Fifth Meeting of the Expert Group on Environment Statistics

New York, 16-18 May 2018

Final Report

1. The Fifth Meeting of the Expert Group on Environment Statistics (EGES), organized by the United Nations Statistics Division (UNSD), was held in New York from 16 to 18 May 2018.

2. The meeting was attended by 27 experts from Botswana, Burundi, Brazil, Chile, Estonia, Finland, Hungary, Indonesia, Jamaica, Jordan, Mexico, Nepal, Philippines, Suriname, Tanzania, Zimbabwe, the African Development Bank (AfDB), the Food and Agriculture Organization of the United Nations (FAO), 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 Framework Convention on Climate Change (UNFCCC), the United Nations University (UNU), the United Nations Environment Programme (UN Environment) and two independent experts. The United Nations Economic and Social Commission of Western Asia (UNESCWA) and Italy prepared presentations that were delivered by other experts at the meeting.

3. Ms. Reena Shah, UNSD, opened the meeting and paid tribute to Ms. Iva Ritschelova, former President of the Czech Statistical Office and former Chair of the EGES, who had made an excellent contribution to this work over many years. A new chair for this meeting, Ms. Janet Geoghagen-Martin, Director, Censuses, Demographic & Social Statistics Division, Statistical Institute of Jamaica, was then welcomed.

4. UNSD highlighted the background and objectives of the meeting and reported on the status of the ongoing methodological work in support of the implementation of the Framework for the Development of Environment Statistics (FDES 2013) and work on climate change statistics. All experts who contributed to the work were thanked and emphasis was given to the continued need for these contributions to implement the work programme of UNSD and produce the expected outputs of the EGES.

5. The meeting was organized in four sessions as follows:
   - Session 1: Environment Statistics Toolbox
   - Session 2: Environment Statistics Data Collection and Surveys
   - Session 3: Climate Change Statistics
   - Session 4: Other Work in Environment Statistics

6. The discussions were based on documents and the corresponding presentations prepared by EGES members and UNSD.

7. The main discussion points and conclusions of the meeting are summarized in the following paragraphs 9-71. The agenda of the meeting is attached as Annex A, and the list of participants is attached as Annex B.

8. The Expert Group expressed its appreciation to UNSD and to all experts who contributed to the work completed.

I. Session One: Environment Statistics Toolbox

9. UNSD presented on the progress made in the implementation of the FDES and the Environment Statistics Self-Assessment Tool (ESSAT). The increased use of the FDES and the application of the ESSAT by countries, as well as the growing publication of FDES-coherent compendia, were also acknowledged as valuable steps in advancing the field of environment statistics.

10. With regard to the Manual on the Basic Set of Environment Statistics, experts expressed appreciation to those among the group from countries, international agencies and UNSD who have made contributions as lead authors or reviewers to the drafting of the various methodology sheets. The need for methodology sheets on all topics of the FDES was expressed as countries are at different stages of development and this guidance is welcomed.

11. Draft chapters of the Manual were presented by the authors as indicated below and each one was followed by a presentation by UNSD providing a summary of the comments for each chapter received from experts prior to the meeting. The Manual will continue to be disseminated online in the form of separate methodology sheets.

12. Generation and Management of Waste Statistics (presented by UNSD): Given the complexity of this subject, it was noted that there is a clear need for the methodology sheet and that it would be important to finalize it as soon as possible. An explanation should be given as to why the concepts and definitions are in separate sections in this methodology sheet. There should be a more prescriptive advice on the definition most suitable for countries at all stages of development. Other definitions should be presented but with an explanation of the discrepancies/linkages and reasons these may be less suitable for some countries. The alignment of the methodology sheet, including the diagrams, e.g., "Product lifecycle in a circular economy and relation to waste", with the conceptual framework presented in the UNECE Task Force on Waste Statistics, was appreciated. There is a need to further develop the diagrams in line with the concepts of the Task Force to ensure consistency. On the different waste streams to include, it was concluded that the focus should be on those most applicable to countries at all stages of development. The section on international recommendations should mention the Inter-governmental Panel on Climate Change (IPCC) guidance on Waste. It would be useful to identify how waste statistics from the FDES can fit to this guidance.

13. The EGES expressed the need for a more detailed handbook on waste statistics covering practical issues related to the compilation of waste statistics which was further

discussed in Session 2. However, the methodology sheet should include a general description of the different types of data collection methods and aggregations.

14. Air Quality (presented by Chile): The relationship between the greenhouse gases concentrations in this methodology sheet and emissions in the methodology sheet on greenhouse gas (GHG) emissions (Topic 3.1.1) was discussed. Comments from the EGES were that concentrations of GHG gases (this methodology sheet) are only monitored globally and are thus not the responsibility for national monitoring so would not fit with part a (Local air quality) of Topic 1.3.1 which pertains to local pollution. It was also expressed that given the importance of climate change the relevant statistics should be presented together, in addition, many of the concepts and definitions would overlap. The methodology sheet on Topic 1.3.1 could therefore include part a (Local air quality), with part b (Global atmospheric concentrations of greenhouse gases) combined with the methodology sheet on GHG emissions. The introduction to both methodology sheets should explain the reason for splitting the FDES Topic. The gases covered in the Paris Agreement, such as nitrous oxide, should be included in the GHG gases discussed as it updates the list of statistics included in the FDES 2013.

