



Workshop on a Regional Guide on the Production and Dissemination of Disaster-Related Statistics

Workshop Report

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Introduction

The Asia-Pacific Expert Group has developed and pilot tested in 4 countries a provisional draft for the regional disaster-related statistics framework (DRSF). At its fourth meeting in October, 2016, the Expert Group finalized a report of findings for the pilot study work and a list of core pending measurement issues or areas in need of further study towards the development of concrete recommendations for improved measurement of the underlying statistics relevant for developing improved disaster risk reduction policies and needed to calculate the agreed international indicators for monitoring implementation of the Sendai Framework (SFDRR) and Sustainable Development Goals (SDGs).

During November, the Open-Ended Intergovernmental Expert Working Group (OEIWG) on Indicators and Terminologies is scheduled to complete its work on an indicator framework for monitoring implementation of the Sendai Framework.

Participants in this workshop discussed the latest progress of work on key pending measurement issues identified at the previous Expert Group meeting in the Philippines. A series of issue papers or related supporting documents were posted on the Expert Group website to facilitated discussions during the workshop.

Outcomes of the workshop

During the workshop, experts developed a first provisional draft outline for the second version of the DRSF, which contains two main sections: Part One describing the framework and Part Two: guidelines for implementation. The draft outline was presented during side event to the 5th Committee on Statistics on Friday morning (December 16th). The Outline

(see Annex) is a provisional draft for further consultation among the broader network of experts during the first and second quarters of 2017.

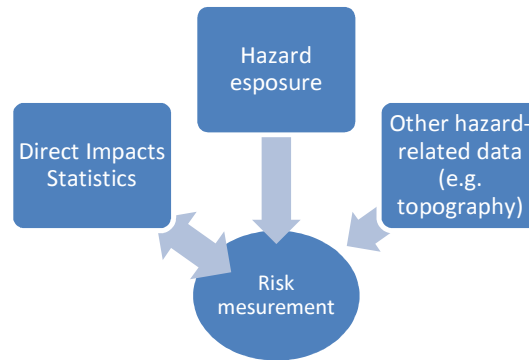
The DRSF is an extension of conventional statistics. Its purpose is to help NSOs respond to the demand of the Sendai Conference 2015 to develop statistics in support of its strategy and targets adopted by the participating countries. During a series of sessions on technical issues, participants discussed a number of challenges that they face when working with identifying key variables of disaster-related statistics, which would need further consideration by international experts in order to develop guidance. The discussions were structured around seven inter-related conceptual topics (see Workshop Agenda in Annex) that were identified during the closing session of the fourth meeting of the hosted by the Philippines Statistics Authority, October, 2016.

On the issue of climate change, there was an interest among workshop participants for investigating how to best produce statistics for measuring frequency and magnitude of climate-related disasters over time, noting that IPCC has determined it to be very likely that the recorded increases in greenhouse gases will lead to increased frequency, intensity and unpredictability of natural hazards. In collaboration with knowledgeable experts from other agencies, e.g. the Intergovernmental Panel on Climate Change (IPCC), it would be possible to utilize some assumptions for a simple yet still analytically useful and interesting definition for climate-related disasters. These disasters, formed as a subset of natural hazards, could be monitored for frequency and magnitude over time.

Experts noted that the method for approximating magnitude of disasters in relation to climate change analyses requires some careful thought and investigation into the potential methods. In preceding research, disaster impacts magnitude is often measured using a simple proxy measure of human impacts – such as number of deaths or another general indicator of the extent of effects from the point of view of society. However, for assessing magnitude in relation to climate, other sources of information and scientific data related to thresholds of typical magnitude for natural hazards may be investigated. It could be interesting to include monitoring of climate data (e.g. rainfall). Further study of key references (e.g. IPCC or World Meteorological Organization guidance) and current practices in countries should be compiled and studied in order to develop some more specific advice for measuring risk in relation to climate change.

