



Disaster Risk Reduction: international policies

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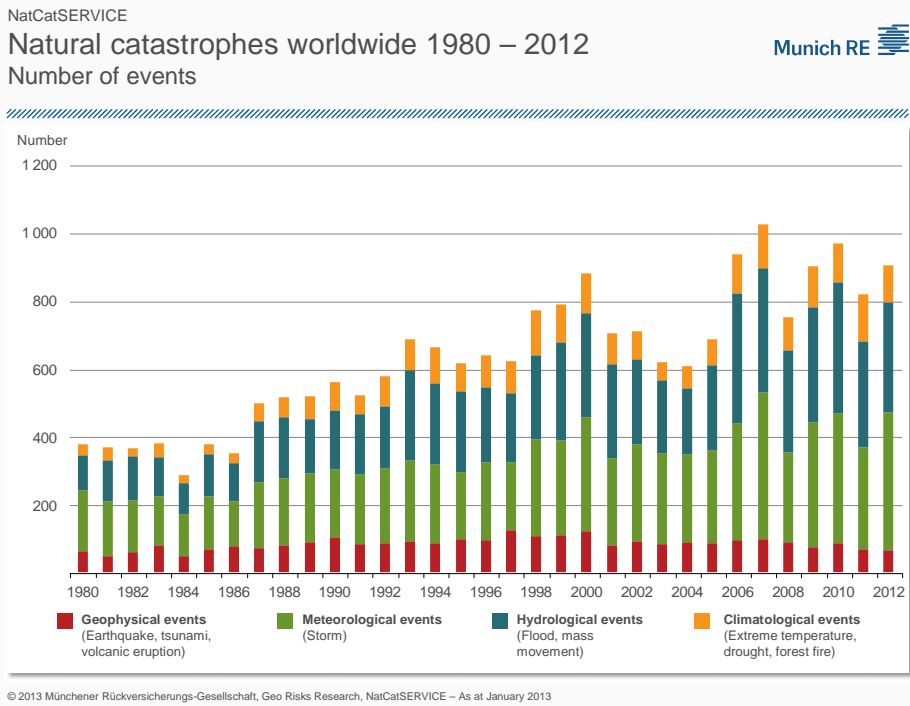
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www.irdrinternational.org, www.preventionweb.net, www.unisdr.org

Overview

- I Global data and trends on “natural “ disasters, key concepts
- II Key international instruments: UN International Strategy for Disaster Reduction and its Hyogo Framework for Action (2005-2015), and Integrated Research on Disaster Risk
- III Climate change, a main disaster reduction issue

I Global data and trends on “natural “ disasters, understanding key concepts



Significant natural catastrophes 1980 - 2012

10 costliest events worldwide ordered by overall losses

Period	Event	Affected Area	Overall losses	Insured losses	Fatalities
			US\$ m, original values		
11.3.2011	Earthquake, tsunami	Japan: Honshu, Aomori, Tohoku; Miyagi, Sendai; Fukushima, Mito, Ibaraki; Tochigi, Utsunomiya	210,000	40,000	15,840
25-30.8.2005	Hurricane Katrina, storm surge	USA: LA, New Orleans, Slidell; MS, Biloxi, Pascagoula, Waveland, Gulfport	125,000	62,200	1,322
17.1.1995	Earthquake	Japan: Hyogo, Kobe, Osaka, Kyoto	100,000	3,000	6,430
12.5.2008	Earthquake	China: Sichuan, Mianyang, Beichuan, Wenchuan, Shifang, Chengdu, Guangyuan, Ngawa, Ya'an	85,000	300	84,000
24-31.10.2012	Hurricane Sandy, storm surge	Bahamas, Cuba, Dominican Republic, Haiti, Jamaica, Puerto Rico, USA, Canada	65,000	30,000	210
17.1.1994	Earthquake	USA: CA, Northridge, Los Angeles, San Fernando Valley, Ventura, Orange	44,000	15,300	61
1.8-15.11.2011	Floods	Thailand: Phichit, Nakhon Sawan, Phra Nakhon Si Ayutthaya, Pathumthani, Nonthaburi, Bangkok	43,000	16,000	813
6-14.9.2008	Hurricane Ike	Cuba, Haiti, Dominican Republic, Turks and Caicos Islands, Bahamas, USA	38,000	18,500	170
May - Sept 1998	Floods	China: Jangtsekiang, Songhua Jiang	30,700	1,000	4,159
27.2.2010	Earthquake, tsunami	Chile: Bió Bió, Concepción, Talcahuano, Coronel, Dichato, Chillán; Del Maule, Talca, Curicó	30,000	8,000	520

