IMPLEMENTATION OF GUIDANCE ON SHARING LOSS DATA AMONG EU COUNTRIES AND COHERENCE WITH THE SENDAI FRAMEWORK FOR DISASTER RISK REDUCTION

Sixth technical workshop on an EU approach for recording damage and loss data

Joint Research Centre of the European Commission, Ispra, Italy,
21-22 October 2015

MINUTES

Participants

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- *Thomas de Lannoy, European Commission, DG ECHO*
- *Julio Serje, UNISDR, Geneva*
- *Catherine Gamper, OECD, Paris*
- *Tom De Groeve, DG JRC*
- *Daniele Ehrlich, DG JRC*
- *Christina Corbane, DG JRC*
- *Karmen Poljansek, DG JRC*
- *Chiara Proietti, DG JRC*
- *Robert Tomas, DG JRC*
- *Maureen Wood, DG JRC*
- *Lorenzo Alfieri, DG JRC*
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- *Sergio Castellari, EEA*
- *Sisi Zlatanova, IRDR, Netherlands*
- *Roberta Onori, Italian Civil Protection Department, Italy*
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- *Grzegorz Malachowski, Ministry of Administration and Digitization, The Department of Disaster*
- *Prevention and Recovery and Crisis Management, Poland*
- *Scira Menoni, Politecnico di Milano, Italy*
- *Jaroslav Mysiak, FEEM, Italy*
- *Almudena Bustamante Gil, Procivil, Spain*
- *Annegret Thieken, Universität Potsdam; Institut für Erd- und Umweltwissenschaften; Germany*
- *Karoline Sjolander, Swedish Civil Contingencies Agency (MSB), Natural Hazards and Critical Infrastructure Protection, Sweden*
- *Elsa Rotschild, AFPCN, France*
- *Roland Nussbaum, MNR, France*
- *Andreas Antonakos, Department of Natural Disasters Planning, Prevention and Response/ Emergency Planning and Response Directorate , General Secretariat for Civil Protection, Greece*
- *Xavier Romão, Faculdade de Engenharia da Universidade do Porto, Portugal*
- *Esmeralda Vila Pouca, Faculdade de Engenharia da Universidade do Porto, Portugal*
- *Rudolf Schmidt, Federal Ministry of Agriculture, Forestry, Environment and Water Management, Austria*
- *Mariano Garcia-Fernandez, Institute of Geosciences (CSIC,UCM), MNCN location, Spain*
- *Javier Fernández Fraile, National Center for Geographic Information, Spain*
- *Marco Massabo, CIMA Foundation, Italy*

Agenda

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Wednesday 21 October 2015

9:00   Introduction and welcome (DG ECHO, JRC)

9:30 – 12:30   **Review of loss data of 8 countries provided according to guidance**

9:30 Status of EU loss data: progress, challenges and next steps	*JRC*
10:00 Experience from Member States on sharing existing data according to the guidance	*10' presentation by all MS that provided data*
11:45 Introducing the INSPIRE pilot project	*JRC*
12:00 Discussion on common challenges in the implementation of the EU guidance and on implementing an INSPIRE-compliant disaster loss data sharing mechanism	*All*

14:00 – 18:00   **Beyond minimum requirements**

14:00 Disaster Risk Management Knowledge Centre: addressing mid-term challenges	*JRC: Tom De Groeve*
14:30 Quantifying indirect economic loss	*FEEM: Jaroslav Mysiak OECD: Catherine Gamper*
15:30 Standard EU form for event-based loss data collection	*IT/ ES: Scira Menoni/Mariano Garcia*
16:30 Tools and methods for loss data collection	*Italy, Germany, Greece, Spain, Denmark, Poland*
17:30 2016 work plan for the EU Loss and Damage Data Working Group	*All*

Thursday 22 October 2015

9:00 – 10:30   **Technical feedback on Sendai indicators**

9:00 Status of UNISDR Open-ended Intergovernmental Working Group on terminology and indicators	*JRC, on critical topics*
9:30 Feedback from other fora (including OECD, UNECE, IRDR, EFDRR)	*OECD: Catherine Gamper UNECE: Tom De Groeve IRDR: Sisi Zlatanova EFDRR: Thomas de Lannoy*

