Centre for Research on the Epidemiology of Disasters CRED
A WHO Collaborating Centre

UCL Université catholique de Louvain

GFDRR Global Facility for Disaster Reduction and Recovery

USAID FROM THE AMERICAN PEOPLE

Sustainable Disaster Databases for South and Southeast Asia

Scope

1. Objective of the meeting

To explore disaster database models that are technically and financially sustainable in countries of South and Southeast Asia. An assessment of the capacities at sub-national levels and ways in which they can be strengthened will also be included in the agenda.

2. Organizers

The Centre for Research on the Epidemiology of Disasters (CRED), with the support from United States Agency for International Development/Office of US Foreign Disaster Assistance (USAID/OFDA), the Global Facility for Disaster Reduction and Recovery (GFDRR) and the World Bank.

3. Participants

A total of 25-30 participants mainly from South and Southeast Asian nations are invited. Private sector participation as well as academics are included in the list. Participation will be on "invitation only" basis.

4. Content

Participants at the workshop will discuss the technical and methodological challenges in managing disaster databases and how to best address these. The workshop will also include exploratory consultations for the creation of a consortium to sustainably strengthen the availability and technical quality of disaster data.

There will be short presentations from participants, including Reinsurance Companies and regional offices of insurance companies. Development banks and other regional institutions will participate in the program. Panel discussions will draw on inputs from bilateral agencies for international development.

5. Venue and dates

Dates: 11-13 December 2012

Centre for Research on the Epidemiology of Disasters
30.15 Clos Chapelle-aux-Champs, 1200 Brussels, Belgium
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Venue: Bangkok

Sustainable Disaster Databases for South and Southeast Asia

Background note

1. Background

Data on disasters, especially on their human and economic impacts, is critical for preparedness and prevention planning. Of all regions in the world, South and South East Asia have the highest vulnerability to natural disasters. Nearly 25% of all natural disasters and 44% of victims have occurred in these two regions. Disaster database initiatives have become popular in recent years and their success or failure depends on some simple but fundamental conditions that underline any such initiative.

The following note is based on the experience of the EM-DAT database[1], the mistakes it made and the reasons for its success.

The EM-DAT database is maintained by the World Health Organization Collaborating Centre CRED, at the Faculty of Medicine, Université catholique de Louvain (Brussels, Belgium). The database was established in 1988 by epidemiologists and medical doctors who were concerned with the need for systematic reporting of the human impacts of natural disasters. The main assumptions underlying this initiative was that historical data is required for correctly identifying the human effects of disasters and that preparedness and prevention programs are ineffective if actual impacts are unknown. Furthermore, risk models can be theoretically interesting but can be operationally inaccurate if past empirical data is not available to establish impacts.

EM-DAT is a global database, now an international reference for UN, national governments, academia and development banks. It has systematically collected and validated data from 184 countries from 1900 to present for a fixed set of essential impact variables. Its sound scientific structure and ground rules make the data comparable across time and across space and makes it the most globally cited database on disasters.

[1] Funded by USAID's Office of Foreign Disaster Assistance - www.emdat.be

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With over 20 years of experience in South and Southeast Asia, CRED benefits from an excellent network of collaborators in the region. Through the EM-SEANET Project, funded by the European Commission, CRED coordinated a research consortium of European and Southeast Asian institutions active in improving the health response following disasters and conflicts. EM-SEANET project activities included workshops that brought together academics with sound technical skills and field agencies with more field-based practical knowledge. The collaborations enhanced and strengthened their respective efforts at improving regional, national and international policies and actions in managing, amongst other topics, the use of disaster databases to assess risk, infectious diseases and migrant health in the Mekong basin.

The MICRODIS project, also funded by the European Commission, had the overall goal to strengthen preparedness, mitigation and prevention strategies in Asia and Europe in order to reduce the health, social and economic impacts of extreme events on communities. To achieve this, the consortium undertook research on and in disaster-affected communities in to assess impacts at the micro-level. The project's activities included strengthening the scientific and empirical foundation on the relationship between extreme events and their health, social and economic impacts, the development and integration of knowledge, concepts, methods, tools and databases towards a common global approach, and improving human resources and coping capacities in Asia and Europe though training and knowledge sharing. As the coordinator of the project, which ended in 2011, CRED further developed its network of partners in the South and Southeast Asian regions.

