



EM-DAT Technical Advisory Group Meeting

Using Disaster Databases to learn from Realized Risk

New York, 26-28 October 2009

Report

Day 1 – October 26, 2009

State and Progress of global disaster databases

- EM-DAT: Progress and presentation of the new website (A. Diaz, CRED)
- DisDat Disaster portal and information sharing (A. Diaz, CRED and C. Villacis, UNDP-GRIP)
- Monitoring disaster displacement in the context of climate change, practical example of EM-DAT use (V. Culbert, NRC)
- Changing global needs for disaster-related data for implementing the Hyogo Framework and adapting to climate change (R. Basher, UNISDR)

Strengthening the quality, reliability and sustainability of national and regional disaster databases

- A regional programme for Disaster Databases: Lessons learned in Asia (J. Yan, UNDP-GRIP)
- Introduction and methodology of CRED-GRIP database study in Asia (R. Below, CRED and F. Vos, CRED)
- Case study: Vietnam (Dang Quang Minh, Disaster Management Center)
- Case study: Nepal (S. Shrestha, National Society Earthquake Technology, Nepal)
- Case study: Sri Lanka (D. Rajapaksha, Disaster Management Centre)
- Case study: Data Management Activities in Sri Lanka (P. Ratnesinghe, Epidemiological Unit)
- Presentation of preliminary results of CRED-GRIP database study in Asia (R. Below, CRED)
- Discussion on expectations and long-term process (C. Villacis, UNDP-GRIP)

The welcome and opening sessions were led by C. Villacis (UNDP/GRIP) and D. Guha-Sapir (CRED). Special focus was made on the importance of collecting disaster information and data and learning from disasters, vulnerabilities and needs in the past to be better prepared for the future.

The scope of the TAG-Meeting was set quite wide and open to allow for the exploration of effective ways to improve the EM-DAT's products and to help/assist the countries in managing national databases. The final objective of the meeting was to set up priorities within the EM-DAT



project to improve the EM-DAT database, its products and its services to the international community.

The first day of the TAG meeting was dedicated to the state and progress of global disaster databases, including EM-DAT database and website, Disaster Database Portal (DisDat), and (sub)-national disaster databases in the Asian region. Attention was also given to the needs for disaster-related data for implementation the Hyogo Framework and adaptation to climate change.

The new EM-DAT website, launched on 25 October 2009, was presented. Improvements of the website are still in progress, and will be done according to comments made by the audience and other users, in order to increase the visibility and usefulness of the website:

- Index of pdf-documents and other documents to make a broader search by the 'search engine'
- Make clear the distinction between "Search Dataset" and "Search context" (it must be clear for the user of the website what the search engine is for, and where it searches)
- The week numbers for the 'Disaster of the week' will be changed into dates to simplify search ("date from/till")
- Proposition to add a link in each Disaster of the week record (per ID) linking automatically to the information in the database
- Proposition to exploit the search engine by having more visualization tools like a map to search directly events/information by clicking in a specific area
- Improve the Glossary by adding more information (UNISDR glossary) and make this web-section more clear and understandable for the users
- Use of a 'login' for 1) database administrator, 2) partners with which through agreement an exchange of data or services has been concurred. This access will guarantee a direct download of raw-datasets
- Improve track of user profiles

Concerning the GLIDE (GLobal IDentifier) number, although the concept is good, the system is working inadequately. UNDP/GRIP will follow this up (governance of the GLIDE, identified technical issues, glide generators). It was agreed that more in-depth discussions on the GLIDE issue be carried out during the closed meeting (day 3 of TAG).

IDMC presented a practical example of the use of EM-DAT data through a study on 'Monitoring disaster displacement in the context of climate change'. Whereas the topic is very important, there is inadequate basis or methodology to put the study in a wider context. CRED proposed to help to set up definitions (i.e. 'displaced population') and defining the scope. ReliefWeb also proposed to assist in this work. An idea was raised by MunichRe to develop a vulnerability index to be used worldwide.