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As at: March 2013

Significant natural catastrophes 1980 - 2012

10 deadliest worldwide events

Period	Event	Affected Area	Overall losses	Insured losses	Fatalities
			US\$ m, original values		
12.1.2010	Earthquake	Haiti: Port-au-Prince, Petionville, Jacmel, Carrefour, Leogane, Petit Goave, Gressier	8,000	200	222,570
26.12.2004	Earthquake, tsunami	Sri Lanka, Indonesia, Thailand, India, Bangladesh, Myanmar, Maldives, Malaysia	11,200	1,000	220,000
2-5.5.2008	Cyclone Nargis, storm surge	Myanmar: Ayeyawaddy, Yangon, Bugalay, Rangun, Irrawaddy, Bago, Karen, Mon, Laputta, Haing Kyi	4,000		140,000
29-30.4.1991	Tropical cyclone, storm surge	Bangladesh: Gulf of Bengal, Cox's Bazar, Chittagong, Bola, Noakhali districts, esp. Kutubdia	3,000	100	139,000
8.10.2005	Earthquake	Pakistan, India, Afghanistan	5,200	5	88,000
12.5.2008	Earthquake	China: Sichuan, Mianyang, Beichuan, Wenchuan, Shifang, Chengdu, Guangyuan, Ngawa, Ya'an	85,000	300	84,000
July - Aug 2003	Heat wave, drought	France, Germany, Italy, Portugal, Romania, Spain, United Kingdom	13,800	1,120	70,000
July - Sept 2010	Heat wave	Russian Federation: Moscow region, Kolomna, Mokhovoye	400		56,000
20.6.1990	Earthquake	Iran: Caspian Sea, Gilan province, Manjil, Rudbar; Zanjan, Safid, Qazvin	7,100	100	40,000
26.12.2003	Earthquake	Iran: Bam	500	19	26,200

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As at: March 2013

**The vision of disaster risk reduction:
building resilience into sustainable development**

**The six
principles of
sustainability**

www.colorado.edu/hazards/publications/informer/informer3/informer3c.htm



Global Trends - Disasters are NOT natural

Greater exposure to natural and human-induced hazards, climate change and variability

Socio-economic: poverty & unsustainable development styles, unplanned urban growth and migrations, lack of risk awareness & risk governance institutions & accountability...

Physical: insufficient land use planning and safety awareness, housing & critical infrastructure in hazard prone areas...

Ecosystem & natural resource depletion (coastal, - coral reefs, mangroves...-; mountains; watersheds; wetlands; forests...)

**HAZARDS +
EXTREME EVENTS**



What is Disaster Risk Reduction (DRR)?

- A conceptual framework consisting of ways and means:
 - To minimize disaster risks (hence, loss of lives, livelihoods and property) by reducing the degree of vulnerability and increasing resilience capacity
 - To avoid (prevention) or to limit (mitigation and preparedness) the adverse impacts of natural phenomena, as an essential requirement for sustainable development

$$\begin{array}{|c|} \hline \text{Natural hazard} \\ \hline \text{+ Exposure} \\ \hline \end{array} \times \begin{array}{|c|} \hline \text{Vulnerability} \\ \hline \text{- Capacity} \\ \hline \end{array} = \begin{array}{|c|} \hline \text{Disaster Risk} \\ \hline \end{array}$$

Disasters: traditional understanding and priorities...