15. Suggestions for additional sources of statistics and indicators were the European Environment Agency and Eurostat databases. The sources of data in Section 5 should be expanded to cover remote sensing as this is increasing as a source for air quality statistics. It would be useful to include some specific case study examples, particularly from Chile, regarding dissemination for air quality management; and the link between definitions and concepts used and regulations governing air quality. Section 5 should include information on both monitoring stations and uses of alternative sources as the monitoring station network may not be well developed in all countries.

16. Disasters (presented by UNECE and ISTAT): Given the development of the Sendai Framework a link should be made to the FDES statistics. It would be useful to include some examples, such as forest fires and droughts to explain the concepts and definitions, and show how these relate to and transition between the various concepts, such as hazard, natural disaster, technological disaster, etc.

17. Regarding Section 4. International Sources and Recommendations, a suggestion was to add the Global Assessment Reports (GAR) of the United Nations International Strategy for Disaster Reduction (UNISDR). The EGES expressed interest in more practical guidance; it was noted that the Asia and Pacific Expert Group on Disaster-related Statistics has developed guidance for addressing these and other related questions for evidence-based disaster risk reduction through the recently completed Disaster-related Statistics Framework (DRSF). Section 5 should address the role of the National Statistical Office (NSO) and how to reconcile differing data from agencies.

18. It was commented that for countries which are less-disaster prone not all statistics may be applicable. The dissemination section can cover some examples of tables relevant to such countries.

19. Soils and Geology (presented by Mexico): It was suggested that the FAO Global Soil Partnership team be given the opportunity to review the Soils Methodology Sheet. The

concept of land degradation under the United Nations Convention to Combat Desertification is relevant and the relation to soil degradation should be explained. Additional indicators for Section 6. Uses and Dissemination can include SDG 2.4.1 and gross nutrient balance.

20. Environmental Information and Awareness (presented by Botswana and Zimbabwe): The EGES recognized that excellent progress had been made on a difficult topic. It was agreed that where international guidance does not exist on this topic that national level sources should be sought.

21. Suggested sources are the UK Survey on Perception of the Environment; the Austrian Statistical Office micro census on environmental conditions and environmental behaviour; and environmental education is often covered in the national accounts on environmental goods and services.

22. Reporting Template of the Environment Statistics Self-Assessment Tool (ESSAT) and the Template of the National Action Plan (presented by UNSD): The EGES provided examples of additional uses of the ESSAT by Nepal, its use in the Environment Statistics Development Strategy in Burundi for 2018-2022, its use in several sub-regions in Africa and through the Regional Network of Environment Statistics platform in Latin America and the Caribbean. It was suggested that the ESSAT reporting template include a diagram showing the institutional collaboration structure of the NSO with other agencies; and to clarify in the National Action Plan template that the capacity development and activities are related to the NSO and Ministry of Environment.

23. The EGES agreed that it would be useful for the ESSAT reporting template to include a section on reporting requirements for international multilateral environmental agreement commitments, given that gaps remain in the data reported.

24. The Expert Group was invited to draft or contribute to new methodology sheets on air emissions, wastewater and oceans. UNECE volunteered to contribute to a methodology sheet on wastewater. Independent expert Mr. Anand Sookun volunteered to contribute to a methodology sheet on air emissions. UN Environment offered to draft a methodology sheet on ocean statistics and UNECLAC volunteered to contribute to it.

II. Session Two: Environment Statistics Data Collection and Surveys

25. This session was divided into four sections: (i) Environmentally-related SDG indicators; (ii) Environment statistics data collection and dissemination; (iii) Waste statistics; and (iv) Environment statistics surveys, administrative data and reporting tools. The Expert Group held a rich discussion on the importance of this work and shared experiences.

26. Environmentally-related SDG indicators: Experts from Estonia and Suriname presented on their countries' experiences and challenges in monitoring SDG indicators, especially those related to environment statistics. The importance of establishing

coordinating mechanisms and identifying major stakeholders and policy relevance was highlighted. Advancements in national publications on environment statistics were also demonstrated as well as the availability of environmental data per SDG demand. UNSD also presented on an SDG + FDES Basic Set of Environment Statistics matrix.

27. Following country and UNSD presentations, experts discussed the interaction between countries and UN agencies regarding data collection and publication. It was commented that internationally reported environmental SDGs can serve to enhance coordination within a country, as it can stimulate discussion between the NSO and line ministries on an appropriate data source from within the country in future. All the while, it was agreed that a country source should take first priority wherever possible.

28. A discussion was held on the availability of environmental data for reporting on the SDGs where it was noted that national level production of data, in particular for developing countries, remains a challenge. The importance of nationally devised environmental SDGs for national processes was discussed. National SDGs may differ from international SDGs and can also use detailed national level environment statistics developed, for example, through the implementation of the FDES 2013.

