

Annexes

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Annex 1: Technical Annex

Note 1 – Hazard

Hazards are potentially damaging physical events, phenomenon, and/or human activities that may cause the loss of life or injury, property damage, social and economic disruption, or environmental degradation. Hazards are characterized by location, duration, magnitude and timing. They can include latent conditions that may grow or contribute to future events and can have different origins: natural (geological, hydro-meteorological and biological) and/or induced by human processes (environmental degradation and technological hazards). Hazards can be single, sequential, or combined in their origin and effects. They may occur over a very short period, such as a tornado, or may develop and persist over very long periods, such as a drought.

Each hazard is characterized by its location, strength, frequency, time evolution and probability of occurrence. The strength of a hazard is measured in terms of its magnitude, intensity or toxicity. The frequency is measured in terms of its probability of occurrence, also called period of return: high probability, low probability or continuous. Each hazard type has a different rapidity of onset, for example, sudden, rapid or continuous. Their respective predictability is also variable.

Each type of hazard comprises a suite of specific damage factors, such as strong wind, ocean wave height, weight of ash fall, height of flood, turbulence of water flow, etc. The impacts resulting from a hazard will depend on the related exposure and vulnerability, but each type of hazard has a destructive capacity per se resulting from its strength, frequency and predictability. Their impacts vary in terms of the areas affected and duration.

The level of hazard in any given place refers to the probability of an earthquake, cyclone or other hazard event, of a given magnitude, intensity or extent occurring in a given space of time. A region that experienced an average of 10 earthquakes with magnitude 6.0 every decade would be more hazardous than a similar region that experienced only one such earthquake every 50 years.

Measuring hazards may be complicated by the activation of secondary hazard events. Earthquakes often provoke landslides and wildland fires. Cyclones may cause coastal flooding. Climatic events such as El Niño may be associated with multiple hazard types over wide areas. While atmospheric processes and earthquakes and volcanic eruptions are completely natural, many hazards are influenced by human activities. For example, building on flood plains or deforestation of river basins may change the frequency, magnitude and extent of flooding. Even earthquake intensity can be modified by factors such as groundwater extraction, land reclamation or by the weight of mega-dams. Development, therefore, plays a key role in configuring hazard over time. At the local level, hazard is modified through processes such as urbanization, population growth and environmental change. Globally, there is now a critical mass of evidence which shows that climate change is drastically altering patterns of climate-related hazard.

Note 2 - EM-DAT international disaster database

By analysing the EM-DAT (Emergency Events Database) international disaster database, it is possible to reveal patterns and trends in disaster occurrence and loss globally, comparing countries, time periods and hazard types. The EM-DAT database contains data entries from 1900 through to the present, and registers events as disasters if they produced 10 or more deaths, affect 100 or more people, or where a situation of emergency was declared or a call for international assistance was made. The data has a global level of observation and a national scale of resolution. The data is gathered from UN agencies, government sources, the IFRC, insurance sources, the media and others, and is maintained by CRED (Centre for Research on the Epidemiology of Disasters). EM-DAT has a number of data fields including numbers killed and affected and economic losses. It does not include gender and age-disaggregated loss data given that the source data, in general, does not include this either. By definition, most disaster loss associated with extensive risk scenarios is below the loss thresholds defined by EM-DAT and is therefore not documented in the database.



Note 3 - Disaster risk

Disaster risk refers to the probability of a given element in a given location in a given period of time suffering loss or damage due to a given hazard. According to whether risk is looked at from a social, economic or physical perspective, the element may be a person, a building or a country's economy. According to the scale of analysis, the location may be a specific place, a city, a local government administrative area or an entire country. Similarly, the period of time could be anything from a few hours to centuries.

Disaster risk is usually used to refer to risks associated with hazards with geological characteristics (e.g. earthquakes, volcanic eruptions, tsunamis) or those related to climate (e.g. floods, droughts, cyclones, mudslides). For the sake of simplicity in the rest of this Review, we will refer to these as geological hazards and climatic hazards respectively, although these are not strict scientific definitions. Some hazards such as landslides have both geological and climatic causes. In this Review, they have been included with climatic hazards as, unlike other geological hazards, they are sensitive to patterns of environmental and climatic change.

Disaster risk can be expressed in various ways according to the context. Examples might include expected mortality due to earthquakes over the next 10 years in India, the probability of the GDP of Jamaica being reduced by hurricanes in the next year, or the chance of a specific bridge in Kenya being damaged by a flood in the next 100 years. Disaster risk may be described with respect to single hazards or multiple hazards: for example, what is the annual probability of mortality due to a combination of floods, landslides and earthquakes in a given province. Disaster risk may also be described in relative or absolute terms. In absolute terms, a country may have many billions of dollars of economic assets at risk to earthquake. However, in relative terms, this may be a small percentage of its total GDP or of its economic capacity to recover.

