The first section, Towards globally coordinated work on climate change statistics and indicators, was further divided into two sub-sections, Global, and Regional and National.
33. For the Global sub-section, the following presentations were delivered: (i) Global Set of Climate Change Statistics and Indicators; (ii) Linking climate change statistics and policy; and (iii) IPCC's guidelines and tools for the national GHG inventory.
34. UNSD introduced the global work on climate change statistics and indicators, including its links and lessons from the work on environment statistics. The mandate, structure, coverage, and consultations that took place to draft the Global Set were explained. More specific details were also introduced such as how the Global Set is based on the five IPCC areas (drivers, impacts, vulnerability, mitigation and adaptation) and the Pilot Survey on the draft Global Set. UNSD's joint work with UNFCCC, to promote the linkage between policy and statistics, was also described.
35. UNFCCC demonstrated the linkage between climate change statistics and policies, elaborating on its role in the Paris Agreement, the Enhanced Transparency Framework (ETF), and current issues regarding methodology developments and negotiations. The Paris Agreement, Katowice Rulebook, key elements of the ETF, and the nationally determined contributions (NDC) were introduced.
36. IPCC showcased the guidelines for the national GHG inventories, data infrastructure and the Emission Factor Database (EFDB). The national GHG inventories are mandated by the Paris Agreement to every country which is a party to the Agreement. The Agreement serves as the basis to limit climate change and set limits, targets and goals towards a transparent monitoring process. Data collection mechanisms and supporting tools were also presented.
37. **Discussion**

38. CBD observed that currently the global work places more emphasis on NDCs, and there is a need to ensure that National Adaptation Plans, which link closely with impacts of climate change on species and ecosystems are consistently addressed in the Global Set.
39. ECLAC explained that data availability remains a big issue for measuring climate change and disasters, and that data on ecosystems are insufficient in both developing and developed countries, despite the availability of international frameworks and standards. Another key issue is to adequately establish attribution to climate change for certain impacts. For example, if an ecosystem is degraded because of climate change, temperature rise or a disaster, what proportion of the impact should be attributed to climate change itself is still challenging to determine. The problem is similar to those noted in environmental health (for example to define how to measure the environmentally attributable fraction when people get sick due to contaminants or toxins in the air).
40. UNSD and UNFCCC clarified that the issues of impacts of climate change and related vulnerability and adaptation measures and reporting are addressed both in the ETF and in the Global Set and acknowledged that further work is needed to support measurement, data production and consistency with other initiatives. It was emphasised that UNFCCC is mandated to require national reporting according to the IPCC guidelines, and that the ETF specifies many reporting details such as assessments of risks, adaptation needs, monitoring, averting and minimizing losses and damages, etc. and the associated financial flows. It will take time to ensure that the parties develop the necessary capacity to provide such information, for which the international agencies need to provide concerted support and resources.
41. IPCC clarified that a national GHG inventory is an official statistical product for each country that submits it. However, because of different national circumstances there is guidance that helps the countries to produce basic estimates and to build a pathway of improvements towards more accurate and precise estimates over time. Generating monitoring data on GHGs is a key challenge and one of the most debated issues in the GHG inventory fora.
42. For the Regional and National sub-section, the following presentations were delivered: (i) Updates on UNECE work in climate change-related statistics; (ii) Hungarian challenges and outcomes of the Pilot Survey; and (iii) Other regional initiatives: flash presentations: From environment statistics to climate change statistics in CARICOM - an exploratory approach and Eurostat's work on climate change-related statistics.
43. UNECE informed about their work on the climate change-related statistics guided by the regional Steering Group. The Conference of European Statisticians (CES) Task Force on Climate Change-related Statistics has finalized its work on the core set and accompanying implementation guidelines. In October 2020, the annual Expert Forum for Producers and Users of Climate Change-Related Statistics took place online. UNECE and the Steering Group will continue to promote the implementation of the CES Recommendations on climate change-related statistics and the CES core indicator set. New areas of work will include green recovery, adaptation, and green finance and investment.
44. Hungary shared its experience in participating in the Pilot Survey, and the challenges in completing the Survey, such as the relevance of some indicators to Hungary, lack of information, absence of clear definitions for some indicators, the need for close collaboration with many partners inside and outside the NSO, and the amount of time allocated for completion. Further,

Hungary noted its intentions to produce a publication reflecting on its experience with the Pilot Survey.

45. CARICOM gave a flash presentation introducing the state of the climate change and environment statistics in its member states, on highlights of drivers and impacts, and on the production of data utilizing the IPCC framework and the FDES. Since many CARICOM members are Small Island Developing States (SIDS), climate change is of utmost importance to the region.
46. Eurostat's flash presentation recounted its current undertaking on climate change statistics. Eurostat maintains a close collaboration with the CES, Directorate-General Climate Action, EEA on climate work. One of the key areas of climate change-related statistics is to increase visibility of data, in the forms of websites, open databases, articles and publications.
47. **Discussion**
48. Hungary explained further details on the nature of the Pilot Survey consultation, namely that experiences with the compilation of SDG indicators are a very suitable path to follow on climate, given that so many of the indicators source information external to NSOs, the need for longer time allowance for the consultation was reiterated. UNSD clarified that countries will be allotted about three months for the Global Consultation.
49. Eurostat clarified that many of its climate change statistics are sourced from the member states, however some are republished from other agencies (e.g., GHGs from EEA). There are challenges to collect data on climate expenditures however the interest in this topic is growing because of the European Green Deal.
50. WMO noted its work on climate change indicators, publishing annual data on temperature, precipitation, extreme events etc. and the fact that common baselines are needed. It was also mentioned that national guidelines are being produced by WMO. WMO proposed that its work should be linked to the work of UNSD/UNFCCC.
51. UNECE noted that the implementation guidelines developed by the UNECE Steering Group on CCRS could help in the development of national plans.
52. In the second section, Towards globally coordinated work on climate change statistics and indicators, the following presentations were delivered: (i) Results of the Pilot Survey; (ii) Structure of the draft Global Set - Suriname's experience; (iii) Metadata template of the draft Global Set; and (iv) Introduction to group work on the draft Global Set.
53. UNSD presented results from the Pilot Survey including its objectives, feedback received, and work done using the feedback. Seventeen countries and 13 international organizations provided responses including suggestions for multiple additional indicators/statistics. UNSD presented figures on the relevance, soundness, measurability and tiers assessed by the reviewers, which indicate that most indicators are relevant to at least some countries (in particular SIDS and developing countries) and about a third of the indicators need further work for improved soundness and measurability.
54. Suriname gave a presentation on the revised structure of the Global Set and mentioned that it provided more transparency on what were the underlying statistics needed to produce the indicator. This new structure also gives an opportunity for countries to at least identify and assess the statistics needed for an indicator, in the event that they can't compile the indicator itself due to lack of data. Like Hungary, similar points were shared about their experience with the Pilot Survey, including the need to consult and collaborate with multiple partners outside