A global approach was presented by UNISDR to use disaster-related data for implementing the Hyogo Framework and adapting to climate change. Basic questions at international level are:



- Connections between development processes, climate change and disaster risk;
- Progress in disaster risk reduction;
- Basis for setting priorities and targeting aid investment in risk reduction;
- Countries most at risk, including awareness and capacities for data collection, risk assessments and policy formulation.

The main challenges are:

- Definitional (multiple dimensions of disasters and diverse user requirements);
- Non-sectoral “homeless” nature of disaster risk, and lack of national ownership and capacity;
- Fragmented and small scale global efforts on disaster data;
- Varied standards;
- Databases not linked;
- Low and/or falling levels of investment in scientific observational data systems;
- Disaster factors not well recognized or represented in national social and economic statistics;
- Lack of national capacities, especially in poor and vulnerable countries;
- Lack of global authority and oversight on disaster data.

The audience expressed that it is good that UNISDR looks into the issues of needs for disaster data and databases.

The afternoon session of the first day focused on the strengthening of quality, reliability and sustainability of national and regional disaster databases.

UNDP presented lessons learned in Asia from the implementation of its Regional Programme on Capacity Building for Sustainable Recovery and Risk Reduction. The goal was to increase capacity for analyzing disaster trends and their application in decision-making. Main outcomes were that the disaster loss databases implemented in Asia are strongly supported by the institutional and legal systems of the target countries, which ensure the government ownership and sustainability of the databases. UNDP, together with other international organizations, plays an important role in supporting the capacity development of the host institution. It is highly necessary to customize the methodology and tools to meet the specific needs of the country, while ensuring the compatibility of the databases internationally. The quality control and application of the collected loss data remain a challenge.

Main conclusions of the CRED study on strengthening quality, reliability and sustainability of national disaster databases in Asia, sponsored by USAID, were: to take into account the challenges and expectations of each country for the next steps and to put each study in the countries’ context. Possibilities or limitations of CRED rising from these contexts within the time line of the project will have to be clarified. Recommendations will be based on CRED’s expertise (i.e. setting up definitions/standards, interoperability of databases, use of ID number or GLIDE, development of analytical capacities). The theoretical framework for database quality presented



in the context of this study should be validated and documented, and will be useful for many different purposes.

Country representatives from Vietnam (Disaster Management Center), Nepal (National Society for Earthquake Technology), and Sri Lanka (Disaster Management Centre) presented their efforts and achievements in establishing disaster impact databases to support disaster management.

The long-term vision for Disaster Loss Data (UNDP-GRIP) is based on the understanding that the establishment of national disaster databases is just the first step. Currently available databases face challenges that include sustainability, analytical capabilities, institutional frameworks, identification of potential users and their needs, and the generation and dissemination of knowledge. The establishment of disaster observatories is envisioned as the response to these challenges. These observatories are sustainable institutions for the systematic collection, documentation and analysis of disaster loss data and information and whose expected outputs include:

- Inputs to the National Disaster Risk Reduction Strategy (better definition of goals, priorities and structure of risk reduction measures);
- Calibration and validation of Risk Assessments (confronting estimated vs. realized losses);
- Assessment of country specific vulnerabilities and recovery capacities (Physical, social, financial, political vulnerabilities);
- Monitoring mechanisms to assess the effectiveness of risk reduction strategies and measures (HFA's goal is reduction of losses).