10:45 – 12:30   **Technical discussion of targets A-D**

10: 45 Technical discussion of target A-D (Extending scope to man-made and biological hazards)	*All*

Lunch

14:00 – 15:30   **Technical discussion of targets A-D (cont'd)**

14:00 Status of UNISDR Open-ended Intergovernmental Working Group on terminology and indicators: Proposal for a Methodology and Indicators to Estimate Economic Losses from Disasters to Measure the Achievement of Target C	*UNISDR (Julio Serje)*
14:30 Technical discussion of target A-D (Technical discussion on killed, affected people, direct economic loss, and damage to critical infrastructure and disruption of basic services)	*All*

15:30 – 16:00   **Wrap-up**

16:00 End of meeting

Objective of the workshop and summary of key conclusions

The sixth meeting of the EU expert working group on disaster damage and loss data focused on:

- Reviewing progress on implementation of the EU guidance on disaster loss data sharing.
- Reviewing the guidance on recording disaster loss data in light of the Sendai Framework for Disaster Risk Reduction.
- Beyond minimum requirements: quantifying indirect economic loss and exploring the state of the art of recording loss data at local level (data collection forms)

The workshop gathered more than 30 experts from Member states and international organisations. It follows on the success of previous meetings since 2013, ascertaining the commitment of the expert working group towards addressing the challenges set forward by the new Union Civil Protection Legislation and the recently adopted Sendai Framework for Disaster Risk Reduction.

The first part of the meeting was dedicated to the review of the loss data of 8 countries provided according to the recent "Guidance for Recording and Sharing Disaster Damage and Loss Data" carried out in the framework of the EU expert working group. The discussion on the guidance was framed within the context of the European and international initiatives related to risk prevention and management, namely the EU civil protection mechanism and the Sendai Framework for DRR. The compliance of the existing tools and platform with EU standards like the INSPIRE directive and the compatibility with the Flood directive as well as the on-going efforts for building a European flood impact database were also discussed. Operative models and tools for assessing the economic losses including direct and indirect losses were presented. Some gaps and missing data were highlighted and are due to the variety in national actors in charge of data loss recording. Finally the group discussed the ways the European Commission can assist Member States through the Disaster Risk Management Knowledge Centre to improve the compatibility of the national databases to European and international initiatives.

The second part of the meeting aimed at discussing the proposed Sendai indicators, for measuring the progress towards global targets, taking into account the current practices of the EU national loss databases. The Hazard classification available from UNISDR and currently discussed within the UNISDR Open Ended Intergovernmental Expert Working Group has been presented and discussed with all the participants. Challenges related to collecting and recording losses associated with socio-natural hazards and hazards of social origin were highlighted. A proposal to exclude some specific hazards types (e.g. terrorist attacks, traffic accidents, conflicts, cancer, flu) from the monitoring and reporting framework of SFDRR was put forward. Despite being assessed in a large number of National Risk Assessments, it was proposed to exclude them from SFDRR as they are addressed by other international agreements and frameworks.

The workshop participants agreed to take further this work with the following actions:

- To work together towards the finalization of operational indicators to translate the Sendai Framework into action;
- To update the comparative analysis about EU National database and Sendai targets A-D, providing also information about the different national actors in charge of collecting data for different Indicators (including biological and technological hazards);
- To continue sharing damage and loss data on the minimum requirements, using the common data exchange format proposed in the guidance;
- To start to implement the platform for flood event and loss data recording INSPIRE compliant through pilot projects;

- To prepare the next meeting of the working group which will address the implementation of targets and indicators for SFDRR at EU and national level (March/April 2016).

The workshop outcomes will be shared with Member State experts attending the Open-ended Intergovernmental Expert Working Group.