29. When developing national environmental SDGs countries discussed the approach to Tier III indicators where the international metadata is not yet available. It was remarked that sharing of country practices could be useful as some countries already have a methodology for compiling these national environmental SDG indicators. Further, some countries have made initiatives to use their own national SDG sets, and there are cases of sub-regional sets being developed such as the Caribbean Community (CARICOM) Core Set (126 indicators). One country mentioned it has also been beneficiary to financial assistance from international organizations in the collection and compilation of SDG-related environment statistics.

30. Experts appreciated and endorsed the SDG + FDES Basic Set of Environment Statistics matrix compiled by UNSD, especially as it could be useful for capacity building. The matrix has since been made available on UNSD's website.[1] Such mappings assist countries in understanding the linkage between the frameworks and in deciding how to use the statistics collected for multiple policy uses. The EGES commented that including a match to the System of Environmental-Economic Accounting (SEEA) could be useful to show the links between policy, statistics and accounts.

31. Environment Statistics Data Collection and Dissemination: UNSD presented on its regular data collection, the UNSD/UNEP Questionnaire on Environment Statistics, and UN Environment presented on Selected SDG indicators related to the UNSD/UNEP Questionnaire. UNSD foreshadowed the addition of two variables related to municipal waste generated in order to better inform on the monitoring of SDG indicator 11.6.1 (Proportion of urban solid waste regularly collected with adequate final discharge out of total urban solid waste generated, by cities). The planned addition of two variables to this regular data collection regarding electronic waste (e-waste) was also shared among the Expert Group. UN Environment presented on four SDG indicators pertinent to SDGs 11

[1] https://unstats.un.org/unsd/envstats/fdes/SDGsInd_BasicSetMatrix.pdf

and 12, and relevant concepts, methods and disaggregations. The two presentations demonstrated collaboration between UNSD and UN Environment in a regular data collection, SDG indicator monitoring, and participation at expert groups hosted by one another.

32. Regarding the use of pilot questionnaires (on e-waste) to meet demands of key users, UNSD (Summary of Results of Pilot Testing), Tanzania (Experience from Pilot Testing) and UNU (Global e-waste Statistics Partnership) presented on their varying perspectives as collector, provider and user of data following a pilot testing on e-waste statistics by UNSD to some 42 countries in 2017.

33. The possible inclusion of e-waste statistics to be discussed at the United Nations Statistical Commission (UNSC) was raised. UNSD mentioned that it can explore ways forward on the feasibility of including e-waste statistics within a UNSD report on environment statistics to the UNSC in 2020.

34. The inventory of regular, international data collection, reporting and dissemination from countries undertaken by the United Nations, its specialized agencies, intergovernmental organizations and conventions was presented by UNSD. A suggestion was made to expand the list of contacts by adding the position next to the name of the focal point.

35. Waste Statistics: UNSD presented on a Proposal for a Handbook for National Waste Data Collection and Estimation from Developing Countries. This was followed by a UNECE presentation entitled: Update on UNECE Task Force on Waste Statistics. Experts expressed appreciation to both presenters, and agreed that a Handbook on Waste Statistics would be useful. It was suggested that a starting point could be to examine the reasons behind the response rates to the items of the UNSD/UNEP Questionnaire on Waste. Suggestions for areas which could be covered and relevant examples included the Food Loss and Waste Accounting Standard, UK food waste measurements, Waste Data Assessment Tool, informal sector recycling and reuse of e-waste, collaboration issues between waste statisticians and GHG emissions reporting. Via the UNECE presentation, experts learned of the need for a conceptual framework on waste statistics, the Task Force's work packages, and its intended future steps.

36. Environment Statistics Surveys, Administrative Data and Reporting Tools: UNSD delivered a presentation on the Use and Compilation of Specialized Environmental Surveys and Reporting Forms. This was followed by two country presentations demonstrating their experiences in designing surveys and validating data which were delivered by experts from Suriname and Hungary. A very useful matching of types of data sources for environment statistics to FDES topics was included in Hungary's presentation. Relevant examples of surveys included Hungary's Waste Management Survey; a survey on environment protection expenditures which covers water and wastewater; and Nepal's Climate Change Survey. Issues presented and discussed included financial constraints in undertaking surveys (especially in remote areas where there may be logistical and language barriers), use of administrative data (in adjusting data for the purpose of official statistics), and the idea of adding modules of a climate change survey to existing household surveys.

III. Session Three: Climate Change Statistics

37. The session covered methodological work on climate change statistics and its future development (presentations were made by UNSD, UNFCCC, FAO, Finland, UNECE, UNESCWA (by UNSD), ECLAC, Jordan, Tanzania and Jamaica) and the work on extreme events and disasters statistics (presentations were made by UNESCAP, UNECE and ISTAT (via UNECE)). In addition, there was group work on climate change statistics and indicators.