Note 4 – Hazard exposure

A UNDP publication (2004) entitled "Reducing Disaster Risk: A Challenge for Development", together with the World Bank Op. Cit. 2004, and additional work carried out by UNEP-GRID (Global Resource Information Database), the Norwegian Geotechnical Institute and others, have, for the first time, provided a comprehensive vision of hazard exposure for the principal hazard types, namely earthquake, flood, drought, tropical cyclone, volcanic eruption and landslide. While the datasets and methods used vary from hazard to hazard, hazard exposure has been calculated for people by combining population densities with the frequency and magnitude of hazard events and for economic activities by combining the value of GDP with the frequency and magnitude of hazard events.

Note 5 – Vulnerability

When an earthquake hits a city, some structures resist the impact better than others. This is an example of physical vulnerability. Poor communities often live in more vulnerable structures and settlements and suffer, as a result, disproportionate rates of mortality and injury. This is an example of the interplay of physical and social vulnerability. When poor people lose the few assets they have, in a disaster, recovery may be more difficult than in the case of those with reserves and insurance - a case of economic vulnerability. In some contexts, particular social groups may live in conditions that are highly vulnerable to hazards or have less access to early warning and disaster relief.

Vulnerability is heavily conditioned by gender and age and, from context to context, the most vulnerable may be women, children and/or the elderly.

While poverty plays a key role in configuring vulnerability, the two are not synonymous. Social capacities, such as extended families and strong communities, may balance and in some cases outweigh economic vulnerabilities. Vulnerability to specific natural hazards often overlays vulnerability to everyday hazard. These include disease, economic hardship, malnutrition, inadequate or inexistent sanitation, conflict and crime, among others. The priority assigned by people to natural hazards depends on the relative importance of these other everyday hazards in

their day-to-day lives. This is a particular challenge for managing risk associated with low frequency but potentially high-impact hazards.

Note 6 – Disaster Risk Index

A global vision of human vulnerability has been provided by UNDP's Disaster Risk Index (DRI) which more appropriately could have been called a 'Disaster Vulnerability Index'. The Index is constructed using mortality figures from the EM-DAT database as a proxy for manifest risk. The DRI expresses human vulnerability as the relationship between the manifest risk (average number of people killed by a hazard type annually in a country over a 20-year period: 1980-2000) and hazard exposure for the same period and country. In other words:

$$\text{Vulnerability} = \text{Risk} / \text{Hazard Exposure}.$$

Put simply, if in both country X and Y, one million people were exposed to three similarly strong earthquakes per year, then their hazard exposure would be identical. However, if in country X, an average of 10,000 people were killed in earthquake disasters a year and in country Y only 100 people lost their lives, the human vulnerability for earthquakes would be 100 times greater in country X than in country Y.

Manifest risk, as derived from loss data, nevertheless has limitations if used for the estimation of future risk levels. In the case of infrequent events such as tsunamis, the approach is simply not valid particularly when working with historical datasets of only 20 years. A country that has not experienced a strong earthquake in the last 20 years and therefore has no earthquake-related mortality, would appear to have no earthquake risk. Risk would definitely exist, however, if strong earthquakes occurred in the country every 50 or 100 years, even if no earthquake had occurred in the 20-year reporting period. Conversely, risk and vulnerability levels will be distorted upwards if an extraordinary catastrophe happens in the reporting period.

Note 7 – Disaster Risk Hotspots

World Bank, op. cit. 2005. The vulnerability coefficient was constructed from EM-DAT loss data over the same 20-year period as used in the DRI. The loss data was classified by region and wealth class, which enabled the distorting effect of individual extraordinary events to be minimized. However, this approach also presents some problems. Most of the variance in EM-DAT mortality between countries is explained by hazard exposure and not by vulnerability factors (90 per cent for earthquakes, 82 per cent for tropical cyclones and 86 per cent for floods). The classified vulnerability coefficients may therefore tend to reflect differences in hazard levels between different regions and wealth classes rather than differences in vulnerability. The use of a vulnerability coefficient of this kind probably has the effect of flattening differences in risk between hotspots. It is not known if the variability in EM-DAT economic loss data is also explained by hazard exposure.

Note 8 – Disaster Deficit Index

An Inter-American Development Bank (IDB) study compared the likely economic loss attributed to a major disaster in a given time period with the economic coping capacity of a country, resulting in an indicator known as the Disaster Deficit Index (DDI). Seven criteria were used to calculate a country's economic coping capacity including: (1) insurance and reinsurance payments for insured government-owned goods and infrastructure; (2) disaster reserve funds; (3) public, private, national and international aid and donations; (4) new taxes; (5) budgetary reallocations, which usually correspond to the margin of discretionary expenses available to the Government; (6) external credit that the country could obtain from multilateral organizations and the external capital market; and (7) internal credit the country may obtain from commercial banks as well as the central bank. The DDI can therefore be considered as an indicator of a country's economic vulnerability to natural hazards. Unfortunately, at present, the indicator has only been applied in Latin America and the Caribbean, and therefore it is impossible to identify global trends.