Day 2 – 27 October 2009

Footprinting disaster impact: Pros and cons of georeferencing global data sets

- **Georeferencing disaster events: Overview, strengths and pitfalls (N. Smith, OFDA)**
- **Georeferencing disaster events: Experiences from EM-DAT**
 - EM-DAT methodology (F. Vos, CRED)
 - Applications on linking disasters and conflicts (A. Diaz, CRED)
- **Geographic Information Support Team (K. Payne, University of Georgia)**
- **Georeferencing, experiences from NatCat services (A. Wirtz, MunichRe)**
- **Space-based information for local damage assessment and disaster management (J. Szarzynski, UNOOSA)**
- **Review of all hazard disaster databases sub-committee (V. Murray, London's Chemical Hazards and Poisons Divisions HPA)**

Linking up global datasets

- **Issues in compatibility of data sets and research directions (C. Yetman, CIESIN, Columbia University)**
- **Exploratory study on association between EM-DAT disaster events and precipitation (J. Rodriguez, CRED)**
- **Using EM-DAT flood data for Research (J. Barredo, EU-JRC)**



The first half day session of day 2 of the TAG meeting was devoted to the georeferencing of disaster events in global datasets, and geographic and space-based information support for disaster damage assessment and management.

A general overview was provided of strengths and pitfalls of georeferencing. Main conclusions were that while many data sources can provide assistance in efforts of georeferencing disaster events, this should be carefully determined as the level of effort is considerable. Each disaster will need its own approach and locating disasters will require criteria development and many of the defining characteristics are subjective. A challenge lies in the temporal aspects of certain disasters.

Georeferencing of EM-DAT data is still in its “baby” steps. One of the objectives of georeferencing at CRED is to link EM-DAT and CE-DAT databases. The way forward will be to define a protocol for georeferencing EM-DAT data in convention with different partners/specialists. Different complementary sources of information were proposed during the meeting in order to complete the currently compiled geographical information in EM-DAT. Main challenges will be to standardize compiled geographical information (village-level, province-level,...), and to make a fusion of newly added information and ways of compilation with the currently existing database and data compilation structure of EM-DAT. It was concluded that the geocoding of locations is useful to increase resolution in EM-DAT. The actual way of recording locations in EM-DAT is close to admin1 without active searching. The final EM-DAT geocoding protocol is still to be agreed on. Finally, we should work towards the disaster footprint.

It has been agreed that within the geo-referencing process of the EM-DAT database, the first step will be to standardize the level of information for geo-coding, then build a solid methodology for entering geographical location, and structure in a more efficient way the information which is entered in order to facilitate the extraction of this information and get a final standard protocol approved by an Expert Working Group.

The Information Technology Outreach Services (ITOS)/Geographic Information Support Team (GIST) provides a portal for data repository and information sharing for entities to help them with humanitarian assistance and disaster response. It is based at the University of Georgia and sponsored by USAID. The portal also provides other services in support of the GIST community (mapping, data access, links to GIS resources and tools), amongst others. An overview of GAUL and GIST datasets was made, highlighting much agreement in general. It was advised to use both datasets and get ‘the best of both worlds’ in terms of missing admins/units. A collaboration between ITOS-GIST and CRED could very much help developing the CRED georeferencing protocol and application to EM-DAT data.

Geocoding aspects of MunichRe NatCatSERVICE were presented. NatCatSERVICE is part of MunichRe risk management, including Science/ Research (Monitoring), Learning from the past, Modelling, Budgeting/ Pricing/Risk capital and Claims estimates. NatCatSERVICE geocoding



methodology includes several levels of information, and it is important to differentiate these levels: global (1 coordinate for the entire event), Country (1 coordinate per county), States/Admin 1 Level (1 coordinate per state), Cities (1 coordinate per city), Address (1 coordinate per address). NatCat combines the event level (disaster scale) with geographical location. Different types of disasters require different handling. The question remains if the hazard or disaster epicentre is important or the affected area/loss area.

Within the session on linking up global datasets, several collaborative projects using EM-DAT were presented, including an exploratory study by CRED on the association between EM-DAT disaster events and precipitation, and the use of EM-DAT flood data for research within Europe (EC-JRC). For global spatial data and information, the focus lies on the need for publicly available, spatially integrated framework data, having interoperable services and data standards. It was highlighted that there is still no adequate handle on the ways in which specific populations (young, elderly, poor, disenfranchised) may be especially vulnerable to different hazards, or combinations of hazards. Other future topics include:

- Improving ability to explain complex dynamics - interactions across multiple spatial time series (land cover change, hazard vulnerability, water scarcity);
- Improving ability to monitor that what matters most (food and water security, soil fertility, migration);
- Improving ability to project into the future (emerging diseases, urbanization patterns, drivers of climate change vulnerability, political instability early warning).