Risk measurement contains many variables that are closely related with the direct impact statistics – i.e. economic loss, affected population. Thus, direct impact statistics have dual important purposes in the DRSF: for monitoring the target indicators developed by the Open Ended Intergovernmental Expert Working Group (OIEWG) for the Sendai Framework and SDGs (number of deaths, amount of economic loss, etc.) over time and also for develop measures of risk (e.g. using probabilistic models) to help governments to manage and through developing and promoting evidence-based policies for all related matters (such as land management or social welfare programmes) that complement the goal of minimizing risks and building resilience.

Direct impact statistics feed back into risk measurement as one of the variables, as described below.



Probabilistic model by hazard type

The inaRISK website, under development by BNPB-Indonesia, with support from UNDP especially geospatial data services (GIS services), was presented and participants expressed interest to develop a similar information system on risk for their countries. Thus, a potential component of the Expert Group's work could be to document good practice methodologies currently in use (e.g. in Indonesia). Since most of the methodological descriptions from the Indonesia example are in Indonesian language (Bahasa), the secretariat should help facilitate translations and dissemination of summary descriptions of the underlying methodological solutions utilized for inaRISK.

Vulnerability is a concept used in the context of this workshop to describe the "vulnerable groups", i.e. those segments of the populations facing special challenges in relation to their capacity to anticipate, cope with, resist and recover from the impact of natural hazards. Both the magnitude and length of period for significant effects of disaster can be influenced by the factors of vulnerability, e.g. poverty or other factors affecting coping capacities.

It was noted that the environment perspective is lacking in the draft issue paper on vulnerability and further discussion among experts from disaster risk reduction and environment protection is needed to grasp the conceptual relationships and also practical data needs. A number of relevant conceptual models already exist in the literature relating environmental challenges with poverty that can be utilized and referenced in the DRSF to avoid duplication and to enhance coordination with current initiatives such as the UNEP and UNEP Poverty and Environment Initiative.

When discussing vulnerability, experts advised the group also to consider resilience as a complementary concept. Also, vulnerability is recognized in many of the conceptual frameworks as one of the core components of risks (equation below). It's important to avoid terminological confusion in the DRSF – but useful to give a clear description of the generally accepted key components of risk and associated measurement needs. For example, workshop participants advised that sometimes V and C in the below equation may overlap, correlate or be confused. In principle C represents coping capacities of the population, and could include,

for example, warning systems or other preparations in place prior to a disaster that could result in fewer casualties.

$$R = V*H/C$$

A number of sources can be referenced for this equation (or similar, frameworks for defining risk), among them Indonesia's risk assessment methodological report: "Risiko Bencana Indonesia" (RBI). The workshop agreed that all of the conceptual elements in this equation are important to measure for a comprehensive DRSF.

After discussing the topic of direct economic loss measurement, participants advised to prepare a description of the options for valuation of direct economic loss and scenarios where each option would be most applicable (or not applicable). It's also important to clarify the relationships between valuation methods that have been proposed for economic loss measurement to existing statistical standards, particularly the SNA. Valuation options to be included in these descriptions for the DRSF Guideline are: Unit cost method, NPV, replacement costs (market value).

Regarding the unit cost method, there was a proposal for the Expert Group to investigate developing recommendations for producing unit cost at national or regional level as a reference to assist producers of the statistics (national disaster management agencies).

Besides monetary valuation, the Expert group should continue to review and develop the options for measurement units for statistics on direct impacts to assets in "physical terms". Participants recommended to create a technical sub-working group of the Expert Group to examine the draft "menu" of measurement unit options and develop a strategy for developing more concrete recommendation. It was further acknowledged that, at present, measurement units for assessing direct impacts of disasters vary greatly across countries.

The workshop was informed about the conclusion of OEIWGs was presented by officials from the group's secretariat: UNISDR. With adoption new indicators, there is a need to study and identify gaps in statistical guidance for improving availability and quality of underlying statistics.