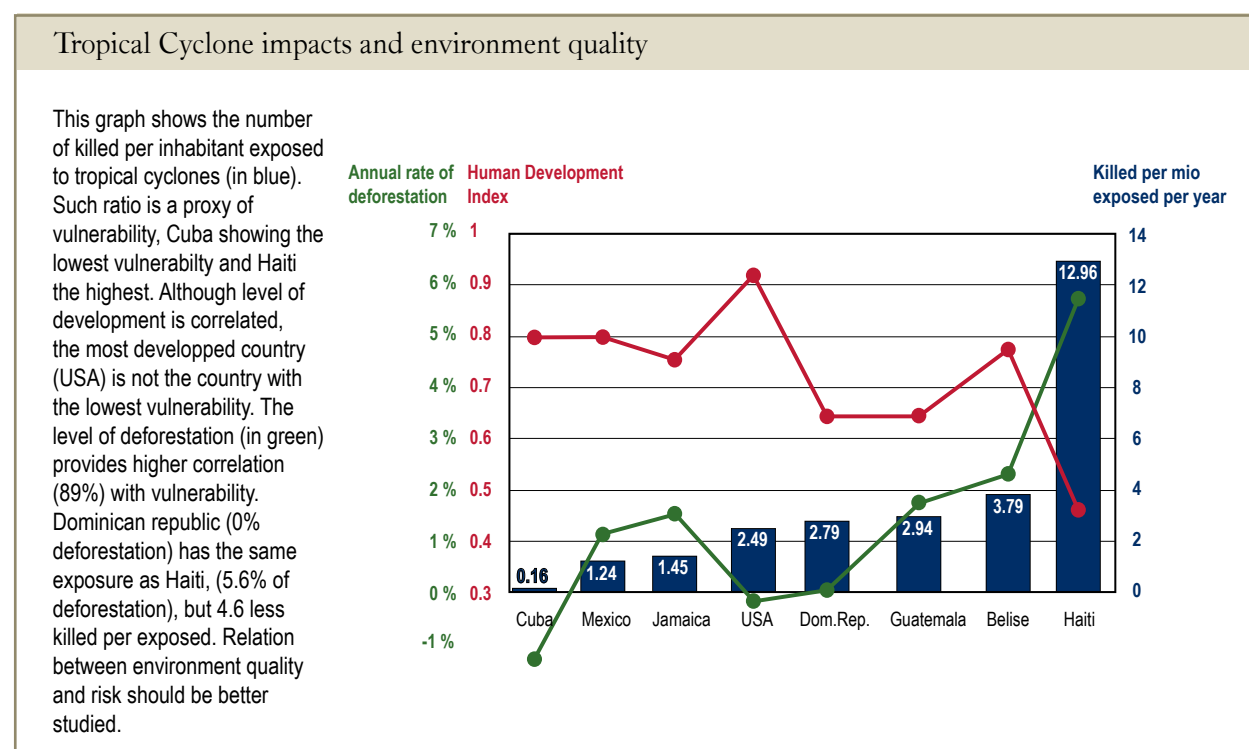
Note 9 – Disaster loss

Disaster occurrence and loss may occur abruptly as in the case of earthquakes or landslides, sometimes gradually as in the case of drought, sometimes visibly, as in the case of badly damaged houses and infrastructure, sometimes invisibly, as in the case of disrupted communities. Disasters are usually measured in terms of human impact (e.g. number of mortalities and injuries, number of displaced people) and in terms of physical impact (e.g. number of houses damaged or destroyed, number of hectares of crops lost, hospitals and schools damaged).

Disasters can be measured in terms of economic loss: direct loss, which is the monetary cost of damage and destruction; and indirect loss, which refers to the wider disruption of trade and economic activities. Absolute economic loss is usually greater in regions with a large concentration of high asset value infrastructure and economic activities, than in poorer or peripheral regions. However, relative economic loss may be far greater in poorer areas when losses are measured as a proportion of the total economic wealth.

Note 10 – Vulnerability factors

In the case of tropical cyclones, a strong correlation existed between mortality, a high percentage of arable land and a low rank on the Human Development Index (HDI)⁷². In other words, countries with large, predominantly rural populations and low levels of human development are most closely associated with high mortality in tropical cyclones. Possible explanations for this correlation are that rural housing in poor countries will tend to be more vulnerable to high winds, flooding and landslides than urban housing. Conversely, the weakness or non-existence of emergency and rescue services in rural areas of poor countries and lack of access to disaster preparedness and early warning are all vulnerability factors that could also contribute to cyclone mortality risk. There is also a correlation between mortality risk in tropical cyclones and environmental quality. Countries with very high rates of deforestation and low human development such as Haiti, suffer far greater mortality than neighbours such as the Dominican Republic.



Source: Adapted from Peduzzi, *Environment & Poverty Times*, #3, p.3, UNEP 2005

⁷² UNDP op. cit.

In the case of floods, mortality risk was closely associated with countries with low GDP per capita and low densities of population. Mortality from floods is therefore high in countries with sparsely populated, poor rural areas, where disaster preparedness and early warning is weak or non-existent and where health coverage is not easily accessible. In such areas, people would have less possibility to evacuate from flood-prone areas and would be more vulnerable to flood-related diseases.