the NSO but it was emphasized that this contributed towards stronger partnerships and mutual learning of climate change issues.

55. Tanzania presented the metadata templates of the Global Set, the layout, fields of the template, the challenges and the way forward. It was shown that the metadata is presented in a matrix form by themes with indicators and its respective statistics in columns and rows contain different fields which provides concise explanation about the indicators/statistics. The credible work of the metadata to be used as guidance for countries compiling climate change statistics and indicators was also mentioned.
56. UNSD gave a brief introduction on the structure of the Global Set and metadata sheet examples. The main areas that needed improvement and questions that needed answers were raised, in order to better facilitate the experts' group work on the Global Set.
57. **Discussion**
58. Luxembourg enquired whether indicators and statistics would be worked out in parallel in the Global Set with separate metadata sheets and what would be the rationale for such an approach. Tanzania and UNSD clarified that the statistics are those required to compile the specific indicator and because countries are at different levels of statistical development, they should be able to advance the work in phases as they develop their statistical capabilities. It was also emphasized that certain indicators require a large number of statistics for their compilation and while some statistics may be difficult to produce, the readily available ones should be used irrespective of whether the final indicators to which they contribute can be compiled or not.
59. **Conclusions**:
    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 of Climate Change Statistics and Indicators 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 of Climate Change Statistics and Indicators 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 change 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.

60. For the third section on Group Work on the Global Set of Climate Change Statistics and Indicators, five break up groups took place covering each of the IPCC areas (drivers, impacts, vulnerability, mitigation, adaptation) followed by presentations of summaries in plenary. About 50 experts took part in the group work and were well familiarized with the structure of the Global Set and the objectives of its development. The individual statistics and indicators, as well as the overall structure, and metadata examples were reviewed in each area.
61. The areas of adaptation and vulnerability are 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 are 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. Missing indicators/statistics were confirmed in the areas of adaptation and vulnerability. Weak or insufficiently defined statistics and indicators were identified in all areas, especially those that were newly suggested during the Pilot Survey. It was also noted that there is a need to identify a core set of indicators applicable to all countries.
62. Drivers: the experts reached a general agreement on the indicators and praised that this area contains well-defined indicators and statistics. Fruitful discussions took place during the group work, and feedback was well reviewed and accepted. Further work is needed on Agriculture, Forestry, and Other Land Uses (AFOLU) drivers, energy/electricity and GHGs from international transport. The importance of harmonization between the Global Set and the UNECE set, where applicable, was emphasized.
63. Impacts: all indicators were reviewed even though the list is extensive. The key remaining issue is to establish how to measure the impact of climate change on multiple topics (disasters, health, agriculture, fisheries, forestry, water quality, tourism, transport). Multiple factors may cause the impacts, hence an attribution to climate change is needed, and it was proposed that an additional column reflecting on the impacts be added. Where SDG indicators apply, climate impacts can be separate from other impacts through disaggregation, whereby retaining only the climate ones. The indicators on deforestation, biomass and vegetation loss should be moved to drivers.
64. Vulnerability: all indicators were reviewed and there were several key issues noted. Many indicators and statistics are still too broad or too loosely linked to climate change. These indicators and statistics are indeed important but need further development to better anchor them to a specific climate change topic, in order to improve relevance and measurability. It was also mentioned that the term “Vulnerable” may be interpreted differently depending on national circumstances, so some flexibility should apply to the Global Set. The group noted that there is a need to have the unclear indicators addressed by specialised agencies/experts (to determine specific indicators/statistics along with their characteristics/metadata including tiers).
65. Mitigation: all indicators were reviewed and also assessed as more mature in terms of statistical robustness. The coverage was assessed as good; however, disaggregation issues still need more

work. It was mentioned that there are a few qualitative indicators that need to move towards being quantitative (e.g., from existence of plan towards its effectiveness). Some disaggregation was proposed based on energy use. The relevance of some indicators to all countries was questioned (e.g., carbon trading). Some measurement challenges and the issue of data availability was raised. It was suggested to consider more metadata template options, including frequency and main sources of data.

66. Adaptation: all indicators were reviewed and the challenges to turn many of them into statistics were well understood. The link to climate change needs to be more explicit for some indicators, and where those indicators lack a clear link, they should be removed. There are indicators (e.g. resources) where the links are still vague, which need to be further refined or removed. Further work is needed to establish what is adaptation within broader indicators, such as sustainable agriculture and forestry. With regard to the metadata, while the structure was appreciated, it was also noted that some of the fields may not apply to all indicators so some flexibility in the completion of the fields should be retained.