More recently, CRED conducted a study in six Asian countries[2] (Nepal, Indonesia, Sri Lanka, Vietnam, Philippines and Bangladesh). The final aim of this study was to share knowledge in order to improve the visibility, accessibility, inter-operability and applicability of disaster databases at national levels. The goal was to help Asian countries to reinforce disaster database structures and methodological and operational approaches. Strengthening disaster databases will, over the longer-term, serve the global, international, and national humanitarian communities involved in disaster response planning and disaster risk reduction.

The study focused on improving capacity building at national and regional levels. This study was drawn from the experience of EM-DAT, a database with global coverage and commonly accepted definitions, criteria, and methodologies. The experience of EM-DAT was used to reinforce local capacities in developing and managing detailed and specialized efforts at national and sub-national granularity.

[2] Below R., Vos F., Guha-Sapir D. (2010) Moving towards harmonization of disaster data: A study of six Asian Databases, Brussels: CRED. http://www.cred.be/sites/default/files/WP272.pdf

The study addressed issues of methodological and operational limitations that arise due to inconsistent data reliability and interoperability in current disaster data compilation initiatives. By providing technical support for these initiatives, the project strengthened the standardization,

reliability, and inter-operability of Asian disaster data initiatives. Furthermore, the project contributed to providing a more comprehensive and accurate accounting of disaster-related losses and costs to the international community. A more complete and accurate collection of data on disaster occurrence and impact will ensure better risk estimations and improve the availability of information and analysis on disaster risks and risk factors.

2. Criteria for success

Successful and sustainable collaborations of disaster databases are dependent on three main criteria (based on the experience of EM-DAT):

1. **Clear and limited scope** of disaster data based on chosen indicators and variables, as well as data entry criteria. EM-DAT's experience underlines the importance **of limiting the number of variables** on which to collect data. The temptation to include a very large variety of indicators spanning all sectors and including direct and indirect effects is strong as pressures from different directions are high and over-inclusivity is the easy option. The best approach is to start small and remain well focused. In countries in the South and South-East Asia region, the biggest burden of disasters is on the poor who are simply by that fact, the most vulnerable[3]. The first priority for disaster data initiatives should be to reduce the direct impacts on vulnerable populations. Further longer term solutions should be planned concomitantly.

2. **Ownership and responsibility** to ensure systematic updates and maintenance. Database initiatives typically start with much enthusiasm and fade into disuse and get outdated. A critical incentive to keep such databases regularly updated is its use by the wider public. For example, the best criteria by which a database can be judged is by the number of citations or concrete examples of use it can report. EM-DAT is now used every day and registers thousands of hits on its website per week. In 1999, when the EM-DAT disaster database was selected by the US government for funding, the reason behind this choice was specifically because it would be housed in a University context and managed by scientists and researchers. The choice of CRED also ensured a "captive" audience of PHD and masters students, researchers and professors who would continually use it or maintain it. This was a

[3] A recent study by CRED and its partners in Orissa shows that chronic malnutrition is significantly higher among children living in villages with recurrent flooding compared to those who are equally poor but live in non-flooded villages

long-sighted and perspicacious decision both on the part of the donor and the University, as disaster data at that time was not a priority issue. Disaster databases should appeal to multidisciplinary interests, be easy to navigate and use by many communities (e.g. press, students, decision-makers) to be successful in the long run.

3. **Scientifically sound methodologies and definitions** are key to a sustainable and credible database. Coming from a background of medical-case definitions, inclusion and exclusion criteria for clinical trials and common protocols for disease management, EM-DAT has benefitted greatly from applying all of these principles to the global data collection process. It remains completely relevant at the sub-national levels and sound thinking and consideration of practical realities on the ground should be the firm parameters within which such initiatives should be conceived. Robust but simple methods and standard definition - in order to ensure comparability, accuracy and precision - are essential in any such data initiative.

3. Caveats

Important caveats which will determine success include the following:

1. Strictly avoiding in Phase I any data item that is not directly relevant to the measurement of disaster impact;
2. To start small and well-focused despite the temptation to include all possible impact indicators. The risk here is that many indicators will remain unreported and produce a database with scattered data and field that remain mostly unfilled - unless large resources are devoted to only data collection. This later requirement is not justifiable from an operational point of view as responding to the needs of the victims should be the first priority.

4. Conclusions

One of the major current challenges in the field of disaster data is to overcome the limitations induced by the lack of clear standards and definitions, which leads to inconsistent reliability and poor interoperability of different disaster data compilation initiatives. The Centre for Research on the Epidemiology of Disasters (CRED) has militated for years for the creation of internationally recognized standards and definitions.