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Item IV(c) of the Provisional Agenda

MEASURING HAZARDOUS EVENTS AND DISASTERS: PROGRESS REPORT AND PLANS TO FINALIZE THE WORK

Prepared by the Task Force

The Task Force on measuring extreme events and disasters was set up in 2015 to clarify the role of official statistics in providing data related to extreme events and disasters. This document presents the progress made by the Task Force and the plan for completion of its work. ***The Bureau approved the progress report.***

I. INTRODUCTION

1. The Bureau of the Conference of European Statisticians (CES) set up the *Task Force on measuring extreme events and disasters* in February 2015, as a follow-up to an in-depth review conducted in October 2014.

2. The main objective of the Task Force is to clarify the role of official statistics in providing data related to extreme (the term later replaced by "hazardous" - see explanation in para 15) events and disasters, and identify practical steps for national statistical offices (NSOs), in coordination with national agencies responsible for disaster management, to support disaster management and risk reduction.

3. The original mandate of the Task Force was foreseen to finish in July 2017. In February 2017 the CES Bureau extended the mandate until June 2019, with slightly revised Terms of Reference, to take into account the related international developments that influence the Task Force's work (ECE/CES/BUR/2017/FEB/8/Add.1).

4. Members of the Task Force are Armenia, Italy (chair), Mexico, Republic of Moldova, New Zealand, South Africa and Turkey, and the following international organizations: the Food and Agriculture Organization of the United Nations (FAO), the Joint Research Centre of the European Commission (JRC), the European Space Agency (ESA), Eurostat, UN Economic Commission for Latin America and the Caribbean (UN-ECLAC), UN Economic and Social Commission for Asia and the Pacific (UN-ESCAP) and its Expert Group on Disaster-related Statistics in Asia and the Pacific, the United Nations Office for Disaster Risk Reduction (UNISDR), the World Health Organization (WHO) and the World Meteorological Organization (WMO). Furthermore, the Group on Earth Observations (GEO) participates in the work of the Task Force.

5. From the start, the Task Force has cooperated closely with the Asia-Pacific Expert Group on Disaster-related Statistics (UN-ESCAP Expert Group). The UN-ESCAP Expert Group works on issues related to disaster statistics in general, not necessarily the work of statistical offices, while the UNECE Task Force focuses on the role of statistical offices in this area. The aim of the UN-ESCAP Expert Group is to improve the availability and use of a core set of statistics to support development of disaster risk reduction policies in the ESCAP region, and to monitor progress toward targets set at international level, particularly the Sendai Framework for Disaster Risk Reduction 2015-2030 (Sendai Framework)[1]. One key outcome of this group is the *Disaster-related Statistics Framework (DRSF)*[2] that provides a statistical framework and a basic range of disaster-related statistics. ESCAP adopted the DRSF in May 2018[3].

II. MAIN OUTCOMES OF THE WORK CARRIED OUT IN 2017 AND 2018

6. The Task Force reported its progress of work until end 2016 to the CES Bureau in February 2017 (ECE/CES/BUR/2017/FEB/8). The main achievements at that point in time were a review of the currently available official statistics and practices adopted by countries in statistics on hazardous events and disasters. The results, mainly based on a survey conducted in April-May 2016, clarified:

a) the current role of NSOs in this area;
b) institutional cooperation;
c) main data needs of stakeholders;
d) main challenges;
e) main data sources and data sharing;
f) existing key statistics about hazardous events and disasters, and
g) the current use of geospatial information.

7. **Contributions to OIEWG.** The Task Force provided substantive contributions to the work of the *UN Open-ended Intergovernmental Expert Working Group on indicators and terminology relating to disaster risk reduction* (OIEWG)[4]. OIEWG agreed on the set of indicators to measure global progress in the implementation of the Sendai Framework, and the related terminology, which provides an important basis for recommendations to be given to NSOs. On the suggestion of the Task Force, OEIWG included in its report to the General Assembly the recommendation to involve the statistical community in the follow-up work to operationalize the indicators of the Sendai Framework.