67. **Conclusions**:
    a) The areas of adaptation and vulnerability are especially important for the SIDS, developing and least-developed countries and are among the most challenging to develop into internationally comparable statistics and indicators.
    b) The areas of drivers and mitigation are of more importance to developed countries and contain statistically better-defined indicators, although some smaller improvements are needed in these areas.
    c) More effort is needed to better define which impacts can be attributed to climate change.
    d) UNSD will review all the feedback from the group work (including the indicator-specific comments), clean/refine the set where sufficient clarity exists and contact the respective experts for additional advice where needed.
    e) UNSD will invite specialized partners to contribute to completing the remaining metadata sheets per topic. However, for tier 2 and 3 indicators this will need to be a continuous process.
    f) Once all the metadata is completed, UNSD will update the Global Set based on additional analysis of the metadata.
    g) UNSD plans to organize 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.

IV. Session Three: Environment Statistics Data Collection

68. This session was divided into three sections: International data collection and reporting requirements, Water statistics and Waste statistics.

69. In the first section on International data collection and reporting requirements, the following presentations were delivered: (i) Introduction to data collection activities; (ii) FAO agri-environmental data collection and progress on SDG 2.4.1; (iii) Building a coherent biodiversity monitoring system to support national, regional and global decision making; and (iv) Suriname's experience on the Global Biodiversity Framework: flash presentation.

70. UNSD presented the inventory of regular, international environmental data collection, reporting and dissemination from countries undertaken by the United Nations, its specialized agencies, intergovernmental organizations and conventions, that covers all topics of environment statistics. The initial findings illustrated the importance of international collaboration on collecting and disseminating environment statistics. Potential areas of improvements and expansion were also discussed.
71. FAO presented on its agri-environmental data collection and progress on SDG indicator 2.4.1. It was mentioned that three questionnaires are conducted annually on land use, fertilizers, and pesticides. FAO noted that the focal points in some countries are the NSOs and that the definitions are aligned with various international guidelines, including the FDES. It was further mentioned that the response rates depend on the quality of definitions and the capacity of the countries. FAO mentioned that the recently revised methodology for SDG indicator 2.4.1 includes several sub-indicators, some of which are included in the Global Set of Climate Change Statistics and Indicators.
72. CBD presented on building a coherent biodiversity monitoring system to support national, regional and global decision-making. This framework is expected to be adopted with mandatory data collection to the parties of the CBD. The lessons learnt from the SDGs and Aichi were mentioned, as well as those gained from environment statistics. Mention of the FDES and the related ESSAT were made as being very useful to map out what statistics related to biodiversity are available during the development of biodiversity indicators.
73. Suriname presented on its experience in providing contributions to the proposed indicators for the Global Biodiversity Framework, among which were the need to refine the proposed list, remove some possible duplications, relate them to the FDES, and develop metadata. The need to strengthen the collaboration between the national biodiversity policy focal points and the data focal points, in particular the NSOs, was also stressed.
74. **Discussion**
75. Issues raised during discussion included the best way to measure data availability among international data collections in terms of coverage over time (e.g., periodicity of data availability, first and most recent year, etc.). The degree to which countries appreciate receiving advanced notice of data collections from international organisations was expressed.
76. Advocacy for linkages among various policy frameworks and methodological guidelines such as the SDGs (especially Goal 15, “Life on Land”), the FDES, the Manual on the Basic Set of Environment Statistics (in particular the methodology sheets on Ecosystems and Biodiversity Statistics, and Land Cover and Land Use Statistics) and so on was also voiced. UNSD and CBD mentioned that effort will be made to ensure CBD indicators and the FDES’ Basic Set of Environment Statistics are mapped to one another.
77. Measurement of expenditure on biodiversity was raised and OECD noted that the Classification of Environment Protection Activities (CEPA) and the Classification of Resource Management Activities (CReMA) may be applicable here.
78. It was suggested that metadata be developed for the biodiversity indicators which should include links to the SDG indicators and the FDES. CBD responded that the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) of the CBD may devote attention in future toward metadata that will consider the importance of interlinkages in existing international work.

79. **Conclusions**:
    a) Demand for data for SDG indicators and other international/regional data requirements has resulted in new mandates for data collection in environment statistics since 2015, such an inventory is of significant value since it can contribute to reducing any possible overlaps in international organisations' data collections. In so doing, it helps reduce countries' reporting burden.
    b) The inventory contains rich information which contributes to continuous and improved coordination of data collection in environment statistics and should be conducted on a regular basis.
    c) The inventory can also be used to synchronize institutions to collaborate better on the development and harmonization of concepts, methods and standards in environment statistics.
    d) Such an inventory on data collections is of great value to the field of environment statistics (especially relative to both economic and social statistics both of which have long-standing methodological guidance and established data collection practices).
    e) The coordination and publishing of a data collection calendar by UNSD spanning the scope of environment and climate change statistics would be of huge support to countries. UNSD shall liaise with international organisations to see how this can best be done.
    f) The Global Biodiversity Monitoring Framework should promote the use of biodiversity indicators that are applicable to all countries, ensure that the indicators are measurable and that there are nationally produced data to compile these indicators. Metadata should also be developed for the indicators.
    g) It is important to use the FDES' Basic Set of Environment Statistics and the ESSAT to link the relevant biodiversity statistics with the indicators in the Global Biodiversity Monitoring Framework and several related methodology sheets (e.g., ecosystems and biodiversity) of the Manual on the Basic Set of Environment Statistics could serve as useful inputs.
    h) Collaboration and coordination between the Biodiversity Policy Focal points and the NSOs should be encouraged to promote the link between statistics and policy.