UNISDR will launch a global data readiness survey and also is launching a global partnership, involving ESCAP and ECE Expert groups on disaster-related statistics. The workshop noted importance of continuing to carefully review the outcomes of the OEIWG, particularly the recommendations on indicators, and to participate in and study results from the data readiness survey to help guide the ongoing work to develop the DRSF and attached guidance as a methodological reference tool for use across agencies involved in production of official statistics related to disasters.

Work plan and way forward

Participants at the workshop discussed that by September, 2017 a revised draft of the Disaster Related Statics Framework (DRSF – Part I, should be prepared for review along with a revised outline for the Guideline (DRSF Part II). Review of the drafts and related documents will be conducted via the Expert Group website, as usualy, but also should be posted in advance for in-person discussions at the 5th Expert Group Meeting, scheduled for the 2 or 3rd quarter of 2017 and also for review at the 5th Committee on Disaster Risk Reduction (September, 2017).

The discussions at this workshop helped to identify a number of important and new references related to measurement guidance, frameworks for Disaster Risk Reduction (DRR) information management and other studies of relevance. Also, participants advised that one of the key potential sources of value added for the DRSF is to address gaps in current methodological guidance. Therefore the introduction chapter should include stock-taking of current guidance. Thus, as a first step to drafting a stock-taking section in the DRSF, the Secretariat should compile an bibliography for sharing (e.g. on the website) key references for DRSF development.

Workshop participants advised that work on the DRSF prioritize gap areas, i.e. those areas of statistical methodology that have not already been documented in other references for use for producing official statistics. As part of its work to finalize the DRSF, the Expert Group should map the components of DRSF recommendations to relevant OEIWG Indicators their data requirements.

Discussions on valuation of economic loss, relationships with national accounts and the development of a disaster risk reduction satellite account (see Annex) focussed on the need for further pilot studies and documentation of proposals and best practices for the DRSF. Volunteers are sought among Expert Group members or other partners to conduct case study compilations and to help advise the Expert Group on developing recommendations for these issues.

Workshop participants reviewed a draft questionnaire designed to compile information on current practices and experiences with respect to the pending conceptual and methodological issues for the DRSF identified during the 4th Expert Group Meeting in October, 2016. Discussions focussed on the need for coordination of the questionnaire with the UNISDR's Data Readiness Assessment (announced by UNISDR headquarters via online participation conference on December 15th). To avoid duplication or overburden of questionnaires, the secretariat (ESCAP) will further review and revise the questionnaire and develop the design towards a complementary exercise with the UNISDR Data Readiness Assessment, e.g. perhaps to be conducted following the completing of the Assessment as follow-up study.

In regards to reviewing a plan for the draft questionnaire and other follow-up actions, it is important to acknowledge that several important issues for the DRSF are still in need of further research and compilations of current practice in order to develop methodological guidance. An example is the need to develop methodology for capturing the risk from slow onset disasters (slowly evolving catastrophic risks). Referring to the list of conceptual issues

(and volunteers work on each topic) identified at the closing of the Fourth Expert Group Meeting, one potential way forward could be to ask Expert Group members that volunteered to take a lead role in presenting some concrete recommendations on each respective topic at the next meeting of the Expert Group, which will be organized in the 3rd quarter of 2017. The DRSF will also contain a research agenda, following the standard practice in other recommendations from the UN Statistics Commission on measurement topics requiring further experimentations.

Several important new references were identified during the workshop discussions, among them the Risk vulnerability assessment guidelines for ASEAN developed by the Pacific Disaster Centre. The Secretariat to continue to compile and organized list of key references for disaster statistics methodology in order to help the Expert Group to identify the crucial gaps in existing guidance and focus on those areas where DRSF guidance material can provide the greatest value added.