Key actions:

- WG is invited to share feedback on UNISDR methodology to estimate direct economic losses (**deadline 30 October 2015**).
- WG is invited to share feedback on definition of Sendai indicators (**deadline 15 November 2015**).
- JRC invites MSs to review and update the comparative analysis about EU National database and Sendai targets A-D, providing also information about the different national actors in charge of collecting data for different Indicators, notably on biological and technological hazards (**deadline: 15 November 2015**).

1   Introduction

- Tom De Groeve (JRC) opened the workshop underlining the continuous interest from MS in the loss data project. The conceptual framework of loss data recording was presented in the context of the Sendai framework for Disaster Risk Reduction. He recognized the importance of new MSs attending the workshop, in order to improve the EU common framework on loss data recording and sharing, on the light of the recent "Guidance for Recording and Sharing Disaster Damage and Loss Data" carried out in the framework of the EU expert working group (De Groeve et al., 2015). The expected outcomes for the working group are: (i) the good understanding of available loss data in EU Member States, and their compatibility with Sendai requirements; (ii) understanding of relevant ongoing work (OECD, IRDR, UNECE, SDG, etc.) and scientific developments (economic loss, data collection); (iii) exchange of views on Sendai Framework targets, indicators and the Hazard Classification proposed by JRC and UNISDR.

- Andrew Bower (DG ECHO) reminded the policy background of the Union civil protection legislation (Decision on a Union Civil Protection Mechanism) and the next deadlines related to Risk Management by MSs: (i) National Risk Assessments – DDL 22.12.2015; (ii) Risk Management Capability Assessment – DDL 08.2018. He recognized the importance of loss data recording and sharing due to the increased frequency and severity of disaster. Loss data are important for evidence-based decision making, to support the economic need/opportunity to invest in DRM. He underlined the EU policies linked to DRM and based on loss data recording:
  - Solidarity Fund
  - Structural and Investment Funds
  - Increased use of disaster insurance policies (Green Paper 2013)
  - EU Climate Change Adaptation Strategy - 20% EU Budget for climate change
  - Floods, Seveso, INSPIRE Directives.

- Thomas de Lannoy (ECHO) presented the most relevant outcomes of the SFDRR, focusing on the 4 priorities for action from local to global dimension (in line with the Expert Group which involves participants from different institutional and administrative level) and the related 7

global targets. The Commission underlined the importance of providing coherent input to discussions on indicators supporting implementation of the Sendai targets and the Sustainable Development Goals. (SDGs). The work can also be linked to the work programme of the Executive Committee of the Warsaw international mechanism for loss and damage, associated with Climate Change impact. All the outcomes of the workshop will be part of the EU contribution on the definition of Sendai indicators to translate the Sendai Framework into action.

The Disaster Risk Management Knowledge Centre was introduced; discussions centred on the role of the DRMKC technical support service for the recording of damage and loss data (i.e. expert contracts, workshops) – the initiative was overall very well received. Relevant projects to DRMKC were mentioned such as projects Know4DRR and Placard.

2 EU common Framework on Disaster Damage and Loss Data Recording

- Christina Corbane (JRC) presented the status of the implementation of guidance on sharing loss data among EU countries, prepared in consultation with MSs. Considerations based on a coherent reporting sheet among the 8 countries were discussed. In summary:
  - In all the national databases the events are recorded at NUTS3 location;
  - Some required fields were empty some national databases, in particular the fields regarding direct losses and houses damaged;
  - Flood is the only hazard covered by all countries.
  - In some databases, there are many records with no recorded impacts, due to the absence of thresholds for the inclusion of the event;
  - Direct economic losses sometimes correspond to the private compensation for insured losses (e.g. Finland, France): partial information on economic losses

  Main challenges emerging from applying the EU guidance:

  - Disturbances in societal functions: (e.g. road, railway closures) deserve to be added to the minimum requirements (most common impact in Sweden);
  - Disturbances in electricity supply and households without electricity to be considered as direct or indirect impacts?
  - Weighting "Directly affected people": e.g. how is 20 evacuated homes relate to 300 000 distant households without electricity?
  - The problem of affecting losses to multi-hazard events.