In contrast, in the case of earthquakes, rapid urban growth was the vulnerability indicator most closely correlated with risk. In many rapidly growing cities, earthquake risk considerations are not factored into the building and planning processes and the sheer rapidity of urban growth conspires against the regulation of buildings and settlements in a way that reduces risk. In contrast to climate-related hazard, earthquake early warning is still a scientific challenge, while the relative infrequency of major earthquakes, tsunamis and volcanic eruptions conspires against preparedness.

Note 11 – Economic loss data

Economic loss data for disasters is far less robust than mortality data, at least in public domain and private sector databases. Detailed studies of the economic impact of specific large-scale disasters have been carried out by Governments with support from the World Bank, UNDP and regional development banks, using a methodology developed by the UN Economic Commission for Latin America and the Caribbean (ECLAC). The ECLAC methodology is usually applied in the aftermath of a major disaster to provide a technical justification for loan financing for recovery and reconstruction, and provides an exhaustive calculation of both direct and indirect economic losses. However, ECLAC-style assessments are only carried out for a fraction of disasters globally and thus provide a snapshot of specific disasters rather than a global vision.

Although the results of all existing applications of the ECLAC methodology are recorded in EM-DAT, this database contains economic loss entries for less than a third of the disasters registered. So while EM-DAT probably provides the best public domain data on the global economic cost of disasters, it is still a less than perfect sample. Due to lack of standardized methods for recording and calculating economic cost, except for those cases where the ECLAC methodology has been applied, economic cost estimates for individual disasters are not necessarily accurate.

Note 12 - National disaster databases

Most of these databases have been produced by a variety of governmental, non-governmental and academic organizations using the DesInventar (Disaster Inventory) methodology originally developed by the Network for Social Studies in Disaster Prevention in Latin America (LA RED) with technical support provided by UNDP and other sources.

DesInventar records all disaster losses occurring in a local administration area and has no minimum threshold. The principal data sources are national and local press and government data. DesInventar records a variety of disaster loss variables, including numbers killed and affected, housing and infrastructure damaged and destroyed, and, if available, also estimates of economic loss. With their higher resolution and a lower level of observation, national disaster databases contain far more information than it is possible to record at the global level, including thousands of small and medium-scale disasters that are either below the EM-DAT threshold or are simply not reported internationally. They thus in principle provide a more complete picture of absolute disaster loss at the national level, as well as permitting sub-national comparisons and analysis.



Note 13 – Mortality in extensive risk scenarios

In a study that compared the EM-DAT database with four national disaster databases for Chile, Colombia, Jamaica and Panama⁷³, two thirds of the total number of persons dead and missing over a 30-year period registered in both databases for the four countries occurred in a single disaster associated with the eruption of the Nevado del Ruiz in 1985: a conclusion coherent with the tendency for mortality to be concentrated in a few large-scale catastrophes.

Excluding this disaster from the analysis, approximately 27 per cent of the total mortality registered in the national databases corresponded to medium-scale events apparently not reported in EM-DAT. Due to the methodological complexities of comparing databases, it is possible that a part of this mortality is represented in EM-DAT. However, there is clearly a variable proportion of disasters, above the EM-DAT threshold, that are not captured internationally.

Another 18 per cent of the total mortality in the national databases corresponded to small-scale events below the EM-DAT threshold. Including the Nevado del Ruiz disaster, these manifestations of extensive risk represent 7 per cent of the total mortality in the four countries.

⁷³ Dilley et.al., IRI, Columbia University, (2007, unpublished) revised and updated an original study by LA RED, (2002), Comparative Study of Disaster Databases, document produced for ISDR Working Group 3 on Vulnerability, Risk and Impact Assessment.

Annex 2: List of Acronyms

ADPC	Asian Disaster Preparedness Centre
ADRC	Asian Disaster Reduction Center
AMCEN	African Ministerial Conference on Environment
AU	African Union
BCPR	Bureau for Crisis Prevention and Recovery (UNDP)
BOND	British Overseas NGOs for Development
CADM	Caribbean Disaster Management
CAPRADE	Andean Committee for Disaster Prevention and Relief
CARICOM	Caribbean Community
CBDRM	Community-based disaster risk management
CDERA	Caribbean Disaster Emergency Response Agency
CEPREDENAC	Centro de Coordinación para la Prevención de los Desastres Naturales en América Central (Coordination Centre for the Prevention of Natural Disasters in Central America)
CIIFEN	International Research Center on El Niño
CRED	Centre for Research on the Epidemiology of Disasters
CRID	Regional Disaster Information Center
DANIDA	Danish International Development Agency
DDI	Disaster Deficit Index
DesInventar	Inventario de Desastres (Disaster Inventory)
DFID	UK Department for International Development
DKKV	German Committee for Disaster Reduction
DRI	Disaster Risk Index
ECCAS	Economic Community of Central African States
ECLAC	Economic Commission for Latin America and the Caribbean (UN)
ECOSOC	Economic and Social Council (UN)
ECOWAS	Economic Community of West African States
EM-DAT	Emergency Events Database
EWG (II)	(Second) Early Warning Conference
GDP	Gross domestic product
GFDRR	Global Facility for Disaster Reduction and Recovery
GFMC	Global Fire Monitoring Center
GLOF	Glacial Lake Outburst Flood
GRID	Global Resource Information Database
GRIP	Global Risk Identification Programme
HDI	Human Development Index
HFA	Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters
IASC	Inter-Agency Standing Committee
ICPAC	IGAD Climate Prediction and Applications Centre
IDB	Inter-American Development Bank
IDNDR	International Decade for Natural Disaster Reduction
IEHS	Institute for Environment and Human Security (UNU – United Nations University)
IEWP	International Early Warning Programme
IFRC	International Federation of Red Cross and Red Crescent Societies
IFRC	International Federation of Red Cross and Red Crescent Societies
IGAD	Intergovernmental Authority on Development
IGNOU	Indira Gandhi National Open University
IIIES	International Institute of Earthquake Engineering and Seismology (Iran)
IOTWS	Indian Ocean Tsunami Warning System
IPCC	Intergovernmental Panel on Climate Change