The use of space-based information for local damage assessment and disaster management was presented by UN-SPIDER, in support of the full disaster management cycle. Potential cooperation and joint activities include: linking the web portals, data exchange, cross-sharing information regarding new initiatives, joint network development, pulling together information from scientific networks, joint assessment missions and joint pilot projects.

An UN-UNISDR Science and Technical Sub-Committee for the 'Review of all hazard disaster databases' was presented, with the aims: to understand how data/information relating to all risks, hazards and disaster management is collected, held and analysed; and to facilitate the use of high quality information by decision makers at all levels e.g. politicians, emergency planners, healthcare professionals and scientists.



Day 3 - 28 October 2009 (TAG Closed Meeting)

Participants:

CRED: Debby Guha-Sapir, Regina Below, Alexander Diaz, Femke Vos, Jose Rodriguez

UNISDR: Sylvain Ponserre, Reid Basher

OFDA: Nate Smith, Rhonda Davis

OCHA: Shuichi Odaka

UNDP: Carlos Villacis, Yan Jianping

Agenda items:

1. EM-DAT work plan 2009-2010
2. Database strengthening process in the Asian region
3. GLIDE
4. DisDat
5. Georeferencing EM-DAT
6. Epidemiological studies at CRED
7. UNISDR MoU

1. EM-DAT work plan 2009-2010 (until September 2010)

Within the current CRED – OFDA Agreement, the two main sub-activities are:

- 1) Expanding EM-DAT quality and resources: maintenance, visibility and promotion
- 2) Strengthening the quality, reliability and sustainability of national and regional disaster databases.

It was advised to focus in the next work plan not only on the short-term (until end of September 2010), but also include a longer term vision.

2. Database strengthening process in the Asian region

It was advised and agreed on to focus on the 7 countries that have been selected for the study, and not to include additional countries. These 7 countries (Nepal, Vietnam, Sri Lanka, Philippines, Thailand, Bangladesh and Indonesia) will serve as a pilot set of countries to further develop the methodology and see the application and outcomes. The 7 countries are a very good mix of different institutional settings (DesInventar and independent models) as well as different stages of development of the databases. On the long term, the tested methodology and tools can be applied on other countries besides the countries that are now included in the study.

Carlos V. on behalf of the GRIP team expressed once again his interest and willingness to participate in this process. This could also facilitate the implementation of improvements of the DesInventar database methodology that have been requested by several countries. Also, the output of this study (Guidelines) is a useful tool to convince the country governments that collecting information is a very effective way to support and promote disaster planning and preparedness.



For each country an analytical report will be written and send to the country for further comments. Once the report is agreed and completed, a joint report including all 7 countries will be produced. During the study the methodology and tools will be reported and shared with the GRIP team for use in other countries (Mozambique, Madagascar, Swaziland, and possibly Uganda and Lesotho). The work could also be useful for the ASEAN OSADI regional database. Final outcomes of the process will be a practical handbook describing methodology, tools and guidelines which serves as a 'framework for the creation and maintenance for national and regional disaster databases' aiming at helping existing and newly developing databases worldwide. This handbook will be developed by convention (e.g. *definitions, criteria, classification*).

It has also been suggested to set up a community of practice where countries can continue to share knowledge and experiences. An online platform could be an option to respond to the countries' request. PreventionWeb would propose to host this. GRIP already has a community of practice of disaster database managers that could be utilized to develop this initiative.

A regional meeting at the end of the project-term (July-September 2010) would preferably be organized in combination (e.g. 2-days extension) with a planned meeting hosted by UNDP in the region. This regional meeting will include the main actors of the study as well as representative of the 7 countries visited. It has also been decided that CRED will send a methodological note based on CRED experiences in the 7 countries (2 or 3 pages) and will prepare an excel file including EM-DAT data for each of the countries in Africa to be visited by GRIP.