- Following the preliminary analyses of the EU common databases performed by JRC, the MSs shared some thoughts on the existing differences on national disaster damage and loss database and methodologies for data recording:
  - Czech Republic: missing people are not counted, as the event is recorded at the end. The positioning system of the event is related only to the triggering point, so not all the NUTS affected by the event are recorded in the database. There are two different approaches for NUTS classification in the Czech Republic which required some extra effort to report the losses using the common reporting sheet.

- Sweden: database based on lesson learnt, so all the events with high social effect are included (e.g. railway closures). No missing people. No severity level. Natural and man-made hazards are included. It is not clear whether isolated people need to be considered as directly or indirectly affected? Sweden implemented the pedigree score for reporting on the quality of loss data; however this was not done in a systematic way. A national fund has been devoted to update the national loss database. Sweden wishes to build a more systematic all-hazard database.

- France: the database is compiled from three from different sources: the ministry of ecology, sustainable development and energy (Directorate General for Major Risks), CCR and Mission Risques Naturels (representing the French direct insurance companies') (It concerns only major disaster events which caused at least :
    - 3 millions euros of direct losses;
    - and / or 1 people reported killed.

  The database provides essentially data about the number of deaths and the amount of direct insured losses. The main challenge is to agree on a rule of affecting loss data to multi- hazard events for national statistics per hazards to be consistent.

- Austria: the source for loss data is the Federal Agency for Avalanche. It's a disaster documentation without any information on direct economic losses. No national platform for collecting data exists, there are provincial database that are not public because they are used to request funds. It is a political will to have a nation-wide disaster loss database.

- Italy: the Italian Civil Protection Department is developing a platform according to Flood Directive (FloodCat) to collect flood events (both spatially and with description of scenario and effects) at different administrative levels (national and regional). The deadline of the directive is 2017. Quantitative losses are not mandatory fields. For compensation requests after a State of Emergency, loss data are collected at different administrative levels (regional authorities collect all the loss data from the affected municipalities and the regions provide to the Civil Protection national authority a complete and harmonized assessment). But there are different actors and different data forms for different hazards, so it's difficult to have homogenous and complete database for all the different events.

- Poland: event data are collected at municipality level, were a commission is established. But the provincial level has the responsibility about the quality of the data so they establish a commission to evaluate all the loss data.

- Greece: there are different databases for different hazards due to the fact that different actors have the responsibility on disaster loss data collection. So no homogenous national database including all hazards is available.

- Robert Tomas (JRC) presented the challenge in the definition of a harmonized EU INSPIRE-compliant disaster loss data sharing mechanism. He presented the concept of pilot projects helping to address this. The INSPIRE directive is event driven, so the first need is to define common standards for natural hazards. Databases with existing data must be compliant by 2020. So the Flood Directive could be the test case for pilot project that take into account the flood hazard and the event description. As a starting point, the Italian platform FloodCat could be the test case for a pilot project. Some differences on terminology have been detected (e.g. affected vs exposed, NUTS vs extension of the event) but all these points of discussion can be addressed by the pilot project. Major phases of the pilot projects:

- Phase 1(November –January 2015) –scoping of the data harmonization and identification of the main problematic parts;
- Phase 2(February –March 2016) –Creation of the common data model;
- Phase 3(March –July 2016) –Demonstration pilot implementing common data model and remaining INSPIRE components.

The initiative was overall very well received. France and Italy were particularly interested in exploring the INSPIRE pilot project.

3   Disaster Risk Management Knowledge Centre (DRMKC)

• Tom De Groeve (JRC) presented the DRMKC as a Commission initiative on building and sharing DRR related knowledge and competence for sounder EU policy making. The DRMKC contributes to the Union Civil Protection Mechanism (UCPM) legislation, whose priorities include the action to 'improve the knowledge base on disaster risks and facilitate the sharing of knowledge, best practices and information. Through the Knowledge Centre, the EU will support the Sendai Framework to promote a more systematic and reinforced science-policy interface. The DRMKC will establish a network of institutions with different aims. For example, translating complex scientific data and analyses into usable information, providing science-based advice for DRM policies, and delivering timely and reliable scientific-based analyses for emergency preparedness and response coordinated activities. Disaster Loss Data is one of the main area recognized together by Commission and JRC where the DRMKC can support MSs in the process of collecting and recording loss data of sufficient quality to support DRM. Depending on stakeholders expected outputs, different expertise may be required (economist, database and web developer, surveyors with experience in disaster loss data collection al local level…) in different modes (i.e. expert contracts, workshops). The DRMKC will be operative starting from March 2016.