IRI	International Research Institute for Climate and Society
ISDR	International Strategy for Disaster Reduction
IUCN	International Union for the Conservation of Nature and Natural Resources
JICA	Japan International Cooperation Agency
LA RED	Network for Social Studies in Disaster Prevention in Latin America
MDG(s)	Millennium Development Goal(s)
NAPA(s)	National Adaptation Plan(s) of Action
NASA	National Aeronautics and Space Administration (USA)
NEPAD	New Partnership for Africa's Development
NGI	Norwegian Geotechnical Institute
NGO	Non-governmental organization
OCHA	Office for the Coordination of Humanitarian Affairs
OFDA	Office for Foreign Disaster Assistance (USAID)
PPEW	Platform for the Promotion of Early Warning
PREDECAN	Project to Support Disaster Prevention in the Andean Community
SAARC	South Asian Association for Regional Cooperation
SADC	Southern Africa Development Community
SDC	Swiss Development Cooperation
SIDA	Swedish International Development Cooperation Agency
SOPAC	Secretariat of the South Pacific Applied Geoscience Commission
UN	United Nations
UN/ESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UN/ISDR	Inter-Agency Secretariat of the International Strategy for Disaster Reduction
UNDAC	United Nations Disaster Assessment and Coordination
UNDAF	United Nations Development Assistance Framework
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNESCO/IOC	UNESCO/Intergovernmental Oceanographic Commission
UNFCCC	United Nations Framework Convention on Climate Change
UNICEF	United Nations Children's Fund
UNV	United Nations Volunteers
WCDR (II)	(Second) World Conference on Disaster Reduction.
WFP	World Food Programme
WMO	World Meteorological Organization

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EM-DAT: The OFDA/CRED International Disaster Database of the Catholic University of Louvain, Brussels, Belgium: www.em-dat.net

Global Facility for Disaster Reduction and Recovery: www.worldbank.org/hazards/gfdrr

Global Platform for Disaster Risk Reduction: <http://www.preventionweb.net/globalplatform>

Global Risk Identification Programme (GRIP): <http://www.gri-p.net> GRID-Arendal: <http://www.grida.no/>

Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters: <http://www.unisdr.org/hfa>

Intergovernmental Panel on Climate Change: <http://www.ipcc.ch/>

International Strategy for Disaster Reduction: <http://www.isdr.org>

ISDR Terminology: Basic Terms of Disaster Risk Reduction: <http://www.unisdr.org/terminology>

LA RED: DesInventar: <http://www.desinventar.org>

Millennium Development Goals: <http://www.un.org/millenniumgoals/>

NASA Earth Observatory: <http://earthobservatory.nasa.gov/Newsroom/NasaNews/2006/2006021321735.html>

Nat cat website Munich Reinsurance Company: <http://mrnathan.munichre.com>

UNEP, Billion Tree Campaign: <http://www.unep.org/billiontreecampaign>

UNEP/GRID-Europe, PREVIEW project: <http://www.grid.unep.ch/preview>

World Conference on Disaster Reduction: <http://www.unisdr.org/wcdr/>

World Population Prospects: The 2006 Revision Population Database: <http://esa.un.org/unpp/>

⁷⁴ All website material listed was available online as of August 2007

Annex 5: List of Reports Received

From countries or territories

Africa:

Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Comoros, Republic of Congo, Djibouti, Eritrea, Gabon, Gambia, Guinea, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Niger, Nigeria, Central African Republic, Rwanda, Senegal, Seychelles, Sierra Leone, United Republic of Tanzania, Togo, Uganda, Zambia, Zimbabwe.

East Asia and Pacific:

Australia, Republic of Korea, Mongolia, the Philippines, Singapore, Thailand, Vietnam.

Europe and Central Asia:

Armenia, Cyprus, Finland, France, Georgia, Germany, Hungary, Kazakhstan, Norway, Sweden, Switzerland, Tajikistan, United Kingdom of Great Britain and Northern Ireland.