Annexes

Annex 1: Draft Outline for DRSF

Part I: Disaster-related Statistics Framework

1. Scope of disaster-related statistics
 - A. Coverage of DRSF - gaps from existing guidelines (from other references)
 - B. The need, objectives of Guideline
 - C. Stock-taking & relationships with other international statistical activities
 - ➔ address gaps, if we repeat, just refer to this
2. Main concepts and related frameworks
 - A. Identifying and counting disaster occurrences and magnitude
 - B. Risk and hazard exposure
 - C. Direct and indirect impacts (general discussion is need)
 - D. Characteristic risk reduction activities
 - ➔ there's gap in DRR and statistics community, define the purpose of measurement
3. Statistical Units & classifications
 - A. Hazard categories
 - B. Affected population
 - C. Direct material impacts
 - D. Disaster risk reduction characteristic activities (DRRCA)

Part II: Guidelines for implementation

4. Strategy for Data Collection
 - A. Institutional arrangements, Coordination mechanisms

B. Prioritization

5. DRSF Data Items

- A. Collection and compilation of data items
- B. Affected population
- C. Direct impacts in physical terms
- D. Disaster Risk reduction activities

6. Data sources: There are so many data that are not harmonized, don't follow the concepts defined in section 2

- A. Admin sources
- B. Survey data
- C. Monitoring data and remote sensing
- D. Research data and alternative sources (big data)

7. Dissemination

- A. Principles for statistics dissemination
- B. Comparability and importance of metadata

8. Research Agenda

9. Annex of references, links to good practices etc

Annex 2 –Workshop reflections on technical matters

Population data

There is a strong importance of population data for producing disaster-related statistics. During a workshop session organized as a side-event for the 5th ESCAP Committee on Statistics, panellists emphasized the need for statistics offices to understand the needs from the population census in order to contribute to improved information on disaster risk and on impacts.

Government administrative data are useful for the same reasons, however use of administrative data: limitations from civil registration – particularly people not actually living where they are registered. The workshop also held extensive discussions on utilizing data from census or household survey in combination with sources to produce indicators on risk, including dynamics of risk over time.

Assessing population exposure to natural hazards and vulnerability requires details in terms of localization and social groups. In particular, the implementation of DRSF calls for access to Population census data at the lowest possible scale, ideally primary sampling units. Combining such statistics with other sources such as high resolution satellite imagery allows producing relevant data of population living in exposed areas. Cross analyzing exposure and various population grouping (gender, age, health status, income...) allows better analysis of vulnerability. Regarding data collection, DRSF requirements meet current evolutions, for example the use of GPS to georeference households surveyed in censuses. Regarding data dissemination, NSO are giving extensive public access to their databases, some of them well advanced in that way.

The descriptions of current practices for Indonesia and in other Expert Group members can be gathered for developing the DRSF Guidelines and should include the approaches to combining population data with measures of hazard exposure (hazard maps), which tend to be probabilistic formula using data on past hazards and other risk factors such as topographic information (relief, distance from river, height above sea level, etc.) – currently, practices related to hazard exposure information vary across countries and standard approaches (if available) should be documented for the DRSF.

Another element for assessing exposure of population is merging population (i.e. census) data with the hazard maps. Workshop discussed proposed plan for publishing a methodology developed through the pilot studies, which uses a model to integrate population data with statistics produced via remote sensing. The Secretariat will work with BDPM and BPS-Indonesia to prepare a joint paper describing the methodology with sample outputs so that other governments can adapt a similar approach using population census data for their countries.

The workshop noted that terminologies related to risk (e.g. exposure, coping capacity, vulnerability etc.) may vary. Thus it is important for DRSF to clearly define its terms, with coherence, as much as possible, to the OEIWG Outcomes.

Economic statistics and national accounts

For appraising their importance, economic assessments of disasters impacts need to be compared to the mainstream economic statistics and in particular the national accounts (UN System of National Accounts 2008). Two points are crucial in this context: classification and valuation rules. Losses of economic assets and related activities and goods and services are classified according to standard economic classifications. DRSF categories of critical infrastructures (such as schools, hospitals, energy facilities or transport networks) are recorded as subsets of these general classifications.