4   Direct and Indirect Disaster Economic Losses

• Jaroslav Mysiak (FEEM) presented a model for the assessment of full economic effects of single disaster events or comprehensive disaster risk doable with very modest resources. The Equilibrium Model is based on stock (productive assets) and flows (output) and complements the traditional los models based on direct/indirect damage/losses. The model was tested on the Piedmont 2000 flood data (Carrara et al. 2015). This model can provide an economic assessment driven by purpose as opposite to damage accounting. Increasing the availability of macro-economic modelling tools at national and regional level, various policy contexts could benefit: Cohesion Policy; European Solidarity Fund (EUSF); multi-hazard risk assessment (CPM); economic and fiscal consolidation; Floods Directive, EC Adaptation Strategy etc.

• Tom De Groeve suggested that as a starting point, the accounting method is needed, since SFDRR requires human and physical loss accounting that data could be used then to validate the proposed models. So the ways forward could be starting accounting, but continuing developing and improving the models that provide the right point of view for improving resilience on long term with less resources.

5   Tools and methods for loss data collection

- Scira Menoni (POLIMI) and Mariano Garcia (CSIC) presented standardized methods and procedures to collect damage and loss data for multiple purposes use. The aim is to develop a multi-scale approach (from local to EU scale and beyond). The methods are developed in the framework of the DG-ECHO funded project "Idea". The test cases are an earthquake (Lorca 2011, Spain) and a flood event (Umbria 2012-2014). Different Stakeholders with different purposes have been involved, with the idea of collecting data for multiple purposes. This requires that there is a commitment at the beginning, so that efforts and resources can be optimized. The standardized procedure needs to be developed together or at least with understanding of users' needs (requirements for the databases).
  A standardized reporting system is proposed as a baseline framework to be completed/adjusted/revised for specific cases and with varying levels of explanation/detail depending on the purpose, concurrent events and funding.
- Tom De Groeve (JRC) informed that the development and sharing of science-based methodologies, tools and best practices to record and share disaster losses, as well as the disaster risk modelling, assessment, mapping, monitoring and multi-hazard early warning systems could be part of the DRMKC services. Participants are invited to think how the DRMKC Support Service can help them with capacity building in this area. Interesting ideas can be funded.

6   Feedback from other fora

- Catherine Gamper (OECD) referred the OECD recommendations (G20/OECD Methodological Framework on Disaster Risk Assessment and Risk Financing) and focused on the need of a multi-hazard approach. A very useful approach is also asking MSs to validate economic loss data estimated for previous event (e.g. taken from global databases such as EM-DAT or Munich Re).
- Sergio Castellari (EEA) informed that the next week EEA indicators will be defined based on Munich Re and CRED database regarding economic losses due to Climate Change. In 2016 EEA will publish a comprehensive report termed "2016 EEA report on climate change, impacts and vulnerability" (2016 EEA CCIV report), which is an update and revision of the report published in 2012. The report will include about 40 indicators covering climate change and its impacts (human health, economic sectors and ecosystems). Various indicators are also relevant for the planned 2017 EEA report "Climate change adaptation and disaster risk reduction in Europe - Synergies for the knowledge base and policies".
- Sisi Zlatanova (IRDR) informed that the IRDR Natural Hazard classification is used as a basis for a UN framework UNISDR and in February 2016 an IRDR meeting is foreseen to discuss about economic indicators.

