

# Inventory of Initiatives on Hazard, Vulnerability and Risk Assessments for Asia and Pacific



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## Inventory on initiatives on Hazard, Vulnerability and Risk Assessment

Sl. No.	Name of Assessment	Implementing Organization	Brief description	Focus		Target audience	Outputs	Reference
				Hazard	Vulnerability			
<b>Risk Assessment</b>								
1	Disaster Risk Index (DRI) (Global Risk And Vulnerability Index Trend per Year (GRAVITY))	UNDP, 2004	<ul style="list-style-type: none"> <li>It enables the measurement and comparison of relative levels risk of death in natural disasters between countries.</li> <li>It does not measure risk to physical infrastructure and to the economy but only one aspect of risk to human development, namely the risk of mortality.</li> </ul>	Natural hazards: <ul style="list-style-type: none"> <li>Earthquake</li> <li>Flood</li> <li>Cyclone</li> </ul>	Relative vulnerability of a given country to a given hazard was calculated by dividing the number of people killed by the number exposed.	<ul style="list-style-type: none"> <li>Development agencies</li> <li>Polymakers</li> </ul>	<ul style="list-style-type: none"> <li>Published in the report: Reducing Disaster Risk: A Challenge</li> <li>Online tool comprising of the Country Profile and DRI analysis tool</li> </ul>	<a href="http://www.grid.unep.ch/activities/earlywarning/DRI/">www.grid.unep.ch/activities/earlywarning/DRI/</a>
2	Natural Disaster Hotspots: A Global Risk Analysis	The World Bank, Hazard Management Unit, Volume I, 2005, Volume II, 2006	<ul style="list-style-type: none"> <li>Natural Disaster Hotspots presents a global view of major natural disaster risk hotspots - areas at relatively high risk of loss from one or more natural hazards.</li> <li>Data on the identified hazards are combined with state-of-the-art data on the sub-national distribution of population and economic output and past disaster losses to identify areas at relatively high risk from one or more hazards.</li> <li>Risk of mortality and economic losses are the assessed disaster outcomes.</li> </ul>	Natural hazards: <ul style="list-style-type: none"> <li>Earthquake</li> <li>Volcano</li> <li>Landslide</li> <li>Flood</li> <li>Drought</li> <li>Cyclone</li> </ul>	High definition (sub-national) population distribution, economic output, and past disaster losses	<ul style="list-style-type: none"> <li>Development agencies</li> <li>Polymakers</li> </ul>	<ul style="list-style-type: none"> <li>Volume I: Natural disaster hotspot: A global risk analysis (2005)</li> <li>Volume II: Natural disaster hotspot case study (2006)</li> </ul>	<a href="http://www.ideo.colombia.edu/chrr/research/hotspots/">www.ideo.colombia.edu/chrr/research/hotspots/</a>



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## Inventory captures

- 19 initiatives ( 10 Global, 9 Regional)
- Initiatives can be broadly classified
  - Initiatives on Risk Assessment
  - Initiatives on Vulnerability Assessment
  - Initiatives on Disaster Databases
  - Initiatives on assessing risk from Climate Change
- Under each initiative the inventory captures
  - Name/Organization/Description/Hazard/Vulnerability/Target audience/Outputs/ References