38. The first presentation was delivered by UNSD, outlining the mandates that UNSD received from the Statistical Commission at the 47th and 49th sessions in 2016 and 2018 to, inter alia, review and consider the UNECE set of climate change-related statistics and indicators as a basis for developing a global set of climate change statistics and indicators, and link to the processes of UNFCCC to promote the policy and statistics interface. As part of the mandate, it was explained that UNSD has already conducted a Pilot Survey on Climate Change-related Statistics and Indicators based on the UNECE set among 12 countries. The results were presented, showing the necessity for the global set to be more adapted to the needs and realities of the developing countries.

39. Presentations were then made on the work of other international institutions. UNFCCC presented on the links between climate change statistics and policy, providing an overview of the climate change policy and the current monitoring, reporting and verification (MRV) system for all Parties under the Convention, the Kyoto Protocol and the Paris Agreement and continuing with the activities performed by the Secretariat for data collection, analysis, management and dissemination. Moreover, the UNFCCC presentation highlighted the expected contributions of NSOs to the current data reporting process under the UNFCCC and to the possible increased demand for data under the new Transparency Framework of the Paris Agreement (still being negotiated by Parties as part of the Paris Agreement Work Programme). FAO delivered a presentation on its work on climate change statistics for agriculture, forestry and fisheries, within the context of its regular work on collecting, analysing and disseminating national statistics in FAOSTAT. The main part of the presentation focused on emissions from agriculture, forestry and other land uses and related indicators. It was explained how the reference, default level information disseminated in FAOSTAT can be used as guidance as well as a basis for QA/QC by countries, in processes related to UNFCCC reporting, such as national greenhouse gas inventories, Biennial Update Reports (BURs) and Nationally Determined Contributions (NDCs). FAO presented ongoing work beyond emissions statistics, aimed at providing information that could support reporting under the Transparency Framework. Within this context it presented its new FAOSTAT database on climate change statistics, jointly developed with the National Aeronautics and Space Administration (NASA).

40. Presentations were made on the work undertaken at the regional level by the UN Regional Commissions. First UNECE, in collaboration with Italy, delivered a presentation on the UNECE set of climate change-related statistics and indicators. The current work of the UNECE Task Force on climate change-related statistics was also shown, describing how the set would be refined and explaining the development of the contextual and

operational indicators. UNESCWA, presented by UNSD, talked about their study on official statistics in support of climate change and energy related indicators for the SDGs in the Arab region. Finally, UNECLAC presented on its regional programme on climate change and disaster statistics and indicators; it was explained that since the Latin American and Caribbean Region is particularly vulnerable to the impacts and risks of climate change, the regional programme on climate change and disaster indicators combines the two topics.

41. Countries delivered presentations on climate change statistics. First Finland, which is possibly the only country in which the NSO has the responsibility for estimating its GHG emissions, explained the role of the NSO in climate change related statistics and reporting. The presenter emphasized the importance of cooperation between authorities as key to the effective use of all possible data sources for climate change-related statistics. Jordan and Tanzania, which both completed the UNSD Pilot Survey on Climate Change-related Statistics and Indicators, reported their experiences to the plenary. Jordan noted that the calculation of the indicators must be done with strong coordination between the agencies, while Tanzania commented on the need to tailor the global set of indicators to developing countries and to use the IPCC-based framework as the global framework, particularly as it also links to FDES Chapter 5 which was based on the IPCC framework. Finally, Jamaica presented on linking the FDES and climate change statistics, showing how statistics from the FDES can be used to monitor climate change and how the FDES was used in producing a climate change statistics report in 2017.

42. The main points from the discussion on the presentations on climate change statistics are provided in the following paragraphs.

43. The role of the Intended Nationally Determined Contributions (INDCs) was discussed. UNFCCC explained that all Parties under the Paris Agreement had the right to amend their INDCs at the time of ratification of the Paris Agreement, before including their Nationally Determined Contributions (NDCs) in the NDC Registry available here. However, most Parties decided to transform their INDC into their first NDC. UNECLAC explained that what was presented in the NDCs won't be enough to provide information on the impacts and responses to climate change. Thus, there is a need to illustrate that more is needed, and official statistics can play a role in raising awareness.

44. Regarding the new requirements for the NSOs, UNFCCC explained that the negotiations under the Paris Agreement Work Programme are ongoing and the expectation is that the requirements for reporting under the transparency framework will be finalized by the end of the year during the 24th Conference of the Parties (COP24) in Katowice, Poland. Currently, Parties have different reporting requirements under the Convention and Kyoto Protocol and depending on their development status (Annex I vs non-Annex I Parties). During the negotiations, it will be clarified whether the existing requirements will be complemented by the new ones under the Paris Agreement or replaced by the new ones to avoid reporting burden to Parties. Tracking of progress and adaptation will also be taken into account, and MRV systems will have to be developed by all Parties. Right now, it is not clear yet what the reporting guidelines will look like, as the negotiations are ongoing: one for developed Parties and one for the developing Parties, or if there will be only one guideline with different obligations for developed and developing Parties, and also for Least Developed Countries (LDCs) and Small Island Developing States (SIDS).