Within the process we should not forget the ethical responsibility we have in not forcing the countries to develop a disaster impact database, since they have many priorities and very limited resources. Furthermore, the process should be a mix of top-down and bottom-up approach by involving UN, academic institutions, governments and local institutions.

3. GLIDE

A concern was shared commonly on the quality, usefulness and implementation of the GLIDE at present. Although the principal idea of the GLIDE is very good and much needed and appreciated by the international community, there are problems in:

- Overall governance
- Identified technical issues
- Systematic generation of GLIDE numbers

Given their importance, the problems to be solved first are the ones related to governance. Since ADRC seems blocked in the GLIDE effort, maybe now is a good moment to gently hand over the GLIDE, while letting ADRC keep a role in it. UNDP notes that they will be ready to go ahead with the GLIDE in 6-8 months to solve these issues. An idea is to have a technical stakeholder meeting/technical working group and report back to ADRC.

ReliefWeb expresses the need for a GLIDE or other disaster ID to link their disasters. The GLIDE/ disaster ID should be developed in a short notice after the happening of the disaster. Because



the GLIDE resembles the EM-DAT DisNo, and to respond to the urgent request of ReliefWeb to have a disaster ID, the idea was proposed to try to develop the EM-DAT DisNo in a timely manner (48 hours?) and distribute this to ReliefWeb. In the mean time, UNDP goes ahead with GLIDE and ADRC, and when they will be ready the DisNo could be easily fitted in the GLIDE initiative.

CRED and ReliefWeb will set up a MoU for the exchange of such a disaster ID. A telephone conference will be planned with Shuichi in November/December 2009 to discuss further the needs and possibilities from both CRED and ReliefWeb, especially in terms of the timeliness of producing a DisNo after the happening of a disaster.

When time comes, an official announcement should be sent out to inform institutions on the development of such a disaster identification number.

4. DisDat

DisDat is mainly of use as an information provision service. It has now been completely handed over from CRED to GRIP. CRED will continue to inform GRIP of new information and initiatives.

5. Georeferencing EM-DAT

CRED will continue with the georeferencing activities that have been initiated. Hereby the input of GIST, ReliefWeb, MunichRe and others could be of great help. An idea is to develop a protocol for CRED EM-DAT georeferencing methodology in convention. Prior to continuing developing an internal protocol for georeferencing EM-DAT, the users and applications of the georeferenced data should be clearly identified. On the other hand, it would be difficult to please all users. A first question should also be what CRED wants to do with this, before thinking of other users. As a pilot testing, a subset of data could be georeferenced using this protocol in discussion with the convention partners. A Working Expert group meeting will be set up and start to work by December 2009.

6. Epidemiological studies at CRED

Several studies are being initiated or developed in disaster prone areas, focusing on the human impact of natural disasters. These are: Sichuan study on injury and survival patterns after earthquake, study on commitment to Early Warning Systems; hospital based studies in Padang, Indonesia, on disaster-related hospital consultations, and on the long-term impact of the earthquake on children that have lost their parents in the disaster.

7. UNISDR and CRED MoU

The renewal of the UNISDR/CRED has been discussed. The main components of the MoU are:

- Yearly press conference
- The use EM-DAT data for Global Assessment Report (GAR)
- Country profiles and other analytical products presented on PreventionWeb

For the latter, usually EM-DAT data was manually transferred to UNISDR through scripts. In respond to the expressed need of UNISDR, it is agreed on to automatize this function by means of Web Services. This automatic data provision can also developed with other partners, such as



ReliefWeb, who would also like to present the analytical products based on EM-DAT such as country profiles. Through Web Services updated data are automatically send to UNISDR/PreventionWeb.

UNISDR will send to CRED their results of the analytical outputs as a means of mutual benefit of the data exchange.