Latin America and the Caribbean:

Argentina, Brazil, British Virgin Islands, Cayman Islands, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Jamaica, Panama, Paraguay, Peru, Saint Lucia, Saint Kitts and Nevis, Bahamas, Turks and Caicos Islands, United States of America.

Middle East and North Africa:

Algeria, Egypt, Iran (Islamic Republic of), Iraq, Morocco, Yemen.

South Asia:

Bangladesh, India, Nepal, Pakistan, Sri Lanka.

From regions

SOPAC, (2007), Progress Report on the Implementation of the Hyogo Framework for Action for the Pacific Islands Region; Pacific Regional Framework for Action - An Investment for Sustainable Development in the Pacific Island Countries - Disaster Risk Reduction and Disaster Management, a Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters.

UN/ISDR Africa Regional Unit, World Bank (2007), Review of Disaster Risk Reduction in Sub-Saharan Africa Region, Disaster Risk Reduction profile of Sub-Saharan African (SSA) Countries.

UN/ISDR, ADPC, ADRC, (2007), Baseline Status of Disaster Risk Reduction (DRR) at the Start of the HFA Implementation Decade.

UN/ISDR, DKKV, (2007), Strengthening the Network of European National Platforms. Information collected by the German Committee for Disaster Reduction (DKKV) and on the basis of the information shared at the European National Platform and HFA Focal Points meeting in Strasbourg, May 2007, jointly organized with European and Mediterranean Major Hazard Agreement (EUR-OPA) and Council of Europe.

UN/ISDR Latin America and the Caribbean, (2007), Measuring Progress in Disaster Risk Reduction. Americas Regional Overview 2005-2006.

UN/ISDR, World Bank, (2007), Preliminary Regional Stocktaking of Natural Hazard Risk and Disaster Management Capacity: Middle East and North Africa. Building Partnerships for Disaster Risk Reduction and Natural Hazard Risk Management (Edit. Philip Buckle).

From organizations and ISDR thematic platforms

Climate Change and Disaster Risk Reduction, Global Fire Monitoring Center (GFMC), International Early Warning Programme (IEWP), International Recovery Platform (IRP), International Research Center on El Niño (CIIFEN), ISDR Thematic Cluster/Platform on Knowledge and Education.



Annex 6: Reporting on Disaster Risks and Progress in Disaster Risk Reduction

1. Reporting requirements of the Hyogo Framework for Action

Monitoring and reporting on progress is an essential feature of the Hyogo Framework. Responsibility for monitoring and reporting is assigned mainly to States (see paragraph 30), with specific requirements including the preparation of national baseline assessments, periodic summaries and reviews of progress, and reports on risk reduction progress in other policy frameworks (e.g. Millennium Development Goals), as well as contributing to regional assessments. States also agreed to develop procedures for reviewing progress against the Hyogo Framework and develop or refine indicators for national-level use.

Reporting responsibilities are also identified for regional organizations and institutions (paragraph 31), international organizations (paragraph 32) and the ISDR System partners and secretariat (paragraph 33). These include: the development of generic indicators of disaster risk and vulnerability at national and local scales for use by decision makers; the assembly of statistics on disaster occurrence, impacts and losses, regional risks and long-term changes; the implementation of measures for regular assessment of progress; the collection of data and provision of forecasting on hazards, vulnerabilities and risks and disaster impacts; and the coordination of a process to develop generic, realistic and measurable indicators. The ISDR secretariat is also requested to develop a matrix of roles and initiatives, identify gaps in implementation and prepare periodic reviews of progress, in the context of the General Assembly and related processes.

2. Reporting process in 2007

The ISDR secretariat has initiated the reporting process with a request issued on 26 January 2007 to the nationally nominated focal points for the Hyogo Framework (and to Member States' Permanent Missions to the United Nations Office in Geneva), accompanied by a guidance document entitled "Guidelines for Reporting on Progress on the Implementation of the Hyogo Framework: Measuring Progress in Disaster Risk Reduction". This document provided background information, explanations of the rationale and benefits of reporting, and guidelines on the format of the report. Similar requests were also made to members of the IATF/DR (Inter-Agency Task Force on Disaster Reduction) and to the leaders of ISDR-associated thematic platforms. The requested report format comprised three parts, as follows:

Part A: Cover note to identify the reporting organization, its reporting responsibility and the scope of the reporting provided.

Part B: Short overview of around three pages of the main features of progress toward implementing the Hyogo Framework, including the main achievements and the challenges faced, and the good practices and lessons learned. It was proposed that this be structured as follows:

- i. Brief description highlighting national and regional context;
- ii. Summary on impact of initiatives on people and economy: progress towards achieving the Hyogo Framework strategic goals and priority areas;
- iii. Recommendations if any, and updates in terms of planning and project including in changes in policies, rules and regulations.