- **Fatalistic perception:** « natural » disasters = acts of god = focus on preparedness for response, not understanding disasters as a human and development creation with need to focus on human and social vulnerability, as it happens in health and traffic accident prevention...
- **Governance & policy focused on emergency preparedness:**
 - EMERGENCY MANAGEMENT: as humanitarian action it is politically sensitive,
 - SECTORIAL AND SHORT-TERM oriented
- **Fragmented knowledge in academic institutions:** Focus on natural sciences, economics, quantitative analysis (DRIP syndrome), not enough social sciences, ethics, governance, knowledge-based and applied research, qualitative analysis...

Some key documents

Natural Hazards, Unnatural Disasters – The Economics of Effective Prevention by World Bank and ISDR system

- Evaluates economic arguments related to DRR, through a cost-benefit analysis of different DRR policies and measures
- Influences the broader thinking related to disaster risk, awareness of the potential to reduce the costs of disasters, and guidance on the implementation of disaster risk-reducing interventions
- The study was issued in Nov 2010 and is available at: <http://www.gfdrr.org/gfdrr/nhud-home>

Global Assessment Reports on Disaster Risk Reduction by ISDR system partners (2009, 2011, 2013)

- Reports are launched at the biennial sessions of the Global Platform for DRR in Geneva
- Each contains new approaches, focusing on current issues and providing an overall assessment of progress in DRR at all levels and by various sectors
- Available at www.preventionweb.net and www.unisdr.org

II Key international instruments: UN International Strategy for Disaster Reduction and its Hyogo Framework for Action (2005-2015), and Integrated Research on Disaster Risk

Disaster Reduction – An Agenda in Progress

1989: IDNDR 1990-1999 – promotion of disaster reduction, scientific development

1994: 1st WCDR - Yokohama Strategy and Plan of Action – Mid-term review
IDNDR, first disaster reduction policy guidance

1998: UNDP inherits DRR function from DHA (former OCHA) for supporting
capacity development on DRR at national level

2000: International Strategy for Disaster Reduction (ISDR) – for increased
*public awareness, link to sustainable development, enlarged coordination at int'l
and regional levels, networking and partnerships ISDR secretariat, UN Trust Fund*

2002: Johannesburg Plan of Implementation- WSSD Includes a new section on
*“An integrated, multi-hazard, inclusive approach to address vulnerability, risk
assessment and disaster management...”*

**2005: 2nd WCDR - Hyogo Framework for Action 2005-2015: Building the
Resilience of Nations and Communities to Disasters**

**2007, 2009, 2011, 2013: 1st to 4th sessions Global Platform for Disaster Risk
Reduction** Monitor HFA progress, facilitate further actions and partnerships, take
stock, identify gaps and obstacles and share lessons and good practices

**2010: Mid-term review of the HFA and links with CC Adaptation COP-16, MDGs
2010 review and 2012 Sustainable Development Rio Summit...**

International Strategy for Disaster Reduction

**Launched in 2000 by UN General Assembly Resolution
A/54/219 as successor of the International Decade on
Natural Disaster Reduction – IDNDR, 1990-1999:**

The ISDR aims at building disaster resilient communities by promoting increased awareness of the importance of disaster reduction as an integral component of sustainable development, with the goal of reducing human, social, economic and environmental losses due to natural hazards and related technological and environmental disasters.



World Conference on Disaster Reduction

2nd WCDR, Kobe, Hyogo, Japan, 18-22 January 2005

Hyogo Framework for Action 2005-2015: Building the resilience of nations and communities to disasters (HFA)

- ✓ 3 Strategic goals
- ✓ 5 Priorities for action
- ✓ Implementation and follow-up

Expected outcome:

The WCDR resolved to pursue the following expected outcome for the next 10 years: ***the substantial reduction of disaster losses, in lives & in the social, economic & environmental assets of communities & countries***. The realization of this outcome will require the full commitment & involvement of all actors concerned, including governments, regional & international organizations, civil society including volunteers, the private sector & the scientific community.