UNISDR and CRED concluded that there is a little need to have a formal MoU as the collaboration is proceeding since several years on the basis of common interest.

Main conclusions

Conclusions to be taken into account in the current EM-DAT work plan:

- EM-DAT website: Improvement of the website and search engine, according to the comments made by the audience and EM-DAT users in order to increase ease of use and visibility
- Definitions and standards: Assistance of CRED to set up definitions and promoting established standards (e.g. IDMC)
- Geo-referencing: Establishment of an Expert Working Group (MünichRe, CRED, University of Georgia, OCHA) for approval of final standard protocol. This first working group meeting is planned end 2009/early 2010; the outputs of this meeting will be used to delineate the geo-referencing activities in the next EM-DAT work-plan
- National and Sub-National Disaster Databases: Organization of a regional meeting in cooperation with UNDP/GRIP

The EM-DAT current work plan will be adjusted according to the TAG report and decisions taken during the TAG and closed meeting.

Conclusions to be taken into account in the future EM-DAT work plan:

- GLIDE: CRED is willing to participate actively in the development and progress of the GLIDE initiative under the leadership of UNDP/GRIP
- Geo-referencing: The geo-referencing process of EM-DAT was generally considered as an important step in the next phase of the EM-DAT project. Based on initial consultation with the Expert Working Group, CRED is willing to implement a geo-referencing process within EM-DAT
- Follow-up of country databases: Harmonization of data entry and reporting for national and sub-national databases (interoperability)



Agenda

Monday - October 26, 2009

- 9:00-9:30** **Welcome** (C. Villacis, UNDP/BCPR – D. Guha-Sapir, Director, CRED)
- 9:30-9:45** **Scope and overview of the meeting** (UNDP/CRED)
- 9:45-12:30** **State and Progress of global disaster databases**
Chair: D. Guha-Sapir, CRED
- 09:45- 10:30 EM-DAT: Progress and presentation of the new website (A.Diaz, CRED)
- 10:30-10:45* *Coffee Break*
- 10:45-11:15 DisDat Disaster portal and information sharing (A. Diaz, CRED and C. Villacis, UNDP-GRIP)
- 11:15-11:45 Monitoring disaster displacement in the context of climate change, practical example of EM-DAT use (V. Culbert, NRC)
- 11:45-12:30 Changing global needs for disaster-related data for implementing the Hyogo Framework and adapting to climate change (R.Basher, UNISDR)
- 12:30-13:30* *Lunch*
- 13:30-17:00** **Strengthening the quality, reliability and sustainability of national and regional disaster databases**
Chair: C. Villacis, UNDP/BCPR
- A regional programme for Disaster Databases: Lessons learned in Asia (J. Yan, UNDP-GRIP)
 - Introduction and methodology (R. Below, CRED and F. Vos, CRED)
 - Case study: Vietnam (Dang Quang Minh, Disaster Management Center)
 - Case study: Nepal (S. Shrestha, National Society Earthquake Technology, Nepal)
- 15:00-15:15* *Coffee Break*
- Case study: Sri Lanka (D. Rajapaksha, Disaster Management Centre)
 - Presentation of preliminary results from the study (R. Below, CRED)
 - Discussion on expectations and long-term process (C. Villacis, UNDP-GRIP)



Tuesday – October 27, 2009

9:00-12:00 Footprinting disaster impact: Pros and cons of geo-referencing global data sets?