80. In the second section on Water statistics, the following presentations were delivered: (i) UNSD/UNEP Questionnaire on Environment Statistics – results and uses of the data collection and relevance to SDG indicators; (ii) Selected SDG indicators related to the FAO Aquastat Questionnaire – 6.4.1 and 6.4.2; (iii) OECD/Eurostat Joint Questionnaire on Inland Waters and related international collaboration; (iv) Progress in SDG indicator 6.3.1 on wastewater; and (v) Using meteorological data for water statistics: flash presentation.
81. UNSD presented on the UNSD/UNEP Questionnaire on Environment Statistics (water section) in which they gave a synopsis of the history of the Questionnaire, as well as a demonstration of its relevance to current demand (e.g., for SDG indicators) and procedures in place to ensure the Questionnaire meets this demand. UNSD also highlighted the fruitful collaboration among international partners to harmonize terminology and data collection on water statistics from countries.
82. FAO presented on Selected SDG indicators related to the FAO Aquastat Questionnaire. This presentation offered details on FAO's annual data collections as well as on its work regarding SDG indicator 2.4.1.

83. OECD, while presenting on the OECD/Eurostat Joint Questionnaire on Inland Waters and related international collaboration, highlighted its regular data collections, its consultations with international organizations, and considerations it gives to alignments with SEEA and other demands.
84. UN-HABITAT and WHO presented on SDG indicator 6.3.1 on wastewater. This presentation focused upon existing indicator reports, conceptual issues in measuring wastewater and applying classifications to wastewater, and the status of data collection for SDG indicator 6.3.1. The importance for countries to provide data on wastewater to the UNSD/UNEP Questionnaire and the OECD/Eurostat Joint Questionnaire was emphasized.
85. Ireland presented on Using meteorological data for water statistics, which demonstrated its use of weather monitoring stations, examples of absolute precipitation indicators, flood risk and other hazards, and Ireland's climate data rescue. These points demonstrated the need for NSOs to be in collaboration with those with expertise in water from other institutions.
86. **Discussion**
87. UNSD's consideration to add, "water returned without use" (typically by the Mining and Construction industries) drew comment from countries. The impact re-adding this variable may have on hydroelectricity generation was raised, as well as how this may impact upon "total freshwater available for use".
88. With respect to wastewater statistics, countries acknowledged that NSOs may not yet be engaged in a formal conversation with municipal level water treatment plants or authorities. UN-HABITAT shared that it is holding regional webinars with water utilities to see how their water use data can be better used to calculate wastewater generation.
89. Discussion further focused upon issues concerning measurement of wastewater generated and treated, the distinction between primary (often nothing more than removal of solids), secondary and tertiary wastewater treatment, and the importance of gaining access to water utilities data.
90. **Conclusions**:
    a) Countries are encouraged to set up appropriate mechanisms among various stakeholders to try to obtain the necessary information on water resources, water use, water abstraction, water losses, water scarcity and wastewater, in the interest of their own coordination, but also for streamlining reporting requests at the national level.
    b) Countries should conduct specialized water surveys to fill in data gaps to produce national data.
    c) International and regional organizations should continue to collaborate in water data collection activities as pertains to coordination of their efforts, harmonization of terminologies, reduction in respondent burden upon countries, etc.
    d) International and regional organizations should continue to collaborate on and increase capacity development to improve water statistics in countries.
    e) Noting 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.

91. In the third section on Waste statistics, the following presentations were delivered: (i) UNSD/UNEP Questionnaire on Environment Statistics – results and uses of the data collection

and relevance to SDG indicators; (ii) Progress in SDG indicator 11.6.1 on waste statistics; (iii) Indicators 12.4.2 and 12.5.1; (iv) Waste management baseline survey; (v) Utilization of e-waste data; (vi) E-waste in Palestine; and (vii) Tanzania's experience on compilation of e-waste statistics - achievements and challenges: flash presentation.

92. UNSD presented on the UNSD/UNEP Questionnaire on Environment Statistics – the waste section. Current development of the questionnaire, especially on electronic waste (e-waste), was elaborated. UNSD also introduced the dialogues with other international organizations on waste statistics, e.g. on food waste, SDG indicators related to this field, and future steps.
93. UNEP presented its work on SDG indicator 12.4.2, Hazardous waste generated per capita and proportion of hazardous waste treated, by type of treatment, and 12.5.1, national recycling rate, tons of material recycled. The presentation focused on the two indicators' calculation, methodology and data sources.
94. UN-HABITAT presented on SDG indicator 11.6.1, Proportion of municipal solid waste collected and managed in controlled facilities with regard to the total waste generated by the city. Methods of generation, collection, and treatment of municipal solid waste, as well as capacity development plans were presented.
95. Nepal introduced its waste management baseline survey, including the objectives, coverage, data analyses, and a selected list of waste variables collected from the survey. Major findings were presented, along with conclusions and recommendations. It was also noted that such a baseline survey can be of great value towards establishing regular data collection on waste statistics.
96. UNU presented on the Utilization of e-waste data, gave a brief overview showing how E-products can be used to improve quality of life; the challenges with sustainable consumption and production as well as waste management, and the e-waste SDG related indicators (SDG 12.4.2 Hazardous Waste (includes e-waste); SDG 12.5.1 National Recycling Rate (includes e-waste). It was mentioned that the UNSD/UNEP Questionnaire on Environment Statistics provides input for the Global E-waste Monitor and Regional E-waste Monitors. The UNU Toolkit was also introduced.
97. Palestine made a presentation on Electronic waste in Palestine. They mentioned that they do not have any classification specifically made for E-waste. It was noted that E-waste has been mentioned in the by-law of hazardous waste that was ratified in 2018. They highlighted various challenges including the absence of a national e-waste strategy, legal frameworks, the lack of experience and human resources skills and training, the lack of funding, and the illegal movement of e-waste.
98. Tanzania presented on its experience in the compilation of e-waste statistics. They produced a National E-Waste Statistics Report 2019, based on the UNU Toolkit, with guidance and collaboration with several partners namely UNEP, UNU, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), Global Partnership for Sustainable Development Data, etc. It was recommended that there should be a review of all methodological documents and tools to be country specific; consult with colleagues at the NSO and other stakeholders; and publish the results, which can be further improved at the next attempt.
99. **Discussion**
100. The discussion focused upon the importance of NSOs collaborating with waste treatment plants who are in possession of administrative records, and how to capture information concerning the

informal sector. Countries shared the issue of there often being an absence of record keeping of any kind by waste treatment plants meaning that in such cases, no data is collected at all by any authority. Issues on estimating mass of waste whereby weighbridges are unavailable was raised and UN-HABITAT referred all to its current investigative work in this area toward which several experts expressed interest.