8. **Case studies.** The Task Force initiated several national case studies on data related to hazardous events and disasters. They are used as examples in the report to illustrate which roles NSOs can have in disaster-risk management, which statistics on hazardous events and disasters are produced and disseminated regularly, and how new data sources (such as geospatial information) can help to produce these kinds of statistics fit for purpose. Some of the case studies also discuss the regulations which give the NSO the mandate to produce these statistics and to provide data quickly for the affected area when needed in case of emergency. Case

[1] A/RES/69/283
[2] http://communities.unescap.org/asia-pacific-expert-group-disaster-related-statistics/content/drsf
[3] ESCAP/RES/74/6
[4] A/RES/69/284

studies cited in the report are from Armenia, Brazil, Italy, Ireland, Mexico, the Philippines and Turkey.

9. **Draft report and recommendations.** By end of September 2018 the draft report of the Task Force was finalised. The report will be discussed at a meeting of the Task Force on 5 October 2018 in Geneva to review the key messages and recommendations (explained in more detail in the next Section), to have a final discussion on open questions and gaps, and to review the report in terms of consistency across chapters. The Task Force agreed on a detailed plan for finalising the document by end of 2018.

10. **Coordination with other international organizations.** Other important achievements of the Task Force are the continuous coordination and communication with other international organisations (such as UNESCAP, UNSD and UNISDR). The Task Force has also organised sessions at the 2017 and 2018 *Expert Fora for producers and users of climate change-related statistics.*

11. **Contribution to the global manual of environment statistics.** Furthermore, members of the Task Force revised chapter 4.1 (Natural Extreme Events and Disasters Statistics) of the *Manual of the basic set of environment statistics* of the Framework for Development of Environment Statistics to ensure full consistency with the recommendations given by the Task Force.

12. **UN Statistical Commission.** The work of the Task Force has been recognized by the United Nations Statistical Commission (UNSC) at its 49th session in March 2018. UNSC "*welcomed a greater focus on disaster-related statistics given the importance of the Sendai Framework for Disaster-risk Reduction and requested a separate agenda item on this topic building on existing work in UNESCAP, UNECE and UNISDR*"[5].

III. KEY MESSAGES OF THE DRAFT REPORT OF THE TASK FORCE

13. The following presents the main messages of the draft report as of September 2018.

14. The Task Force has **clarified key terms** related to statistics on hazardous events and disasters. The Task Force decided to replace the term "extreme events" by "hazardous events" to be consistent with the terminology used in the *Sendai Framework for Disaster Risk Reduction,* and to avoid confusion with the terms "extreme climate events" and "extreme weather events" used in the context of climate change-related policies. Hazardous events include also regular and small-scale events which often have a bigger cumulative impact than extreme (and rare) events. "Extreme climate events" and "extreme weather events" can be seen as sub-categories of "hazardous events".

15. The work on **terminology** also clarified the semantic relationship between the terms "hazard", "hazardous event", "exposure", "resilience", "vulnerability", "impact", "disaster" and "disaster risk". This clarification is very important for both producers and users of these statistics as different expert communities defined the terms differently until now, some terms were used as synonyms, and their relationship often remained unclear.

[5] E/2018/24-E/CN.3/2018/37, 49/113(k)

16. The term “natural disaster” is not used in the context of the Sendai Framework. Most hazards, like earthquakes or cyclones, are the result of natural processes. A hazard becomes a disaster when the society is not able to cope with its consequences. Vulnerable people are at risk not simply because they are exposed to hazards but also because of a combination of variables such as poverty, education, class, gender, age, ethnicity, or disability. The term “natural disaster” can also imply that nothing can be done about these disasters. Therefore, in alignment with the UNISDR recommendations, the Task Force recommends to use the term “disasters associated to natural hazards” instead, and to refrain from using the term “natural disasters”.

17. The **scope of statistics on hazardous events and disasters** has been defined from a user perspective along the lines of the Sendai Framework for Disaster Risk Management, the Sustainable Development Goals (SDGs) and the Paris Agreement on Climate Change. The scope includes all hazards as defined in the Sendai Framework, namely geophysical hazards, hydrological hazards, meteorological hazards, climatological hazards, extra-terrestrial hazards, environment degradation, biological hazards and technological hazards.

18. The statistics on hazardous events and disasters include data on hazardous events, exposure, vulnerability, coping capacity, disaster impact and disaster risk related activities as recommended in DRSF by UNESCAP. These statistics have to be fit for operational uses in all phases of disaster-risk management, as well as for risk and post disaster assessment. Furthermore, these statistics are needed for integrated sustainable development policies such as infrastructure development or land use planning.