UNFCCC explained that this will be defined in the Transparency Framework expected to be available at the end of 2018 as part of the Paris Agreement Work Programme and entering into force in 2020.

45. FAO added that there is a role for the NSOs in the reporting process, as shown by Finland. The National Communications (NCs) contain a substantial amount of information but not presented in a statistical format or reporting framework. NSOs can contribute by synthesising the reports, and summarizing the information in a statistical format, as the current format and extreme length of the reports is not digestible. FAO added that the review process is largely done by non-statisticians, and that this is an area where statisticians should be more involved. FAO then mentioned that projections could be made using accounts and scenario analyses. UNSD added that a lot of work was ongoing in ecosystem accounting, notably with carbon storage. In addition, input-output tables could provide some estimates for air emissions.

46. UNECE explained that the number of climate change-related indicators had been discussed a lot in their Task Force. They have the impression that they found the middle ground between availability and relevance to each country. However, the impact of climate change will vary depending on the local situation. Therefore, it would make sense to have a broader set at the global level, which could then be more tailored at the regional level. Other participants also said that they think that a broader global set that can be adapted to countries' situations could be the solution. It was also emphasized that a simple approach should be taken with regard to the global set so that it can apply to all countries, with the underlying idea of inclusiveness and leaving no-one behind. It was further noted that if the indicators become too complicated then they would also not be comparable.

47. The difference between the residence and territory principle in the calculation of the emissions was further discussed. While UNECE is prioritizing the residence principle, since it is trying to use the SEEA as the underlying framework for the UNECE set of indicators, UNFCCC explained that all Parties under UNFCCC are using the IPCC guidelines for estimating GHG emissions, which refer to the territory principle. It was also noted that with regard to the duality of indicators, for example for total GHG emissions, one method of calculating and reporting it based on the well-established and accepted IPCC guidelines would be preferred, so as not to cause confusion. In addition, it was explained that there are ongoing issues which affect the residence and territory approach that should be considered, such as the fact that emissions from international maritime and aviation transports have not been included in the total GHG emissions of Parties under the IPCC guidelines and that the International Maritime Organization (IMO) and the International Civil Aviation Organization (ICAO) are in charge of implementing policies and measures for these sectors.

48. Following the presentations and discussions, participants were assigned to four groups to discuss the future work of UNSD in the area of climate change statistics. UNSD presented the five sections they wanted the participants to discuss. Below are summaries of the group work for each of the five sections.

49. Framework for Climate Change Statistics and Indicators: The five areas used in the Conference of European Statisticians' (CES) Recommendations on Climate Change-

related Statistics (drivers, emissions, impacts, adaptation, mitigation) and those used in the IPCC framework were discussed. The main differences between the IPCC framework and the CES Recommendations are that in the IPCC framework "vulnerability" is a separate area, and "emissions" is part of "drivers". The Expert Group agreed to use the areas of the IPCC framework (which can be identified from the themes of the IPCC 4th and 5th Assessment Reports and the National Communications to the UNFCCC which follow these themes) to structure the global set of statistics and indicators as it would create a direct link to international policy and reporting to UNFCCC through the Paris Agreement. This would also allow easier linkage to the FDES 2013 since the IPCC framework is used in Chapter 5 of the FDES 2013 as the framework to link climate change and environment statistics.

50. UNSD Pilot Survey on Climate Change Statistics and Indicators: Countries that completed the Pilot Survey described various methods they undertook to obtain the necessary information ranging from organizing stakeholder consultations, the NSO sending out an email to the stakeholders for information and then getting together to validate and finalize the Survey, and the NSO completing the Survey itself if its statistical system was centralized. However, the Expert Group recommended that the process should include a wide range of stakeholders coordinated by the NSO, rather than the NSO answering the pilot on its own given the breadth of information required. The Pilot Survey on average was expected to take up to two months depending on the country and the number of institutions involved. Countries also mentioned that a shorter and simpler list of indicators could be more encouraging for them to complete the Survey.

51. An example from Mexico in the completion of the UNECE Survey (on pilot testing for real data production) was noted as particularly interesting. Mexico explained that they used their Inter-Agency Climate Change Committee, established by law and responsible for reporting to the UNFCCC Secretariat and to other agreements, to complete the UNECE Survey. The Committee includes, among others, the Ministry of Natural Resources, the Climate Change Institute, the Ministry of Energy, the NSO and the Natural Center for Prevention of Disasters. They analyzed the Survey with the different institutions of the Committee, and gave an opinion on each indicator. Then the NSO looked at how it could use the indicators as National SDG Indicators or Key National Indicators. During the process, it was noted that 20 of the 39 indicators could be used as National SDG Indicators or Key National Indicators, in particular as quantitative indicators for the SDG 13 on Climate Change, which currently only contains qualitative indicators.

52. Several points were made on the template of the UNSD Pilot Survey focusing on the specific questions. These points have been compiled and will be taken into account when the Survey is revised and used as the basis for the Global Consultation.