101. With respect to e-waste, the importance of ensuring alignment between classifications (the UNU-KEYS classification of e-waste with the Harmonised System used in international trade statistics) was raised. UNU advised that this is an ongoing effort as the Harmonized System is updated periodically. On estimation of e-waste generated, it was measured using e-waste put on the market together with its expected life-span, mapping of movements of various e-waste flows is also done. The issue of measuring re-exports was also raised.

102. One country noted that there is a need for increasing studies and research on e-waste by research centres and students, the activation and implementation of the law and an increase in training to compile national e-waste statistics. Another country also mentioned challenges such as mapping of lifespans applying to new items only; the quality adjustment which are the items imported from different parts of the world with different levels of quality; the classification which is European based and UNU Codes only (no flexibility for domestication); and the lack of reliable data at the country level.

103. **Conclusions**:

a) Countries are encouraged to set up appropriate mechanisms among various stakeholders to try to obtain the necessary information on waste generation and management, in the interest of their own coordination, but also for streamlining reporting requests at the national level.
b) Countries should conduct specialized waste management surveys to fill in data gaps to produce national data.
c) International and regional organizations should continue to collaborate in waste data collection activities as pertains to coordination of their efforts, harmonization of terminologies, reduction in respondent burden upon countries, etc.
d) International and regional organizations should continue to collaborate on and increase capacity development to improve waste statistics in countries.
e) Noting the various demands for more data on waste (e.g. food waste), 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.
f) The E-waste Statistics Guidelines and the training provided by UNU has been helpful to countries embarking on e-waste statistics. However, the UNU toolkit needs to be revised to provide more flexible features which support customization of key variables such as classification and life span to country specifics.
g) UNSD and UNU shall continue their close collaboration to ensure country data collected via the UNSD/UNEP Questionnaire is clearly communicated as an input to the Global E-Waste Monitor.
h) Although there is a lack of reliable data at national level and specific e-waste management legislation, countries should be encouraged to learn how to produce national statistics on e-waste.
i) Although e-waste is a very challenging area, it is important to publish first results after which improvements can follow.

j) International and regional organizations should continue to collaborate on and increase capacity development to improve this very specific area of waste statistics in countries.

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

104. This session included presentations delivered with a focus on both bi-lateral and multi-lateral assistance: (i) Inventory of capacity development events and activities; (ii) Capacity development for climate change; (iii) Country experiences in capacity development during COVID-19 (Luxembourg experience in capacity development during COVID-19 and Experience from Finland; and (iv) Flash presentations by regional/national institutions (Capacity development in environment statistics and climate change statistics in the Arab Region, A demand-driven approach to statistical capacity development: Advancing environment statistics, environmental and ecosystem accounting in Asia-Pacific, Environment, climate change and disaster statistics and indicators work in Latin America and the Caribbean, and Capacity development work).
105. UNSD presented on an inventory of capacity development activities and events in the area of environment statistics led by international and regional organizations. Key messages and figures illustrated both geographical and thematic patterns of concentration of these activities, revealing also possible gaps. The synthesis of activities will assist and improve their coordination and contribute towards a geographically more balanced coverage. The need to review the inventory and also conduct a similar one addressing country-to-country activities was noted.
106. GCF introduced its work scope, including the Readiness Programme, and capacity development portfolio. It showed the monitoring and reporting standard requirements of its Readiness Programme and emphasized the need for NSOs to work closely with other national authorities responsible for monitoring and reporting on climate change (national meteorological authority) and other SDGs (sectoral ministries). It was also mentioned that through the Readiness Programme, support to country's adaptation planning, capacity for data and information on climate impacts, vulnerability, adaptation and assessment will be strengthened, and such data and information could contribute to the Global Set of Climate Change Statistics and Indicators.
107. Luxembourg shared experience in capacity development during COVID-19, with work conducted in Laos PDR, its challenges, good practices and lessons learned. Luxembourg pointed out that during capacity development activities, it was difficult to focus on environment statistics challenges first because in most of the time the NSO's top priority is to report SDG indicators. They mentioned that climate change statistics is not yet addressed but they expect that in the next five years Laos PDR will start working on it and use the Global Set of Climate Change Statistics and Indicators to collect and disseminate climate change statistics.
108. Finland showed its various twinning projects in capacity development, tools, activities, and the 2021 plans. It was acknowledged that due to the pandemic, most countries have suffered some type of a delay in core business but those countries who have suffered the least are those who already had well established relationships among institutions within-country, and with the international agencies.