Part C: Compilation of detailed information on specific initiatives on disaster risk reduction, structured on the five priority areas of the Hyogo Framework. A template was given to support a standard report format for each initiative, covering the initiative's objectives, main activities, results and achievements made, major challenges and lessons in implementing the initiative or programme, and lastly, the next steps planned. The document provided an example of a compilation of information.

It is intended that this reporting process should become an annual process in order to underpin a variety of reports to UN System bodies, in particular:

- i. Report on progress to the Global Platform for Disaster Risk Reduction (the first meeting of which was held from 5 to 7 June 2007).
- ii. UN Secretary-General reports on the ISDR and on other related topics to the UN General Assembly (usually prepared in July).
- iii. Other reports as required, for example to ECOSOC or by regional organizations.
- iv. Periodic in-depth global assessments of trends in disaster occurrence, disaster risk and progress in disaster risk reduction (see section 4 below). The reports will be made available on the ISDR secretariat web site.

3. Report to the Global Platform for Disaster Risk Reduction, 5-7 June 2007

The timetable for this first period of reporting was very compressed, which presented difficulties to reporting agencies in responding to the requests for reporting and to the UN/ISDR secretariat in summarizing the available information in time for the June 2007 First Session of the Global Platform for Disaster Risk Reduction. A Draft Report of 65 pages was made available in English at the Session. Feedback and inputs provided during the Session were incorporated into the Report.

As of August 2007, 62 member states had provided national reports. Additional information is also available from other sources, including from previously collected information that has been already captured in the Matrix of Commitment and Initiatives (see section 6 below) and through enquiries conducted in late 2006 and early 2007 under certain regional projects. Of particular note is the generation of regionally aggregated reports for four regions - Africa, Asia, Latin America and the Caribbean, and Middle East and North Africa - which provided a regionally informed foundation to the report to the Global Platform.

The report to the Global Platform covers the period 2005-2006, with a view to updating on progress since the last major reporting exercise associated with the Second World Conference on Disaster Reduction in January 2005. It covers, firstly, recent trends and patterns in disasters and global disaster risk, mainly culled from recent global and regional reports such as those produced by partners of the Global Risk Identification Programme (GRIP) and by the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report, and secondly, the progress being made by countries and organizations to reduce risks and to implement the Hyogo Framework. Because the information available covers a limited number of countries, the Report necessarily provides only a partial and hence indicative account of the progress being made.

A number of initial points can be identified to date. The first year of the period, 2005, immediately following the devastating Indian Ocean tsunami, saw a succession of major events including the earthquakes in Kashmir and Hurricane Katrina in the USA, while the following year was less extreme with relatively few major events. Nevertheless in 2006 there were 426 reported natural disasters that killed more than 23,000 people, affected 143 million others, and were the cause of more than USD 34.6 billion in economic damage. Asia remained the most affected continent, and floods and windstorms continued to be the two major causes of economic impact⁷⁵.

Evidence from risk assessments indicates two broad global trends:

- i. Risk of catastrophic disasters in hotspots, where people and economic activities are intensively concentrated in areas exposed to large-scale hazard events: events of this sort are well publicised and often result in significant responses, including moves to implement risk reduction measures in the countries concerned.
- ii. Risk of low-intensity asset loss and livelihood disruption, sometimes over extensive areas where people and economic activities are exposed to localized hazard events, mainly climate related: these events generally are not well publicized and typically do not lead to any major changes in policy or behaviour.

⁷⁵ <http://www.em-dat.net/documents/CRED%20CRUNCH%208%20-%20March%2020071.pdf>



It is clear however that many Governments and organizations recognized the need to raise the priority of disaster risk reduction in 2005 and 2006, and are directly responding to the expectations and directions of the Hyogo Framework. Evidence of this may be seen in the following items:

- i. Official Hyogo Framework Focal Points have been established by 111 countries and five subsidiary territories.
- ii. National platforms for Disaster Risk Reduction have been launched in 39 countries.
- iii. Ministerial-level regional agreements and strategies have been agreed or are being developed in several regions and sub-regions, (Africa, Asia, Pacific Islands, Latin America and the Caribbean).
- iv. Specific risk reduction strategies or initiatives have been developed by a number of international agencies, including the UNDP, World Bank and WMO.
- v. The UN and ISDR partners have strengthened the ISDR System, with the support of Governments, to actively and systematically promote and support the implementation of the Hyogo Framework.

4. Global Assessment Report on Disaster Risk Reduction, 2009 (GAR/DRR)

The Hyogo Framework calls on the ISDR secretariat and partners to prepare periodic reviews of progress and to identify gaps in implementation. In response, a long-term project, coordinated by the ISDR secretariat, has been developed to prepare a major global stocktaking on trends in disaster risks and progress on disaster risk reduction. This stocktaking will be presented in the form of ISDR system wide biennial global assessment reports on disaster risk reduction. The first ISDR biennial report is being currently prepared for release in 2009. It aims to be a landmark assessment based on thorough analysis of achievements and gaps in implementing the Hyogo Framework, that will provide a foundation for future priorities and policy on disaster risk reduction, as well as an important advocacy tool at all levels.