53. Global Set of Climate Change Statistics and Indicators: The Expert Group discussed the purpose of the global set which would ensure the inclusion of countries at various stages of development. It was agreed that the indicators should be based on the IPCC framework and linked to the UNFCCC through the Paris Agreement in order to strengthen the relationship between statistics and policy. It was discussed that the set of indicators should be limited in number in order to provide clear guidance for policy makers and to encourage an inclusive and universal set applicable to all countries. It was agreed that a limited core set with additional indicators developed in a tiering system to cater to countries with

different concerns, priorities and capabilities would be useful. Further work on the development of the set of indicators will be carried out by UNSD in collaboration with the Expert Group.

54. In addition to standard criteria of relevance, methodological soundness and data availability, additional suggested criteria for selection of indicators were: their inclusion in national climate change frameworks or international reporting needs; the indicator can demonstrate the direction of climate change; there is an even representation of indicators under each area of the framework; indicators should be globally relevant and are readily available nationally; and the indicators should 'paint the broad picture' of climate change.

55. The Expert Group agreed, as mandated by the Statistical Commission, that UNSD would review and consider the UNECE indicators as the basis for developing a global set of climate change statistics and indicators, applicable to countries at various stages of development. Given the results of the Pilot Survey conducted by UNSD, it was clear that the UNECE set of indicators needed to be simplified and adapted to take into account the situation in developing countries before a Global Consultation. The Expert Group also noted that the indicators should be developed in light of the UNFCCC reporting process and the SDGs. Finally, and very importantly, a bottom-up approach would be taken where indicator lists from international organizations (e.g. UNFCCC, WMO, FAO), regional and sub-regional institutions (e.g. UNECE, UNESCWA, UNECLAC, OECD, CARICOM), research (e.g. IPCC), national agencies (e.g. US EPA, New Zealand EPA), national climate change reports and plans (e.g. National Adaptation Reports, National Communications), and NGOs (e.g. Climate Reality, World Resources Institute), would be consulted by UNSD with a view to developing a suitable list of climate change statistics and indicators prior to the Global Consultation.

56. It was also discussed that the National Communications (NCs) to UNFCCC are a rich source of indicators and that it would provide a role for the NSOs in collaboration with line ministries, such as the Ministry of Environment, in making the NCs transparent and accessible to a wider range of users. It would also help to synthesize the quantitative information which is embedded in the NCs and make it available to a wide range of stakeholders. The global set of indicators could also help to fill the gap in the SDG 13 on Climate Change which currently contains more qualitative indicators and thus provide an entry point to the SDG process in this area.

57. The Expert Group agreed that metadata should be provided. However, the most relevant aspects would be the definitions, disaggregation and links to existing data sources and guidance. It was noted that if many of the variables are obtained from the IPCC/UNFCCC with NCs as a source, metadata already exist in seven languages and can be examined and used if suitable.

58. Role of National Statistical Offices: The Expert Group discussed how the NSO could gain entry to the climate change processes in country; what is the NSOs current role; and how to enhance the current role of the NSO.

59. It was discussed that existing structures in a country may provide an entry point. For example, in the Philippines an Executive Order was established designating the role of the

NSO in climate change reporting; in Mexico the NSO is part of an Inter-Agency Climate Change Committee, established by law by UNFCCC and responsible for reporting to the UNFCCC Secretariat and to other agreements. The example of Mexico shows that the NSO has already an entry point in climate change reporting through the national committee in place.

60. The NSO could become the national aggregator of the climate change information by mining NCs reported to UNFCCC and putting them into context. Moreover, it shows that the framework exercise could be used to fill gaps in different national indicator frameworks. These systems are often in place as Annex I parties are required by the Kyoto Protocol to establish national systems that are the generators of the reporting activities, and that the NSOs have their role in these national systems for providing the statistical data. Developing Parties are not yet subject to the same requirements, however, when they receive financing from the Global Environment Facility, the creation of such a statistical system is often included.

61. The role of the NSO was seen less as reporting to UNFCCC as established processes are already in place and dual systems should not be created. Instead, it was seen as providing transparency and in raising awareness of climate change as an issue among a broad range of stakeholders. In order to enhance policy relevance, the EGES discussed that NSO data reporting could thus link to the NCs rather than providing detached climate change reports. As such, the Expert Group discussed that the indicators should focus not on creating new reporting needs but should be focused around existing reporting requirements such as the NCs.

62. In order to enhance the NSO role, the Expert Group discussed that NSOs could play a more active role in the national climate change committees, and that the Expert Group could provide guidelines to facilitate this process. The NSO should thus try to enter into existing national climate change reporting/deciding structures rather than creating new structures under environment statistics. Working with the national climate change committees would ensure the alignment of the NSOs' work with the NCs and other reporting to UNFCCC. The question was raised of who will fund the role of the NSO as compiler of climate change statistics. With regard to funding it was suggested to look into the Green Climate Fund[2] as a potential source.