Hyogo Framework for Action 2005-2015 (continued)

3 strategic goals:

- The integration of disaster risk reduction into sustainable development policies & planning
- The development & strengthening of institutions, mechanisms & capacities to build resilience to hazards
- The systematic incorporation of risk reduction approaches into the implementation of emergency preparedness, response & recovery programmes

Hyogo Framework for Action 2005-2015 (continued)

Five priorities for action:

1. **Governance:** ensure that disaster risk reduction is a national and local priority with strong institutional basis for implementation
2. **Risk identification:** identify, assess and monitor disaster risks and enhance early warning
3. **Knowledge:** use knowledge, innovation and education to build a culture of safety and resilience at all levels
4. **Reducing the underlying risk factors** in various sectors (environment, health, construction, private sector etc.)
5. **Strengthen disaster preparedness for effective response**

National Platforms for Disaster Risk Reduction

- **HFA paragraph 16 (a):** Support the creation & strengthening of national integrated disaster risk reduction mechanisms, such as multi sectoral national platforms with designated responsibilities at the national through to the local levels to facilitate coordination across sectors. National platforms should also facilitate coordination across sectors, including by maintaining a broad based dialogue at national & regional levels for promoting awareness among the relevant sectors
- Main functions: multi-sectoral & multi-stakeholder consultation mechanism linked to highest levels of authority, for advice & facilitation of risk reduction processes in a country, province, city or town; awareness, knowledge & policy development (not the same as civil protection or disaster management coordination committees for response to disasters but very complementary)
- Currently there are 63 formally established platforms in addition to other similar mechanisms (committees, commissions, forums, etc.) working on DRR

National Platforms for DRR

Argentina	France	Nigeria
Botswana	Gabon	Panama
Bulgaria	Germany	Peru
Burkina Faso	Ghana	Philippines
Burundi	Guatemala	Poland
Canada	Hungary	Russian Federation
Cape Verde	Indonesia	Senegal
China	Iran	Seychelles
Colombia	Italy	South Africa
Comoros	Jamaica	Spain
Congo, Republic of	Japan	Sri Lanka
Costa Rica	Kazakhstan	Sweden
Croatia	Kenya	Switzerland
Czech Republic	Kyrgyzstan	Tajikistan
Djibouti	Lesotho	Tanzania
Dominican Republic	Macedonia	Togo
Ecuador	Madagascar	Uganda
Egypt	Mali	United Kingdom
El Salvador	Mexico	United States of America
	Monaco	Venezuela
	Nicaragua	Zambia
	Niger	

Main international processes on DRR or resilience building

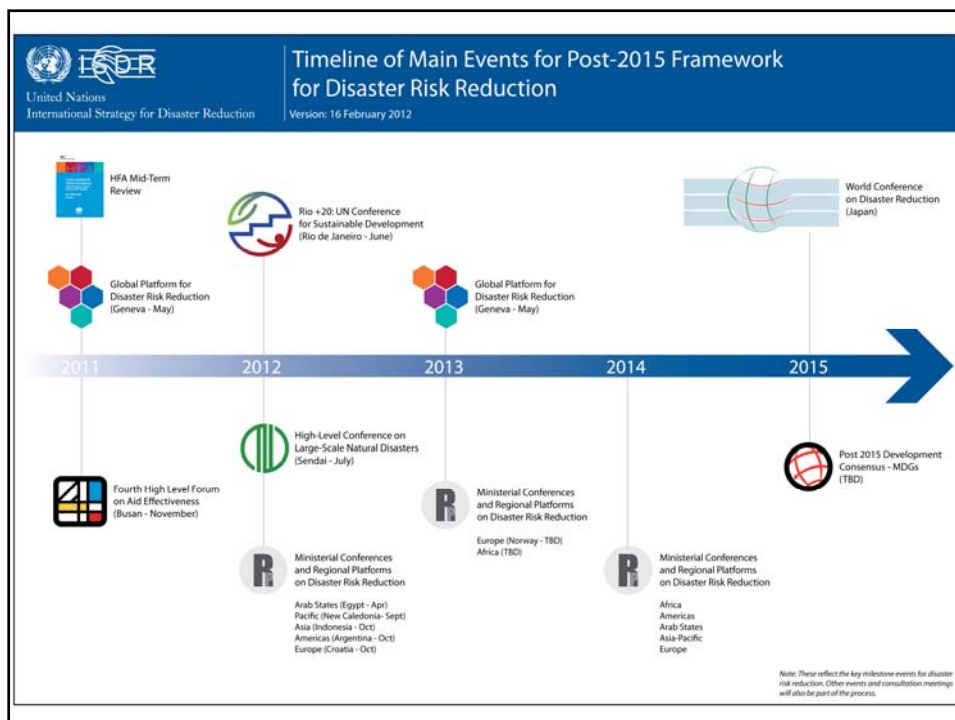
- *International Strategy for Disaster Reduction (ISDR) & Hyogo Framework for Action (HFA) Secretariat: UNISDR www.unisdr.org and www.preventionweb.net*
- *Other major negotiating processes, in which DRR is an essential component: the Sustainable Development Goals www.sustainabledevelopment.un.org and the Climate Change negotiations www.unfccc.int*
- *Additionally, the World Bank manages the Global Facility for Disaster Reduction and Recovery www.gfdr.org; UNDP, the Global Risk Information Platform (GRIP) www.gripweb.org/gripweb/; and the Global Network of Civil Society Organisations (GNDR) www.globalnetwork-dr.org, a wide collection of videos on DRR, among other resources*