109. ESCWA reported recent support on SDG, FDES and SEEA in its region, including workshops, expert group meetings, coordinative work and consultative meetings. The presentation showed the focus on big data and geospatial information, and how the integration of frameworks is so important. ESCWA also emphasized that environment statistics and indicators were needed to develop environmental accounts and the link to the economy.
110. ESCAP demonstrated how it followed a "demand-driven" approach to support member States in their needs for environment statistics and accounts, and what has worked and what has not. For instance, encouraging countries to publish pilot work which helps develop a client-base and demand was advocated. NSOs spelling out what services it may be able to offer rather than making requests for data from one line ministry after another was mentioned as a preferred approach to establishing multi-stakeholder relationships within countries.
111. ECLAC briefed on the demand-driven inter-institutional activities, methodological development, the COVID-19 resilient trainings, and its data products and platforms. Capacity development includes a Caribbean First Strategy and forecasted remote work for 2021.
112. Australia showed its existing capacity development work, the transitional adaptation due to COVID-19, and the new model being developed. It was mentioned that with less money being spent on travel, new opportunities in capacity development have been realised, including virtual capacity development provided at a higher frequency and with a smaller time commitment in each instance.
113. **Discussion**
114. The GCF stated that National Designated Authorities (NDAs) in the countries may work with GCF to specify project proposals and strengthen country capacity through the Readiness Programme. The list of NDAs is available on the GCF website. Although most GCF projects target adaptation and mitigation, some of its works are cross-cutting, as they also address drivers, impacts and vulnerability. GCF also noted that the focal persons in each country with which the Fund are engaging are usually located in the ministries of environment, finance, foreign affairs, among other designated national authorities and committees. In order to foster a closer collaboration with the NSOs on climate change-related activities, the contact information of these focal persons can be shared.
115. UNECE noticed that in its capacity development activities, it usually starts with a discussion of national policy information demand and, to demonstrate that the strength of environment statistics is that it is multi-purpose, and it can also be used for international reporting. UNECE believes it is more sustainable for a long-lasting production of statistics if NSOs and governments understand the benefits from a national policy perspective.
116. ESCAP also agreed that the need for developing communication and outreach skills are of importance among statisticians.
117. **Conclusions**:
    a) Based on increasing needs for nationally produced statistics in the areas of environmental and climate change in response to the national policy demands as well as reporting requirements, in particular, from the SDGs, the Paris Agreement and the Sendai Framework, increased focus must be applied to capacity development efforts.
    b) The inventory of capacity development events and activities indicates that international and regional organizations carry out extensive activities and training and the inventory should be conducted on a regular basis.

c) While this inventory illustrated some possible overlaps, several thematic and regional gaps in activities exist which may be affected by underreporting or partial reporting.
d) The inventory also reveals ongoing and increasing partnerships contributing to strengthening environment statistics, both from an institutional and methodological point of view.
e) In addition to international and regional capacity development activities, there is also steadily growing country-to-country technical cooperation which should be systematically reviewed, to facilitate information sharing and optimize resource use. UNSD plans to compile a similar inventory of countries in collaboration with relevant partners that provide bilateral assistance which will be shared.
f) Capacity development should follow a "demand-driven" approach to providing support to countries in the areas of environment statistics and climate change statistics based on their priorities and needs.
g) Given the COVID-19 pandemic, traditional forms of capacity development have been temporarily shelved, yet countries and institutions have been successfully able to deliver capacity development to recipient countries via alternative means. The increased use of such alternative means (online / e-learning, remote work) and equipment (hardware, software, licenses) should continue and such experiences should be shared between countries and agencies.
h) There is a need for improved measurement and results of climate change projects for which the Global Set of Climate Change Statistics and Indicators has great potential to inform.

Annex I

Meeting conclusions and recommended actions from Session Five

Opening session:

1. There are positive and negative impacts of the COVID-19 pandemic on the environment and the importance of reliable and timely nationally produced environment statistics and climate change statistics is increasing.
2. There is a time lag in environment statistics in that data are not available so quickly and regularly and it is important to expedite the production of data and statistical measures.
3. Given the pandemic it is even more important to consider interlinkages among indicators and interrelations among statistical frameworks so that the environmental, social and economic impacts can be captured accurately and in a timely manner.
4. Investing in data is key to rebuilding and countries have increasingly been using surveys to assess the impacts of the pandemic as well as using spatially explicit data to assess most vulnerable and affected groups.
5. The pandemic well demonstrated the value of a Statistics Act to empower NSOs to collect COVID-19 related information from individuals while upholding their confidentiality.

Session 1: Environment Statistics Toolbox

1. The Manual on the BSES is close to completion. UNSD will reach out to experts to seek collaboration for the outstanding topics.
2. Given the dynamic nature of some of the topics, such as disasters and GHGs, updates for future revision of the BSES are being compiled.
3. For the methodology sheets on wastewater and environmental health, UNSD will follow up with experts to provide comments by mid-December 2020.
4. Based on the presentation on water quality and nutrient budgets, the Netherlands and UNSD will draft a methodology sheet on freshwater quality.
5. The Expert Group will share further experiences with the ESSAT and the NAP to help UNSD revise the templates and improve their communication.

Session 2: Climate Change Statistics and Indicators

1. 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.
2. The Pilot Survey demonstrates clearly that most of the proposed indicators in the Global Set of Climate Change Statistics and Indicators are applicable although some indicators need further methodological work.

3. 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.
4. Comprehensive metadata for the Global Set of Climate Change Statistics and Indicators can be used as a guiding tool for countries to compile climate change statistics.
5. International and regional organisations should continue to collaborate to streamline concepts, definitions, methodologies, etc.
6. Complementarity should be promoted to the extent possible between global, regional and national sets of climate change indicators.
7. 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.
8. 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.
9. 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.

Group work

1. The areas of adaptation and vulnerability are especially important for the SIDS, developing and least-developed countries and are among the most challenging to develop into internationally comparable statistics and indicators.
2. The areas of drivers and mitigation are of more importance to developed countries and contain statistically better-defined indicators, although some smaller improvements are needed in these areas.
3. More effort is needed to better define which impacts can be attributed to climate change.
4. UNSD will review all the feedback from the group work (including the indicator-specific comments), clean/refine the set where sufficient clarity exists and contact the respective experts for additional advice where needed.
5. UNSD will invite specialized partners to contribute to completing the remaining metadata sheets per topic. However, for tier 2 and 3 indicators this will need to be a continuous process.
6. Once all the metadata is completed, UNSD will update the Global Set based on additional analysis of the metadata.
7. UNSD plans to organize 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.