63. The NSO should identify the source of the data as some stakeholders do not always have the data mentioned. In some countries, e.g., in Nepal, national surveys have been conducted by the NSO to obtain information on, for example, the impact of climate change, and a report showing the results has been published. The major objective of the survey was to understand and acquire knowledge on the impact of climate change from social, economic and environmental perspectives; exploring how respondents are developing or making adaptive capacity to confront the impact of climate change and establishing a linkage between climate change and environment-related indicators with SDG 13 (take urgent action to combat climate change and its impacts). Countries also mentioned the idea of including climate change questions in existing surveys. Given that non-Annex I parties

[2] For further information about the Green Climate Fund, please refer to: https://www.greenclimate.fund/who-we-are/about-the-fund (accessed 4 June 2018).

receive funding to conduct their NCs it was recommended that the NSOs try to tap into this source of funding to assist them with necessary data collection.

64. Global Consultation on Climate Change Statistics and Indicators: The Expert Group mentioned the importance of respecting the UNECE process, but also understood that the work on the global set of indicators would need to have its own timeline. Therefore, it advised to take the core indicators of UNECE into consideration, but not to wait until the finalization of the UNECE contextual and operational indicators. The Global Consultation should take place in 2019-2020 and the results be ready prior to the Global Stocktake of the Paris Agreement (the first one planned for 2023 and thereafter every five years) in order to be available to collectively assess progress and implementation to address the information needs of the Global Stocktake (and prepare outputs for the Paris Agreement). The guidance to implement the Transparency Framework of the Paris Agreement will most probably be finalized at the COP24 in December 2018. The implementation guidance is expected to shed more light on the data reporting requirements of the Paris Agreement, so the exact dates of when to conduct the Global Consultation will be determined in due course.

65. The experts encouraged UNSD to clearly explain to countries the purpose of the Global Consultation, including that it is not intended to collect data. Moreover, it should also be stated in the Global Consultation that it is an indicator framework to assess primarily the relevance, methodological soundness and availability of indicators to derive a Global Set of Climate Change Statistics and Indicators, and not an additional reporting burden. The accompanying letter should include an introduction on why a set of climate change indicators is needed, i.e., that it has been requested from countries under the mandate of the UNSC, what is the relevant framework and to make clear that this is not a data reporting obligation. Countries should be instructed that the Survey should be returned even if all parts could not be completed. A work plan outlining all the steps and activities will be developed by UNSD in collaboration with the Expert Group.

66. Extreme Events and Disasters: Presentations were made by experts from UNESCAP and UNECE updating the Group of their respective work on extreme events and disasters.

67. The Expert Group discussed the appropriate role for the NSO in disaster statistics. The UNECE Task Force on Measuring Extreme Events and Disasters is focusing on this issue. The Asia and Pacific Expert Group on Disaster-related Statistics has developed guidance for addressing these and other related questions for evidence-based disaster risk reduction through the recently completed Disaster-related Statistics Framework (DRSF). The Expert Group noted that involving the NSO can give disaster statistics a similar status to official statistics. Other roles included communication to various users to improve understanding of disaster risk; and coordinating statistics from agencies which produce disaster management data or other administrative data related to disasters.

68. The Expert Group mentioned that countries are seeking practical advice on identifying which events are disasters; setting up a statistical coordination structure to improve timeliness of receipt of disaster risk management data; obtaining data related to all stages of the disaster risk management process; and how to liaise with disaster risk management agencies or relevant bodies to provide advice on statistical reporting.

69. The Expert Group mentioned that in measuring the economic damages from disasters, a link to the SEEA Central Framework or the SEEA Experimental Ecosystem Accounting could be explored. It was noted that there is already a link to the System of National Accounts with regard to assets, more specifically, to catastrophic losses.

70. UNSD mentioned that the 49th session of the Statistical Commission in 2018 welcomed a greater focus on disaster-related statistics given the importance of the Sendai Framework for Disaster Risk Reduction 2015–2030, and decided to include in the agenda of its fiftieth session a separate item on this topic building on existing work in UNESCAP UNECE and UNISDR. The Commission decided that the report will be a joint report of the Secretary-General, UNESCAP, UNECE and UNISDR. UNECLAC requested to be involved in the report to the Commission as a sub-group on disaster statistics was established at the Statistical Conference of the Americas.

IV. Session Four: Other Work in Environment Statistics

71. UN Environment presented its work on ocean statistics in relation to the SDGs. The EGES discussed the need for a document linking the FDES to the ocean statistics of the SDGs and the indicators of the UN Environment Regional Seas. FAO Fisheries is working with UNESCAP regarding archipelagic waters.