19. The Task Force defined the **roles of NSOs in measuring hazardous events and disasters** based on the survey among NSOs in 2016, case examples from countries, an analysis of current information needs for policies related to disaster-risk reduction, sustainable development and climate change, and the guidelines for monitoring the Sendai Framework. The roles of NSOs are defined in the following way:

a) NSOs have a role in all phases of disaster-risk management. NSOs are primarily providers of baseline data on population, housing, labour and transportation, but can also contribute to the production of specific statistics on hazardous events and disasters.

b) Taking into account the traditional strengths of NSOs within the national institutional context for disaster-risk management, the roles of NSOs can be grouped into: core roles which should be undertaken by any NSO; and expanded roles that could be incorporated into the functions and responsibilities of NSOs, and which some NSOs have already implemented.

20. The core role for measuring hazardous events and disasters reflects typical strengths of NSOs. At the national level, this includes providing baseline statistics fit for purpose for disaster risk management, providing information for disaster response (“emergency kit”), supporting the assessment of social, environmental and economic impacts, coordinating preparation for post-disaster statistics and indicators, and routine dissemination of statistics on extreme hazardous events and disasters as coordinator of the National Statistical System. At the global level, this includes coordinating information flows for international reporting requirements and ensuring the use of international quality standards and classifications for international reporting of statistics.

21. The expanded role includes additional functions that an NSO could carry out. This can include leading impact assessments, maintaining the national disaster database, coordinating geographical information services, conducting risk-assessments, or operating collaborative tools to collect information about damages. These additional functions do not apply in all national contexts and are largely dependent on the roles already assigned to other governmental agencies. These additional functions are illustrated in several national case studies in the report.

22. The report furthermore presents the **key statistical infrastructure** required for statistics related to hazardous events and disasters. It discusses infrastructure in terms of legislation, statistical frameworks and classifications, organisational structures, statistical methods and systems, quality assurance, building of knowledge and capacity, and cooperation networks. A specific emphasis is put on the importance of NSOs having a clear mandate for these kinds of statistics (through legislation and funding), geocoding of existing data collections (population grids, business register, critical infrastructure etc.). A key for immediate disaster response is a protocol that clearly defines NSO's role in case of emergency. The chapter also recommends to use the Integrated Research and Disaster Risk (IRDR) Peril Classification, augmented to address the full scope of hazards reflected in the Sendai Framework.

23. The report concludes with a set of **recommendations to NSOs** to develop the statistical capacity for measuring hazardous events and disasters. It discusses how to clarify the main objectives of the national set of statistics on hazardous events and disasters, identify the information needs, define the role of NSO, and set up the required national coordination with other stakeholders. Furthermore, the recommendations deal with identifying responsibilities within NSOs and strengthening institutional capacity and knowledge.

24. **Recommendations for further work** include:

- drafting guidelines for practical implementation of the recommendations of the report;
- further methodological work, for example, on measuring impacts of hazardous events and disasters on ecosystems and their services (this work can be linked with SDG indicators and SEEA Experimental Ecosystem Accounts);
- to efficiently pursue this work, the Task Force proposes to convene expert meetings for exchange of experience in producing, coordinating and communicating statistics on hazardous events and disasters.

IV. PLANS FOR COMPLETING THE WORK

25. The Task Force is currently working on finalising the report. The Task Force will meet on 5 October 2018 (back-to-back with the Expert Forum on Climate Change-related Statistics on 2-4 October in Geneva, Switzerland) to review the key messages of the report (scope, role of NSOs, recommendations), have a final discussion of open questions and gaps, and on recommended follow-up activities.

26. **The Task Force would like to have feedback from the CES Bureau members on finalising the recommendations to NSOs on measuring hazardous events and disasters.** The recommendations will be one of the main items for discussion at the 5 October meeting of the Task Force. Therefore, the draft recommendations will be submitted to the Bureau after the

Task Force meeting, as an Addendum to the current paper.

27. The report is planned to be completed by mid-December 2018 and be submitted to the February 2019 meeting of the CES Bureau. If the Bureau considers the report of sufficiently good quality, it will be sent for wide electronic consultation in spring 2019 with the aim to be submitted to the CES 2019 plenary session for endorsement.

28. **The Bureau is invited to comment on the progress made and on the draft Recommendations to** NSOs **on measuring hazardous events and disasters (**ECE/CES/BUR/2018/OCT/10/Add.1 – to become available on 9 October)**.**

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