Session 3: Environment Statistics Data Collection

International data collection and reporting requirements:

1. Demand for data for SDG indicators and other international/regional data requirements has resulted in new mandates for data collection in environment statistics since 2015, such an inventory is of significant value since it can contribute to reducing any possible overlaps in international organisations' data collections. In so doing, it helps reduce countries' reporting burden.
2. The inventory contains rich information which contributes to continuous and improved coordination of data collection in environment statistics and should be conducted on a regular basis.
3. The inventory can also be used to synchronize institutions to collaborate better on the development and harmonization of concepts, methods and standards in environment statistics.
4. Such an inventory on data collections is of great value to the field of environment statistics (especially relative to both economic and social statistics both of which have long-standing methodological guidance and established data collection practices).
5. The coordination and publishing of a data collection calendar by UNSD spanning the scope of environment and climate change statistics would be of huge support to countries. UNSD shall liaise with international organisations to see how this can best be done.
6. The Global Biodiversity Monitoring Framework should promote the use of biodiversity indicators that are applicable to all countries, ensure that the indicators are measurable and that there are nationally produced data to compile these indicators. Metadata should also be developed for the indicators.
7. It is important to use the FDES's Basic Set of Environment Statistics and the ESSAT to link the relevant biodiversity statistics with the indicators in the Global Biodiversity Monitoring Framework and several related methodology sheets (e.g., ecosystems and biodiversity) of the Manual on the Basic Set of Environment Statistics could serve as useful inputs.
8. Collaboration and coordination between the Biodiversity Policy Focal points and the NSOs should be encouraged to promote the link between statistics and policy.

Water statistics:

1. Countries are encouraged to set up appropriate mechanisms among various stakeholders to try to obtain the necessary information on water resources, water use, water abstraction, water losses, water scarcity and wastewater, in the interest of their own coordination, but also for streamlining reporting requests at the national level.
2. Countries should conduct specialized water surveys to fill in data gaps to produce national data.
3. International and regional organizations should continue to collaborate in water data collection activities as pertains to coordination of their efforts, harmonization of terminologies, reduction in respondent burden upon countries, etc.
4. International and regional organizations should continue to collaborate on and increase capacity development to improve water statistics in countries.
5. Noting 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.

Waste statistics:

1. Countries are encouraged to set up appropriate mechanisms among various stakeholders to try to obtain the necessary information on waste generation and management, in the interest of their own coordination, but also for streamlining reporting requests at the national level.
2. Countries should conduct specialized waste management surveys to fill in data gaps to produce national data.
3. International and regional organizations should continue to collaborate in waste data collection activities as pertains to coordination of their efforts, harmonization of terminologies, reduction in respondent burden upon countries, etc.
4. International and regional organizations should continue to collaborate on and increase capacity development to improve waste statistics in countries.
5. Noting the various demands for more data on waste (e.g. food waste), 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.

E-waste statistics:

1. The E-waste Statistics Guidelines and the training provided by UNU has been helpful to countries embarking on e-waste statistics. However, the UNU toolkit needs to be revised to provide more flexible features which support customization of key variables such as classification and life span to country specifics.
2. UNSD and UNU shall continue their close collaboration to ensure country data collected via the UNSD/UNEP Questionnaire is clearly communicated as an input to the Global E-Waste Monitor.
3. Although there is a lack of reliable data at national level and specific e-waste management legislation, countries should be encouraged to learn how to produce national statistics on e-waste.
4. Although e-waste is a very challenging area, it is important to publish first results after which improvements can follow.
5. International and regional organizations should continue to collaborate on and increase capacity development to improve this very specific area of waste statistics in countries.

Session 4. Capacity Development in Environment Statistics and Climate Change Statistics

1. Based on increasing needs for nationally produced statistics in the areas of environmental and climate change in response to the national policy demands as well as reporting requirements, in particular, from the SDGs, the Paris Agreement and the Sendai Framework, increased focus must be applied to capacity development efforts.

2. The inventory of capacity development events and activities indicates that international and regional organizations carry out extensive activities and training and the inventory should be conducted on a regular basis.
3. While this inventory illustrated some possible overlaps, several thematic and regional gaps in activities exist which may be affected by underreporting or partial reporting.
4. The inventory also reveals ongoing and increasing partnerships contributing to strengthening environment statistics, both from an institutional and methodological point of view.
5. In addition to international and regional capacity development activities, there is also steadily growing country-to-country technical cooperation which should be systematically reviewed, to facilitate information sharing and optimize resource use. UNSD plans to compile a similar inventory of countries in collaboration with relevant partners that provide bilateral assistance which will be shared.
6. Capacity development should follow a "demand-driven" approach to providing support to countries in the areas of environment statistics and climate change statistics based on their priorities and needs.
7. Given the COVID-19 pandemic, traditional forms of capacity development have been temporarily shelved, yet countries and institutions have been successfully able to deliver capacity development to recipient countries via alternative means. The increased use of such alternative means (online / e-learning, remote work) and equipment (hardware, software, licenses) should continue and such experiences should be shared between countries and agencies.
8. There is a need for improved measurement and results of climate change projects for which the Global Set of Climate Change Statistics and Indicators has great potential to inform.