ANNEX A

Fifth Meeting of the Expert Group on Environment Statistics

New York, 16-18 May 2018
Secretariat Building
Room 2727

Final Agenda

Wednesday, 16 May 2018

08:30 – 09:00 Registration

09:00 – 09:45 Opening

Objectives of the meeting

Adoption of the agenda

Session One: Environment Statistics Toolbox

09:45 – 10:00 **The FDES 2013**

Briefing - UNSD

10:00 – 12:00 **The Manual on the Basic Set of Environment Statistics**

Status of progress of the Manual - UNSD (15 mins)

Completed chapters – Human Settlements Statistics, Energy Statistics, Minerals Statistics, Land Use/Land Cover Statistics, Crops and Livestock Statistics, Water Resources Statistics, Environmental Protection Expenditures, Ecosystems and Biodiversity Statistics

Update of other draft chapters (GHG emissions, Forest Statistics)

a) Presentations of draft chapters
   i. Generation and Management of Waste Statistics - UNSD (15 mins)
   ii. Air Quality Statistics - Chile (remote) (15 mins)
   iii. Natural Extreme Events and Disaster Statistics - Italy, ECE (15 mins)
   iv. Geology - Mexico (15 mins)
   v. Soils - Mexico (15 mins)
   vi. Environmental Protection, Management and Engagement Statistics - Zimbabwe and Botswana (15 mins)

b) Comments received on the draft chapters

12:00 – 13:00 Round table discussion on chapters and ideas for dissemination/training materials

13:00 – 14:00 Lunch break

14:00 – 14:30 Timetable for finalization of all chapters and call of interest for additional chapters (wastewater, oceans, air emissions)

14:30 – 16:00 **Implementation of the FDES 2013 and the Environment Statistics Self-Assessment Tool (ESSAT)**

Reports of experiences from country capacity development in implementing ESSAT and sharing of good practices - Burundi, ECLAC

Presentation of template for National Action Plans for Implementation of FDES 2013 - UNSD (15 mins)

Presentation of updated template for the results and analysis of the ESSAT - UNSD (15 mins)

Discussion

Session Two: Environment Statistics Data Collection and Surveys

16:00 – 17:00 **Environmentally-related SDG indicators**

Experiences and challenges in the monitoring of the SDG indicators - Country presentations (Estonia, Suriname)

SDGs + FDES Basic Set of Environment Statistics matrix - UNSD

17:00 – 17:30 **Environment Statistics Data Collection and Dissemination**

a) UNSD/UNEP Questionnaire on Environment Statistics – results and plans for the 2018 round of data collection - UNSD (15 mins)

b) Selected SDG indicators related to the UNSD/UNEP Questionnaire – 6.3.1, 6.4.1 and 6.4.2, 11.6.1, 12.4.2 and 12.5.1 - UN Environment and UN-Habitat (15 mins) and UNSD (15 mins)

17:45 – 20:00 Reception

Thursday, 17 May 2018

09:00 – 10:30 **Environment Statistics Data Collection and Dissemination (cont.)**

c) Use of pilot questionnaires to meet demands of key users -

Electronic waste -

Summary of results of pilot testing - UNSD (15 mins)

Experience from pilot testing - Tanzania (15 mins)

Current work of the Global E-waste Statistics Partnership - United Nations University (20 mins)

d) Inventory of regular, international environmental data collection, reporting and dissemination from countries undertaken by the United Nations, its specialized agencies, intergovernmental organizations and conventions - UNSD (10 mins)

10:30 – 11:00 **Waste Statistics**

Proposal for a handbook for national waste data collection and estimation for developing countries - UNSD (15 min)

Update on UNECE Task Force on Waste Statistics - UNECE (15 mins)

11:00 – 12:00 **Environment Statistics Surveys, Administrative Data and Reporting Tools**

Use and compilation of specialized environmental surveys and reporting forms - UNSD (10 min)

Country experience in designing surveys, validating data - Suriname, Hungary

Discussion

Session Three: Climate Change Statistics

12:00 – 12:30 Global work on climate change statistics and indicators- UNSD

12:30 – 13:30 Lunch break

13:30 – 13:50 Linking climate change statistics and policy - UNFCCC

13:50 – 14:10 Recent work related to climate change statistics (temperature, emissions from agriculture) - FAO

14:10 – 14:30 Role of the NSO in reporting on climate change - Finland

14:30 – 15:00 Discussion

15:00 – 15:20 Update on UNECE work on climate change statistics - UNECE

15:20 – 15:40 Compiling a regional list of indicators in the ESCWA region - ESCWA (presented by UNSD)

15:40 – 16:00 Regional Programme on Climate Change Statistics and Indicators - ECLAC

16:00 – 16:50 Country presentations
Experience with the UNSD Pilot Survey - Jordan, Tanzania (15 mins each)
Linking the FDES and climate change statistics - Jamaica (20 mins)

16:50 – 17:30 Discussion

18:30 – 20:00 Dinner

Friday, 18 May 2018

09:00 – 10:00 **Extreme Events and Disasters**
Presentation - UN-ESCAP (remote)
Presentation - UN-ECE/Italy

10:00 – 13:00 Group work on climate change statistics and indicators

13:00 – 14:00 Lunch break

14:00 – 16:00 Roundtable briefing on group work and discussion

Session Four: Other Work in Environment Statistics

16:00 – 16:45 Any other topic/presentations
- Ocean statistics - UN Environment

16:45 – 17:00 Evaluation

17:00 Closing of the meeting

ANNEX B

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