7   Definition and Implementation of Sendai Indicators

- Tom De Groeve (JRC) summarized the status of the Sendai indicators, in particular those focusing on Targets A-D, the ones related to disaster loss data. A comparative analysis of Sendai indicators and national databases done by JRC was presented. The differences increase from target A (number of deaths and missing) to target D (damage to critical infrastructure) due to the different purposes of the national authority in charge of the disaster loss data recording. SFDRR proposes a

yearly update of loss data and the inclusion of technological and biological hazards, so different actors have to be involved to improve the coherence and completeness of the European national disaster damage and loss database.

- The comparative analysis of loss data from some European countries for reporting in Sendai indicator was extensively discussed. Following the preliminary analyses of the EU common framework based on the assembling of different national databases, compared to Sendai Indicators, extensive technical discussions and feedback of targets A to D of the Sendai framework for DRR were held. The basis for discussion was the document produced after the first meeting of the intergovernmental group on 5 October 2015 Experts addressed the feasibility of the indicators under targets A to D, and the feasibility of data gathering using existing data sources and datasets. The MSs agreed on updating the comparative analysis provided by JRC about targets A-D, providing also information about the different national actors in charge of collecting data for different Indicators (e.g. in several MSs the Fire rescue service collect technical event but no economic losses).

- Julio Serje (UNISDR) presented the proposal methodology for evaluation of direct economic losses indicators (target C), in view of future work of the Inter-Governmental expert Working Group on Indicators and Terminology for the implementation of Sendai. The hazard classification is the one proposed by IRDR and the loss estimation is based on existing ECLAC (Economic Commission for Latin America and the Caribbean) methodology. No correlation with EMDAT estimations have been pointed out. Clear challenges emerged, including the terminology and the scope of indicators covered (i.e. socio-natural, man-made and biological hazards), and distinguishing between hazard and hazard triggers/amplifiers (i.e. climate change, deforestation, land degradation). The experts discussed also data collection methods (e.g. sampling) and ways to involve other actors (MS statistical offices, EUROSTAT).

- Experts discussed the way to apply and test the proposed methodology in the European context.

- On the hazard classification, the MS proposed to exclude socio-natural hazard sand hazards of social origin in the loss database.

8 Conclusions and way forward

The working group agreed on the following next steps and actions to move forward with the activities related to loss data while ensuring their embedment in the Sendai roadmap for Disaster Risk Reduction:

- JRC with DG ECHO will ensure the dissemination of results of the EU Expert Working Group in the next Inter-Governmental Working Group on Targets & Indicators;
- The updated targets and indicators for DRR will be the next item on the agenda of the next EU loss data workshop (**planned in March/April 2016**) after next Inter-Governmental Working Group on Targets & Indicators (February/March 2016), the UNISDR Science and Technology conference (January 2016, Geneva), and the kick off of the DRM Knowledge Centre services (March 2016);
- WG is invited to share feedback on definition of Sendai indicators (**deadline 15 November 2015**).
- WG is invited to share feedback on UNISDR methodology to estimate direct economic losses (**deadline 30 October 2015**).
- JRC invites MS to update the comparative analysis about EU National database and Sendai targets A-D, providing also information about the different national actors in charge of collecting data for different Indicators, notably on biological and technological hazards (**deadline: 15 November 2015**).

- JRC will discuss with France, Italy and Ireland about INSPIRE pilot project. Other MS can express interest (**from November 2015**).
- JRC will ask the Copernicus EMS team to join the WG, especially when spatial loss data will start to be collected following the INSPIRE model.
- DG ECHO will reach out to the MS who are not yet involved in the WG and gauge the interest of MS in testing the guidelines.
- WG is invited to share information on other meetings discussing losses and damages and research projects addressing this issue (e.g. DRS project, H2020 projects, ECHO projects, etc.)
- JRC will ensure a link with networks of statistical offices: UNECE, UNESCAP and promote the EU guidance document.
- JRC will tighten the connections with other EU policies: solidarity fund, INSPIRE.
- WG will work to update the "Guidance for Recording and Sharing Disaster Damage and Loss Data" on the light of the final Sendai indicators (deadline: next meeting).
- JRC invites MS (in particular the new ones who joined the workshop) to share data on losses, mortality for the next months for testing the EU guidance document (**deadline: 29 February 2016**).