Chair: R. Davis, OFDA

- Geo-referencing disaster events: Overview, strengths and pitfalls (N. Smith, OFDA)
- Geo-referencing disaster events: Experiences from EM-DAT
 - EM-DAT methodology (F. Vos, CRED)
 - Applications on linking disasters and conflicts (A. Diaz, CRED)
- Geographic Information Support Team (K. Payne, University of Georgia)
- Review of all hazard disaster databases sub-committee (V. Murray, London Chemical Hazards and Poisons Divisions HPA)

10:30-10:45 Coffee Break

- Geo-referencing, experiences from NatCat services (A. Wirtz, MunichRe)
- Space-based information for local damage assessment and disaster management (J. Szarzynski, UNOOSA)

12:30-13:30 Lunch

13:30-16:00 Linking up global datasets

Chair: R. Basher, UNISDR

- Issues in compatibility of data sets and research directions (C. Yetman, CIESIN, Columbia University)
- Exploratory study on association between EM-DAT disaster events and precipitation (J. Rodriguez, CRED)
- Using EM-DAT flood data for Research (J. Barredo, EU-JRC)
- Wrap up and conclusions

16:00-16:30 Coffee Break

Wednesday – October 28, 2009

(closed meeting – UNISDR, UNDP, OFDA and CRED)

09:00-12:00 EM-DAT work plan

- EM-DAT work plan: Current status, collaboration perspectives and funding issues



Participants

Name	Organization	Country
Barredo Jose	European Commission, Joint Research Centre - EU-JRC	Italy
Basher Reid	United Nations International Strategy for Disaster Reduction – UNISRD	Switzerland
Chen Bob	Center for International Earth Sciences Information Network , Columbia University - CIESIN	USA
Culbert Vance	Internal Displacement Monitoring Center Norwegian Refugee Council – IDMC/NRC	USA
Davis Rhonda	United States Agency for International Development, Office of Foreign Disaster Assistance – USAID/OFDA	USA
Dilley Maxx	United Nations Development Program, Bureau of crisis Prevention and Recovery – UNDP/BCPR	Switzerland
Golden Meredith	Center for International Earth Sciences Information Network, Columbia University - CIESIN	USA
Harayama Akiko	United Nations Office for the Coordination of Humanitarian Affairs, ReliefWeb - OCHA	USA
Ho Helen	United Nations Office for the Coordination of Humanitarian Affairs, ReliefWeb - OCHA	USA
King Dennis	US Department of State – Humanitarian Information Unit	USA
McCarthy Mark	United Nations Office for the Coordination of Humanitarian Affairs, ReliefWeb - OCHA	Switzerland
Murray Virginia	London’s Chemical Hazards and Poisons Division, Health Protection Agency	UK
Odaka Shuichi	United Nations Office for the Coordination of Humanitarian Affairs, Relief-Web - OCHA	NY



Payne Karen	University of Georgia, Geographic Information Support Team - GIST	USA
Ponserre Sylvain	United Nations International Strategy for Disaster Reduction , Prevention Web – UNISRD	Switzerland
Piard Bobby Emmanuel	Centre National de l'Information Geo-Spatiale - CNIGS	Haiti
Smith Nate	United States Agency for International Development, Office of Foreign Disaster Assistance – USAID/OFDA	USA
Sponberg Kelly	National Oceanic and Atmospheric Administration - NOAA	USA
Szarzynski Joerg	United Nations Office for Outer Space Affairs - UNOOSA	Germany
Tessada José	Brookings Institution	USA
Tokar Sezin	United States Agency for International Development, Office of Foreign Disaster Assistance – USAID/OFDA	USA
Villacis Carlos	United Nations Development Program , Global Risk Identification Program – UNDP/GRIP	Switzerland
Wirtz Angelika	MünichRe	Germany
Yan Jianping	United Nations Development Program , Global Risk Identification Program – UNDP/GRIP	Switzerland
Yetman Greg	Center for International Earth Sciences Information Network, Columbia University - CIESIN	USA
Countries Rep.		
Surya N. Shrestha	National Society for Earthquake Technology - NSET	Nepal
Dang Quang Minh	Disaster Management Center - DMC	Vietnam
Dinesh Rajapaksha	Disaster Management Center - DMC	Sri Lanka
Premaratna Ratnesinghe	Epidemiology Unit, Ministry of Healthcare and Nutrition	Sri Lanka
CRED Team	Below Regina, Rodriguez Jose, Sapir Debarati, Vos Femke, Diaz Alexander	Belgium