Regarding valuation, methodologies need be defined in an explicit way regarding scope and purposes, with distinction between what relates to past and (near) present time as recorded by statistics and valuation of future benefits. The SNA provides rules for valuing production which can be used for crops, housing services and critical services.

Regarding assets losses, clarification of the current SNA rule is needed. Assets losses due to disasters are not recorded as regular transaction flows but as an adjustment at the bottom of the accounts' sequence, in the Balance sheet item "*other changes in the volume of assets*" / "*catastrophic losses*" (SNA 2008, para 12.46). Consequently, they are not reflected as negative items in the GDP calculation, nor in net formation of capital or net savings. Only losses of production will be observed. This limitation is due to the basic distinction in national accounts between transaction flows and other flows. Another convention of the SNA seems to worsen the presentation of disasters' impacts. It relates to the recording of work in progress: in the case of buildings, infrastructures or aircrafts which construction is spanning over several years, the production is not recorded at the date of the delivery (as it is for current goods) but according to the progress of the work. By analogy, the same rule is used for forest plantations and livestock which are recorded as production in relation to their (natural) growth. It may result in very paradoxical result on GDP of countries facing important losses of living natural resources. For example, very extreme cold and long period took place recently in Mongolia, named dzud or dzüüd. It resulted in the loss of more than 50% of the livestock and a migration

herders with significant changes to the structure of employment in the country. The subsequent progressive recovery of the livestock is (will be) recorded in national accounts as “*work in progress*” and therefore as GDP and Income, just at the time when herders’ disposable income is at the lowest. In this case, the development of DRSF will generate demand for clarification in the SNA rules.

Environmental statistics and accounts

The Framework for the Development of Environmental Statistics (FDES 2013) includes a “*Sub-component 4.1: Natural Extreme Events and Disasters*” and a “*Sub-component 6.3: Extreme Event Preparedness and Disaster Management*”. They are core statistics which are detailed further on in DRSF.

The sub-component 6.3 corresponds to the scope an environment satellite account covering “*Environmental protection and resource management expenditure, environmental regulation, both direct and via market instruments, disaster preparedness, environmental perception, awareness and engagement of the society*”. Satellite accounts are extensions of the SNA aimed at providing more detailed and specific information on domains such as education, health, tourism or environment. They involve “some rearrangement of central classifications and the possible introduction of complementary elements” (SNA Chapter 29, para 29.4). The System of Environmental-Economic Accounting 2012—Central Framework (SEEA-CF) includes as well a chapter on Environmental activity accounts and related flows which corresponds to what the SNA calls satellite account (SEEA-CF “*4.3 Environmental activity accounts and statistics/ 4.3.2 Environmental protection expenditure accounts*”). Satellite accounts include for a given domain all expenditure, current and in capital, by all economic sectors (Enterprises (incl. insurance), households, central, regional and local government and NGOs) as well as transfers from/to the Rest of the World.

DRSF includes a Disaster Risk Reduction Expenditure account with a set of accounting tables and an annotated classification (under development) of Disaster Risk Reduction Characteristic Activities and Transfers. Disaster risk reduction characteristic activities include:

Risk Prevention, Risk Reduction, Disaster Management, Disaster Recovery and General Government, Research & Development, Education. Disaster risk reduction characteristic transfers include Internal transfers between public government services, Risk transfers, insurance premiums and indemnities, Disaster related international transfers and Other transfers. DRR National Expenditure, the main aggregate of the account can be compared to National Expenditure in other domains such as Education or Health as well as to GDP.

Vulnerability

Ongoing research conducted by the German Institute for Economic Research (DIW-Berlin) continues to influence considerations for utilizing disaster related data for understanding vulnerability, including from the perspective of environmental vulnerability. Analytical studies, like the recent publications from DIW-Berlin should be utilized to help producers of statistics understand and prioritize the needs for data collections both for identifying vulnerable groups and for assessing new or intensified vulnerabilities created after a disaster

There are special risks for small islands developing states (SIDS) and many SIDS are highly exposed to additional risk from sea level rise. However, statistics for monitoring these risks are not yet well developed for decision-making in these countries.