The Report will also provide an important stimulant to the assembly of statistics on disaster occurrence, impacts and losses, regional risks and long-term changes and to the collection of data and provision of forecasting on hazards, vulnerabilities and risks and disaster impacts; the need for these activities being specifically identified in the Hyogo Framework.

The Report will be developed as an integral part of the ongoing work on reporting by the ISDR System and ISDR secretariat. It will draw on the information routinely provided by Governments and ISDR System partners, and its analyses will progressively inform ISDR annual reports and reviews. It will also make use of inputs from ISDR partners, regional and sub-regional organizations, consultant studies, and special data analyses. Its quality will be secured by peer reviews, ISDR consultation and guidance processes, and ISDR secretariat overview. A senior expert has been seconded from UNDP to lead the production of the Report. The project is also supported through the World Bank partnership with the ISDR secretariat.

5. Guidance on indicators

The Hyogo Framework requests the ISDR System, supported by the ISDR secretariat, to coordinate the development of “generic, realistic and measurable indicators” for disaster risk reduction. It encourages States to thereafter develop and refine indicators for national use. Indicators, benchmarks and targets are commonly accepted tools to focus and guide development investments, the MDGs being an important example. The effective development and application of indicators and benchmarks for disaster risk reduction will require collaborative and concerted effort by academics, practitioners and policy makers, with a strong focus on practicality and effectiveness in particular national settings.

A guidance paper on indicators has been developed to respond to the Hyogo Framework request noted above, drawing on an online consultation held in 2005 and on consultant drafts and expert inputs. The paper includes a proposed draft set of indicators to address the Hyogo Framework’s stated outcome, strategic goals and priorities for action.

It is expected that a number of countries will actively explore the application of the indicators once they are published, with the support of UNDP and other ISDR System partners. The UN/ISDR secretariat will also seek

to foster follow-up activities, including workshops, to advance the development and use of indicators in national and international programming and reporting, along with associated practices such as benchmarking.

6. Matrix of commitments and initiatives

The Hyogo Framework calls upon the UN/ISDR secretariat to develop a matrix of commitments and initiatives in support of follow-up to the Hyogo Framework. Information for the matrix has been gathered principally for international and regional levels, and is structured to support planning, guidance and reporting on accomplishments and to assist in identifying gaps or overlapping commitments. The format of the matrix is aligned with the Hyogo Framework's five priorities for action. The reporting format referred to in section 2 above has the same common format, to enable reported information to be added to the matrix where relevant.

The matrix currently exists in a spreadsheet format on the ISDR website, together with initial emerging elements of analysis. However, to make the information more readily available and to facilitate its analysis, the UN/ISDR secretariat is now working to convert the information into a structured form that will allow its conversion to a relational database and to make the database available online via the web. The database is expected to be fully operational by the end of 2007.

7. Future challenges and priorities

Given that States have the primary responsibility for taking measures to reduce disaster risk, and for monitoring and reporting on their progress, the ISDR System and secretariat needs to focus on assisting national efforts towards these ends, in addition to the task of collating information for international purposes. It is desirable to give priority to the countries most in need in terms of their vulnerability and lack of capacities, and to stimulate efforts toward building practicable and durable capacities for systematic monitoring and reporting, including underpinning data systems and methodologies.

Routine monitoring and reporting require considerable effort and resources over periods of years, particularly by States. Many Governments are already concerned about the burden of monitoring and reporting for numerous international conventions and agreements to which they are party. Current efforts to institute a systematic common reporting process, with an annual cycle of reporting requests and accessible electronic databases of information, will help simplify and reduce the demands. Nevertheless, further continued study and dialogue will be needed to ensure cost-effectiveness and sustainability of reporting at national, regional and international levels.

Regional and sub-regional organizations are identified in the Hyogo Framework as important elements of monitoring and reporting processes, but to date this role has not been well developed. Systematic dialogue and engagement will be needed to clarify and strengthen the role and operational responsibilities of regional and sub-regional organizations in the reporting processes. Similarly, the supporting role of ISDR System partners remains to be developed.

While it makes sense to start the operational reporting process in a modest way and to develop the capabilities of all parties as experience allows, it is clear that the progress on reporting is less than satisfactory. More concerted efforts are needed to make reporting an intrinsic and effective part of risk reduction policy and practice. Among other things, there appears to have been little progress toward meeting the Hyogo Framework's call for national baseline assessments, periodic summaries and reviews of progress, reports on risk reduction progress in other policy frameworks (e.g. MDGs), procedures for reviewing progress and to develop or refine indicators at national level, or to undertake regional assessments.

The UN/ISDR secretariat will continue to seek close linkages between the reporting activities and other ISDR System activities, including the development of guidance material for the implementation of the Hyogo Framework, the development of the matrix of commitments and initiatives, and the building of the ISDR information portal "PreventionWeb". The secretariat will also work toward developing more specific guidance, for example on the practical implementation of indicators, on systematic monitoring and reporting methods, and on ensuring disaster risk reduction inputs to other reporting processes, such as for the MDGs and climate change.



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