ANNEX II

Final Agenda

Tuesday, 10 November 2020

Opening session

08:00 – 08:45 Opening and objectives of the meeting

Adoption of the agenda and logistical/organizational matters

08:45 – 09:35 COVID-19 pandemic and environment statistics

a) Impacts of and responses to the pandemic on environment statistics (UNSD, 10 min)
b) COVID-19 statistical measures and the related SDGs (Italy, 10 min)
c) Information production to support coping the COVID-19 in Brazil (Brazil, 10 min)
d) Discussion (15 min)

Coffee break 10 mins

Session One: Environment Statistics Toolbox

09:45 – 11:00 **FDES and the Basic Set of Environment Statistics (BSES)**

a) Status and completion of the Manual and implementation tools (ESSAT and NAP reporting templates) (UNSD, 10 min)
b) Draft chapter on Environmental Health Statistics (UNSD, 15 min)
c) Draft chapter on Wastewater Statistics (UNSD, 15 min)
d) Water quality, nutrient budgets (Netherlands, 15 min)
e) Discussion on experiences and updating BSES and Manual (plenary 20 min)

Wednesday, 11 November 2020

Session Two: Climate Change Statistics and Indicators

08:00 – 09:45 **Towards globally coordinated work on climate change statistics and indicators**

Global

a) Global Set of Climate Change Statistics and Indicators (UNSD, 15 min)
b) Linking climate change statistics and policy (UNFCCC, 15 min)
c) IPCC's guidelines and tools for the national GHG inventory (IPCC, 10 min)
d) Discussion (plenary 20 min)

Regional and National

a) Updates on UNECE work in climate change-related statistics (UNECE, 10 min)
b) Hungarian challenges and outcomes of the Pilot Survey (Hungary, 10 min)
c) Other regional initiatives: flash presentations:
    - From environment statistics to climate change statistics in CARICOM - an exploratory approach (CARICOM, 3 min)
    - Eurostat's work on climate change-related statistics (Eurostat, 3 min)
d) Discussion (plenary 20 min)

Coffee break 10 mins

10:00 – 11:00 **Towards the Global Set of Climate Change Statistics and Indicators**

a) Results of the Pilot Survey (UNSD, 10 min)
b) Structure of the draft Global Set - Suriname's experience (Suriname, 10 min)
c) Metadata template of the draft Global Set (Tanzania, 10 min)
d) Discussion (plenary 20 min)
e) Introduction to group work on the draft Global Set (UNSD, 10 min)

Thursday, 12 November 2020

Session Two: Climate Change Statistics and Indicators (cont.)

Group work + plenary

08:00 – 10:15 **Group work** on climate change statistics and indicators

- Introduction to each area (10 min)
- Review of list (60 min)
- Review of metadata examples (30 min)
- Preparation of reporting to plenary (30 min)

Coffee break (15 min)

10:30 – 11:00 Reports of group work to **plenary** (5 min each)

11:00 – 11:30 Roundtable discussion (30 min)

Tuesday, 17 November 2020

Session Three: Environment Statistics Data Collection

08:00 – 09:00 **International data collection and reporting requirements**

a) Introduction to data collection activities (UNSD, 10 min)
b) FAO agri-environmental data collection and progress on SDG 2.4.1 (FAO, 15 min)
c) Building a coherent biodiversity monitoring system to support national, regional and global decision making (Convention on Biological Diversity, 10 min)
d) Suriname's experience on the Global Biodiversity Framework: flash presentation (Suriname, 3 min)
e) Discussion (plenary 15 min)

09:00 – 10:00 **Water Statistics**

a) UNSD/UNEP Questionnaire on Environment Statistics – results and uses of the data collection and relevance to SDG indicators (UNSD, 10 min)
b) Selected SDG indicators related to the FAO Aquastat Questionnaire – 6.4.1 and 6.4.2 (FAO, 10 min)
c) OECD/Eurostat Joint Questionnaire on Inland Waters and related international collaboration (OECD/Eurostat, 10 min)
d) Progress in SDG indicator 6.3.1 on wastewater (UN-Habitat/WHO, 10 min)
e) Using meteorological data for water statistics: flash presentation (Ireland, 3 min)
f) Discussion (15 min)

Coffee break 10 mins

10:15 – 11:00 **Waste Statistics**

a) UNSD/UNEP Questionnaire on Environment Statistics – results and uses of the data collection and relevance to SDG indicators (UNSD, 10 min)
b) Progress in SDG indicator 11.6.1 on waste statistics (UN-Habitat, 10 min)
c) Indicators 12.4.2 and 12.5.1 (UN Environment, 10 min)
d) Waste management baseline survey (Nepal, 10 min)
e) Discussion (10 min)

Thursday, 19 November 2020

Session Three: Environment Statistics Data Collection (cont.)

08:00 – 8:45 **Waste Statistics (cont.)**

f) Utilization of e-waste data (UNU, 10 min)
g) E-waste in Palestine (Palestine, 10 min)
h) Tanzania's experience on compilation of e-waste statistics - achievements and challenges: flash presentation (Tanzania, 3 min)
i) Discussion (20 min)

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

08:45 – 10:15 **Capacity development – bilateral and multi-lateral assistance**

a) Inventory of capacity development events and activities (UNSD, 15 min)
b) Capacity development for climate change (Green Climate Fund, 15 min)
c) Country experiences in capacity development during COVID-19:
    - Luxembourg experience in capacity development during COVID-19 (Luxembourg, 10 min)
    - Experience from Finland (Finland, 10 min)
d) Flash presentations by regional/national institutions:
    - Capacity development in environment statistics and climate change statistics in the Arab Region (ESCWA, 3 min)
    - A demand-driven approach to statistical capacity development: Advancing environment statistics, environmental and ecosystem accounting in Asia-Pacific (ESCAP, 3 min)
    - Environment, climate change and disaster statistics and indicators work in Latin America and the Caribbean (ECLAC, 3 min)
    - Capacity development work (Australia, 3 min)
e) Discussion (20 min)

Coffee break 10 mins

Session Five: Discussion of Priorities and Conclusions

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

ANNEX III

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