Major international scientific/academic programmes on

DRR

- *Integrated Disaster Risk Management (IDRIM), annual forum, managed by DPRI, Kyoto University in collaboration with partners*
- *International Disaster and Risk Conference (IDRC), biennial conference managed by the Global Risk Forum (GRF), Davos, CH*
- *Integrated Risk Governance Project (IRG) <http://irgproject.org>*
- *Integrated Research on Disaster Risk (IRDR) of ICSU/ISSC/ISDR managed by the ICSU/IRDR/IPO, Beijing, China*
 - www.irdrinternational.org
- *Regional academic networks, such as AUEDM (Asia), Peri-Peri (Africa), La Red (Latin America and Caribbean) and other.*

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**Disaster Reduction – An Agenda in Progress,
cont...**

Next challenges, to 2015 & beyond...

- **Stronger risk governance institutions from local to international...**
- **DRR formally recognized as first step for CC adaptation** in successor agreement to Kyoto Protocol (COP-19 Warsaw 2013, COP-20 Latin America 2014 & COP 21 France 2015...)
- **DRR an essential requirement in the upcoming SDGs in 2015**
- **Hazard risk reduction recognized as essential ecosystem service**

Disaster Reduction – An Agenda in Progress, cont...

- Awareness-raising on **building safety for homes, schools, offices... “health of buildings”...**
- **Including involvement of leaders and high-level authorities** from public & private sectors & civil society
- **Ethical perspective of disasters & risk reduction** as part of sustainable development and essential requirement for poverty elimination...
- Resilience for **economy & trading capacity** in countries dependent on exports

The Integrated Research on Disaster Risk programme of ICSU/ISSC/ISDR

Key questions and a response:

- Why, despite advances in the natural and social science of hazards and disasters, do losses continue to increase?
 - To what extent is the world-wide growth in disaster losses a symptom and indicator of unsustainable development?
- addressing the challenge of natural and human-induced environmental hazards with an integrated approach to research on disaster risk through: an international, multidisciplinary (natural, health, engineering and social sciences, including socio-economic analysis) collaborative research programme. To be found at:
- IRDR Science Plan at:**
www.irdrinternational.org/

The IRDR Science Plan:

Forensic Disaster Investigations – FORIN & IRDR Legacy

- Probe further into complex and underlying causes of growing disaster loss
- Fundamental cause of disasters
- Trace out and assign causal explanation of losses
- Intervening conditions that increased or reduce losses
- Series of case studies
- Common template and methodology as a standard for research on disaster risk
- An enhanced capacity around the world to address hazards and make informed decisions on actions to reduce their impacts.
- Societies to shift focus from response-recovery towards prevention-mitigation, building resilience and reducing risks, learning from experience and avoiding past mistakes.