A number of characteristics of vulnerable groups were discussed and confirmed based on the draft issue paper circulated prior to the workshop.¹ An additional variable identified and proposed through the discussions was persons with long term health issues (e.g. people requiring regular medication).

In addition to vulnerability of population, there are also vulnerable environments and when in relatively good condition, natural environment is important for the resilience of communities against natural hazards. The workshop benefitted from presentations by experts from the United Nations Environment Programme (UNEP) on current frameworks utilized for understanding relationships between poverty and the environment. The concepts of vulnerability and resilience should be in the DRSF in order to describe the relationships to a basic range of disaster-related statistics, including relationships to measuring risk and also understanding how disasters can also increase or create new vulnerabilities.

Big data

The Secretariat introduced plans for a project, in collaboration with the Statistics Institute of Republic of Korea, to produce a case study on use of big data for disaster statistics, in context of SDG Indicators, and develop case studies into tools, applications or workflows that could be applied directly by statistics offices for reproducing similar outputs using big data from their countries.

Workshop participants emphasized the need to find complementary relationship with potential data sources (e.g. private companies) to create incentives for sharing data and methods for doing so without affecting confidentiality of their data.

Satellite data is an important source of data for disasters – often the best satellite images for assessing disasters is preventatively costly – but during emergency periods, agencies can often get the best satellite data donated for free.

Intra-governmental coordination

It could be useful for producers of basic data related to disasters for a clear demarcation of responsibilities among agencies at the national and sub-national levels. After a disaster, support is usually provided from the national (and international) down to local levels in affected areas. At the national level, usually each agency will have their own questions for the data producers. For example, the Ministry of Agriculture will have questions such as: what crops were lost? How much was lost? How many farmers are affected? A basic range of disaster-related statistics should be built upon the fundamental questions for disaster

¹ <http://communities.unescap.org/asia-pacific-expert-group-disaster-related-statistics/content/current-activities>

recovery and risk reduction, which are cross-sectoral and ultimately should be mainstreamed as part of core policies across the government towards more resilient societies.

Statistics offices need to retain their vitally important confidentiality standards while also meeting the special needs for disaster response and for measuring risks. Also the framework should consider recommendations for managing statistics for cases affecting multiple administrative regions (including across national borders).

There is a need for data both for rapid assessment and for producing long-term statistics and indicators. Rapid assessments during emergency period, in the past, has not been part of regular official statistics systems. Therefore, it is important the DRSF is able to describe and be useful for both cases and to help make the maximum and most efficient use of data that are already collected by government agencies. Governments need evidence not only to react in an emergency but also to justify their pre-emergency risk reduction expenditures. Currently evidence base for the latter purpose tends to be lacking in most countries.

Direct Economic Loss

The distinction between direct and indirect impacts is conceptually important but, in practice, there will be some cases on the boundary – e.g. impacts to schools and roads or hospital closures. Sometimes, measurement of In-direct impacts can be used as proxies-eg. impacts to government income (e.g. taxes) for evaluating direct impact. When producing metrics for assessing either direct or indirect losses, it's useful to keep in mind the final purpose for the data, because the specifications of the demand may vary. For example, demands for statistics for monitoring a broad aggregated indicator at the national level will be different as compared to producing statistics for a more detailed study following a specific disaster occurrence or as part of an exercise to update disaster risk assessments. The goal for DRSF should be to support development of multi-purpose data collections.

Post disaster impacts (or needs) assessments can benefit greatly from better baseline statistics on risk, and also risk measurement could benefit from the outputs of the assessments. Thus there is an important opportunity to improve the evidence base for measuring risk and for calculating economic loss indicators through an improved integration of methodologies used on a continuous basis by disaster management agencies with the *ad hoc* post disaster assessment studies that are commonly conducted after large-scale events.