Initiative	Organization	Description	Hazard	Vulnerability	Target audience	Outputs	References
<b>Risk Assessment</b>							
Disaster Risk Index (2004)	UNEP, UNISDR, WHO, WFP, FAO, ILO, UNICEF, UN Women, UNFPA, UNCTAD, UNEP, UNISDR, WHO, WFP, FAO, ILO, UNICEF, UN Women, UNFPA, UNCTAD	Composite of indicators across the world to assess the relative disaster risk of countries. It is a tool to measure the impact of disasters on the lives and livelihoods of people and the economic, social and environmental well-being of nations.	Natural and man-made hazards	Physical, social, economic, and environmental	Worldwide	Report, 2004	http://www.unisdr.org/we/inform/publications-and-publications
Natural Disaster Hotspot (2005, 2006)	UNEP, UNISDR, WHO, WFP, FAO, ILO, UNICEF, UN Women, UNFPA, UNCTAD	Identifies areas of high disaster risk in the world. It is a tool to measure the impact of disasters on the lives and livelihoods of people and the economic, social and environmental well-being of nations.	Natural hazards	Physical, social, economic, and environmental	Worldwide	Report, 2005, 2006	http://www.unisdr.org/we/inform/publications-and-publications
Global Risk Identification Program (2009)	UNEP, UNISDR, WHO, WFP, FAO, ILO, UNICEF, UN Women, UNFPA, UNCTAD	Identifies areas of high disaster risk in the world. It is a tool to measure the impact of disasters on the lives and livelihoods of people and the economic, social and environmental well-being of nations.	Natural and man-made hazards	Physical, social, economic, and environmental	Worldwide	Report, 2009	http://www.unisdr.org/we/inform/publications-and-publications
Risk Assessment and Mitigation Measures for Natural and Conflict-Related Hazards in Asia-Pacific	UNEP, UNISDR, WHO, WFP, FAO, ILO, UNICEF, UN Women, UNFPA, UNCTAD	Identifies areas of high disaster risk in the world. It is a tool to measure the impact of disasters on the lives and livelihoods of people and the economic, social and environmental well-being of nations.	Natural and conflict-related hazards	Physical, social, economic, and environmental	Asia-Pacific	Report, 2009	http://www.unisdr.org/we/inform/publications-and-publications
Global Focus Model	UNEP, UNISDR, WHO, WFP, FAO, ILO, UNICEF, UN Women, UNFPA, UNCTAD	Identifies areas of high disaster risk in the world. It is a tool to measure the impact of disasters on the lives and livelihoods of people and the economic, social and environmental well-being of nations.	Natural and man-made hazards	Physical, social, economic, and environmental	Worldwide	Report, 2009	http://www.unisdr.org/we/inform/publications-and-publications
Preliminary Natural Hazard Risk Assessment in the Asia-Pacific	UNEP, UNISDR, WHO, WFP, FAO, ILO, UNICEF, UN Women, UNFPA, UNCTAD	Identifies areas of high disaster risk in the world. It is a tool to measure the impact of disasters on the lives and livelihoods of people and the economic, social and environmental well-being of nations.	Natural hazards	Physical, social, economic, and environmental	Asia-Pacific	Report, 2009	http://www.unisdr.org/we/inform/publications-and-publications
Natural Hazards and Vulnerability Atlases	UNEP, UNISDR, WHO, WFP, FAO, ILO, UNICEF, UN Women, UNFPA, UNCTAD	Identifies areas of high disaster risk in the world. It is a tool to measure the impact of disasters on the lives and livelihoods of people and the economic, social and environmental well-being of nations.	Natural hazards	Physical, social, economic, and environmental	Worldwide	Report, 2009	http://www.unisdr.org/we/inform/publications-and-publications
Flood Risk Assessment of Lower Mekong Basin	UNEP, UNISDR, WHO, WFP, FAO, ILO, UNICEF, UN Women, UNFPA, UNCTAD	Identifies areas of high disaster risk in the world. It is a tool to measure the impact of disasters on the lives and livelihoods of people and the economic, social and environmental well-being of nations.	Floods	Physical, social, economic, and environmental	Lower Mekong Basin	Report, 2009	http://www.unisdr.org/we/inform/publications-and-publications
Central Asian Regional Risk Assessment	UNEP, UNISDR, WHO, WFP, FAO, ILO, UNICEF, UN Women, UNFPA, UNCTAD	Identifies areas of high disaster risk in the world. It is a tool to measure the impact of disasters on the lives and livelihoods of people and the economic, social and environmental well-being of nations.	Natural and man-made hazards	Physical, social, economic, and environmental	Central Asia	Report, 2009	http://www.unisdr.org/we/inform/publications-and-publications



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## Initiatives on Risk Assessment

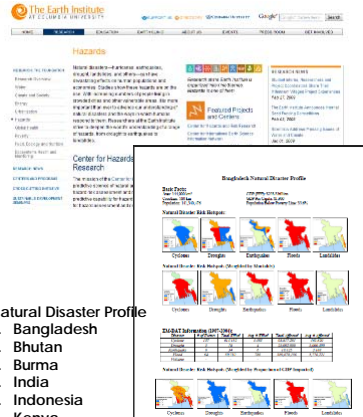
- Disaster Risk Index, 2004
- Natural Disaster Hotspot, 2005, 2006
- **Global Assessment Report, 2009**
- **Global Risk Identification Program**
- **Risk Assessment and Mitigation Measures for Natural and Conflict-Related Hazards in Asia-Pacific**
- Global Focus Model
- Preliminary Natural Hazard Risk Assessment in the Asia-Pacific
- **Natural Hazards and Vulnerability Atlases**
- Flood Risk Assessment of Lower Mekong Basin
- Central Asian Regional Risk Assessment (focuses on the threats to water, energy and food security)



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## Example of type of information captured in the inventory