III

Climate change, a main disaster reduction issue

Climate change and disaster risks

1. Evidence of more extreme events already found (IPCC Assessments) – temperatures rising, loss of glaciers and polar ice, droughts, heavy rainfall, heat and cold waves, stronger tropical cyclones, floods...
2. Populated deltas as well as small island developing states (SIDS) are most at risk to sea-level rise
3. Impacts in 3 ways: (i) more extreme events (increased frequency and intensity) in same areas (ii) more extreme events in new areas, not prepared for them and (iii) new impacts from sea level and temperature rise, glacier melting and greater stresses on ecosystems and water
4. Increasing disaster risk is primarily due to development practices

Climate policy to reduce disaster risks

1. UNFCCC COP 13 2007 Bali Action Plan proposed “*risk management and risk reduction strategies, including risk sharing and transfer mechanisms*”... and ... “*disaster reduction strategies and means to address loss and damage in developing countries*”...
2. UNFCCC AWG-LCA agreed on DRR & HFA for CC adaptation at 2009 COP 15 Copenhagen, confirmed at 2010 COP 16 **Cancun Adaptation Framework** and Durban 2011, Doha 2012, expected to be kept at Warsaw 2013, Peru/Venezuela 2014 and France 2015)...
3. Disaster risk reduction & CC adaptation have the most leverage when placed at the centre of national development planning, DRR still to be integrated in national CC adaptation plans (NAPAs & other), & in criteria for all adaptation funding
4. [IPCC 2012 Special Report on Managing the Risk of Extreme Events & Disasters to advance CC Adaptation \(SREX\)](http://ipcc-wg2.gov/SREX/), available at <<http://ipcc-wg2.gov/SREX/>>

- ***Climate change and disaster risk are intertwined issues***
- ***Important opportunity to achieve reductions in disaster risk***
- ***HFA as an important available tool for adaptation to climate change and other hazards (earthquakes, etc.)***
- ***ISDR, IRDR, GFDRR, GNDR in place, more partnerships to take actions and work together***

Some reflections as conclusions

- Main achievements (“half glass full”) so far:
 - DRR recognized as a priority policy objective by most governments, intergovernmental and regional organizations, expanding now to local levels around the world;
 - HFA serving as a common policy guidance, now moving into more specific technical and policy advice;
 - Greater development of DRR activities by private sector and civil society organizations;
 - DRR formally accepted as a requirement for sustainable development, possibly going into SDG and in CC negotiations, expected to be part of successor arrangement to Kyoto Protocol
 - DRR now developing into more integrated treatment by academic institutions, separate from natural hazards and emergency management studies, greater interest from social and legal sciences

Some reflections as conclusions, cont.

- Main shortcomings (“half glass empty”) remaining:
 - Despite advancement in above areas, many governments and other organizations still have not turned formal recognitions into the appropriate institutional mechanisms required, risk governance still in its early stages, still too closely linked with emergency management
 - Urgent to address relocation of populations in coastal and delta areas expected to be affected by sea-level and sea-temperature rise, some populations around the world are already being affected and have seen their livelihoods seriously affected
 - DRR being a long-term goal, it is important to develop specific targets and indicators that stakeholders, sectors and levels can use in measuring and assessing their progress
 - At the international level, urgent that international organizations join efforts in promoting and facilitating DRR together for greater impact in governments, private sector, civil society organizations and scientific and academic institutions; the UN also needing to provide leadership by giving greater priority to DRR

Some reflections as conclusions, cont.

Main shortcomings (“half glass empty”) remaining:

- Due to its cultural nature, as a paradigm shift, it is important that academic and institutions develop integrated approaches on research and education to facilitate such new understanding, allowing future professionals to be competent to address challenges in risk management and citizens being prepared to manage risk in their daily lives. As they do with their own health
- Such effort must be accompanied by closer collaboration between scientific/academic institutions and governments for evidence and science-based policy-making, the ICSU/IRDR programme was launched to promote and facilitate these processes.
- Important to develop at local level community participatory approaches, for managing risk; it has been clearly demonstrated how communities are more able to manage risk in more effective ways than national or larger institutional mechanisms (see studies by late Prof Elinor Ostrom, Indiana University, 2009 Nobel Prize Economics)
- Finally it is expected that the post-2015 regime for DRR, to be launched at Sendai in 2015, will provide guidance on all these requirements for common international action.

THANK YOU

www.irdrinternational.org

www.preventionweb.net

www.unisdr.org

www.globalquakemodel.org

www.gfdr.org

www.globalnetwork-dr.org