Furthermore, research practices by large international insurance companies (e.g. Munich-RE), could be sought out for advice on valuation methodologies for economic loss and/or economic value of risk.

As mentioned above, workshop participants discussed the need for continued investigations and further discussions on the issue of measurement units (e.g. number of buildings, km of roads, etc.) for more harmonized statistics on direct impacts from disaster.

Participants discussed 2 key example cases:

- Roads: the obvious preferred unit is kilometre, but there is also a need to consider volume of traffic, if possible (e.g. average number of commuters affected)
- Hospitals: may be possible to utilize an internationally comparable classification of hospital types (e.g. tier I – to tier III hospitals)
 - For government hospitals, data are available in some cases (e.g. Thailand) on capacities or number of admitted patients

A general problem for measuring material impacts is data are more often available and more likely to be of higher quality (for producing comparable analyses) for public (government-owned) infrastructure and far more limited for private buildings.

This issue also has a secondary dimension, which is the distinction between relatively minor damages versus destroyed properties. Measurement units need to take into account whether it is counting the extent of damage. Measuring damages in area (e.g. square meters or km) has this advantage of being a more direct indication of actual impacts. But these quantifications may also be more difficult to measure, e.g. in the case of buildings.

Annex 3 – Agenda

Provisional Agenda

<i>Thursday, 15 December 9:00-10:40</i>	1. Participation at Committee on Statistics (Conference Room 3) for Agenda Item 3(c): Disaster-related Statistics
<i>10:40-10:55</i>	<i>Morning Break (Move to Meeting Room D)</i>
<i>10:55-11:25</i>	2. Introduction to Expert Group Work Plan and Status of Work
<i>11:25-12:00</i>	3. Disaster Risk Measurement and Climate Change
<i>12:00-13:30</i>	<i>Lunch Break (ESCAP Statistical Database Launch Event)</i>
<i>13:30-14:15</i>	4. Economic Loss -Presentation of Draft Issue Paper 1
<i>14:15-15:15</i>	5. Hazard Exposure and the GIS Platform -Preview of Indonesia inaRISK Website -Proposal for ESCAP/Indonesia Collaboration on Population-Hazard Exposure Methodology
<i>15:15-15:45</i>	6. Big Data and official statistics for disasters -Presentation by Secretariat
<i>15:45 -16:00</i>	<i>Afternoon Break</i>
<i>16:00-17:00</i>	7. Vulnerable Groups and Disaster Statistics -Presentation of Draft Issue Paper 2 -Presentation from UNEP on Poverty and Environment Frameworks -Research on Disaster-related Statistics and Vulnerability by the German Institute for Economic Research
<i>17:00-17:50</i>	8. UNISDR Briefing on Outcomes of OEIWG on Terminology and Indicators

Provisional Agenda (Con't)

Friday, 16 December

9:00-10:15	9. Panel Discussion on the Needs and Expectations for International Guidelines for Disaster-related Statistics (Committee on Statistics Side-Event, Conference Room 3)	
10:15-10:30	<i>Morning Break (Move to Meeting Room D)</i>	
10:30-11:15	10. Direct Material Impacts Measurement Units -Presentation of Draft Measurement Units "Menu"	
11:15-12:00	11. DRR Expenditure Accounting -Discussion on Way forward for Pilot Testing	
12:00-1:30	<i>Lunch Break</i>	
13:30-14:15	12. Review of Draft Outline for DRSF-Guideline	
14:15-15:00	13. Draft Expert Group Survey of Current Practices for Pending Special Issue for DRSF Development	
15:00-15:30	<i>Afternoon break</i>	
15:30-16:00	14. Review of Workshop Outcomes and Way forward/Work Plan	
16:00-16:30	15. Concluding Remarks	<ul style="list-style-type: none"> • Concluding Remarks by Expert Group Chairs and Co-Chairs