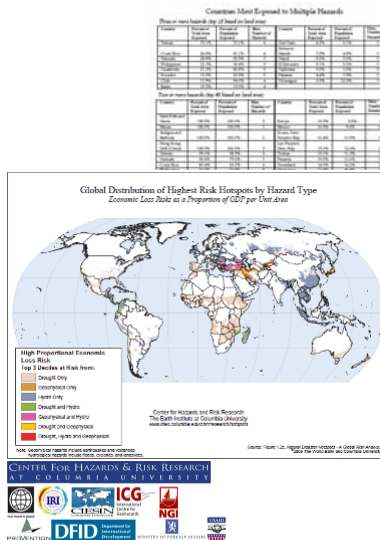
- **Title:** Natural Disaster Profiles for Indian Ocean Countries
- **Agency:** The Earth Institute
- **Description:** Profiles for countries in the Indian Ocean have been developed to provide information on sub-national areas at risk from natural hazards including cyclones, droughts, earthquakes, volcanoes, floods, and landslides.
- In addition to basic geographic and socio-economic facts, most profiles include maps that indicate how specific areas of each country rank according to a global index of risk for each type of disaster.
- Some maps are weighted by mortality, and others by the proportion of GDP impacted. Multi-hazard disaster maps show the combined risk from key hazard groups
- **Target audience:** Decision-makers
- **Outputs:** National-scale maps, by:
  - Hazard risk
  - Mortality risk associated with given hazard
  - GDP-damage risk associated with a given hazard



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## Example: Natural Disaster Hotspots: A Global Risk Analysis, World Bank

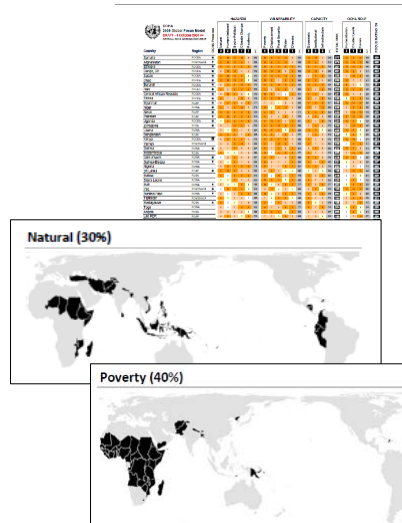
- **Description**
- Global view of major natural disaster risk hotspots - areas at relatively high risk of loss from one or more natural hazards.
- Data on the identified hazards are combined with state-of-the-art data on the sub-national distribution of population and economic output and past disaster losses to identify areas at relatively high risk from one or more hazards.
- **Natural hazards:** Earthquake/Volcano/Landslide/Flood/Drought/Cyclone
- **Vulnerability:** High definition (sub-national) population distribution, economic output, and past disaster losses
- **Target audience:** Development agencies/ Policymakers
- **Output:** Volume I (2005), Volume II (2006)



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## Example Global Focus Model, UNOCHA

- **Description**
- Risk Modeling to analyze hazards, vulnerabilities and response capacity at the country level using a range of qualitative indicators.
- Model is used to prioritizing OCHA's work in the countries
- **Hazards:** Natural / Human -induced/ Socio-Political/ Climate Change/Pandemic
- **Vulnerability:** Poverty/Displacement/Food Security/ Water/Disease
- **Capacity:** Economic/Institutional/Infrastructure
- **Target audience:** UN OCHA
- **Output:** Focus Rating of Countries; done annually since 2007



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## Initiatives on Vulnerability Assessment

- Food Insecurity and Vulnerability Information and Mapping Systems (FIVIMS) of FAO
- Vulnerability Analysis and Mapping (VAM) of the WFP



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## Initiatives on Disaster Databases

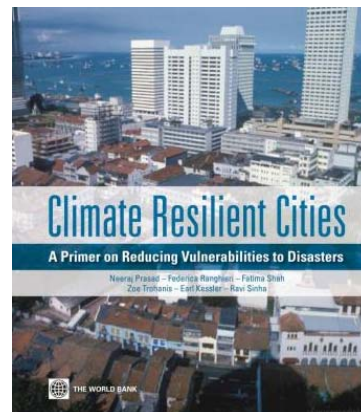
- Emergency Events Database (EM-DAT) of the CRED,
- Database for Disaster Information maintained by the ADRC,
- Online Southeast Asia Disaster Inventory of the ACDM
- Desinventar



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## Initiatives on assessing risk from climate change

- Study undertaken by JICA-WB-ADB on Adaptation to Climate Change in Asian Coastal Cities
- Tool developed by World Bank GFDRR and ISDR on Climate Resilient Cities provides guidance on undertaking risk assessment



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## Purpose of the Inventory

- To **take stock of all major initiatives** and to **make these initiatives easily available (through online system)** to IAP partners and other interested stakeholders. This would help the partners interested in undertaking risk assessments, by providing **a base for what already exists and how new initiatives could be built upon them.**
- For stakeholders interested in undertaking DRR initiatives, the inventory would **provide them as a starting point for referring to initiatives on assessments**, the findings of which could further guide them in their investments.
- To find the **gaps in the initiatives (geographical coverage, scope, methodology, data)** which could guide the stakeholders interested in undertaking further risk assessments in Asia and the Pacific.



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