National disaster loss and damage databases – UNDP's experience and lessons learned

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Why disaster loss and damage databases?
(Sri Lanka and Indonesia in 2005)

- Losses and damages from disasters are not systemically recorded
- Poor understanding of emerging patterns and trends of disaster risks resulting in lack of targeted action
- Climate change and variability posing threats to development
- Intensities and frequencies of disasters changing

Disaster loss and damage database?

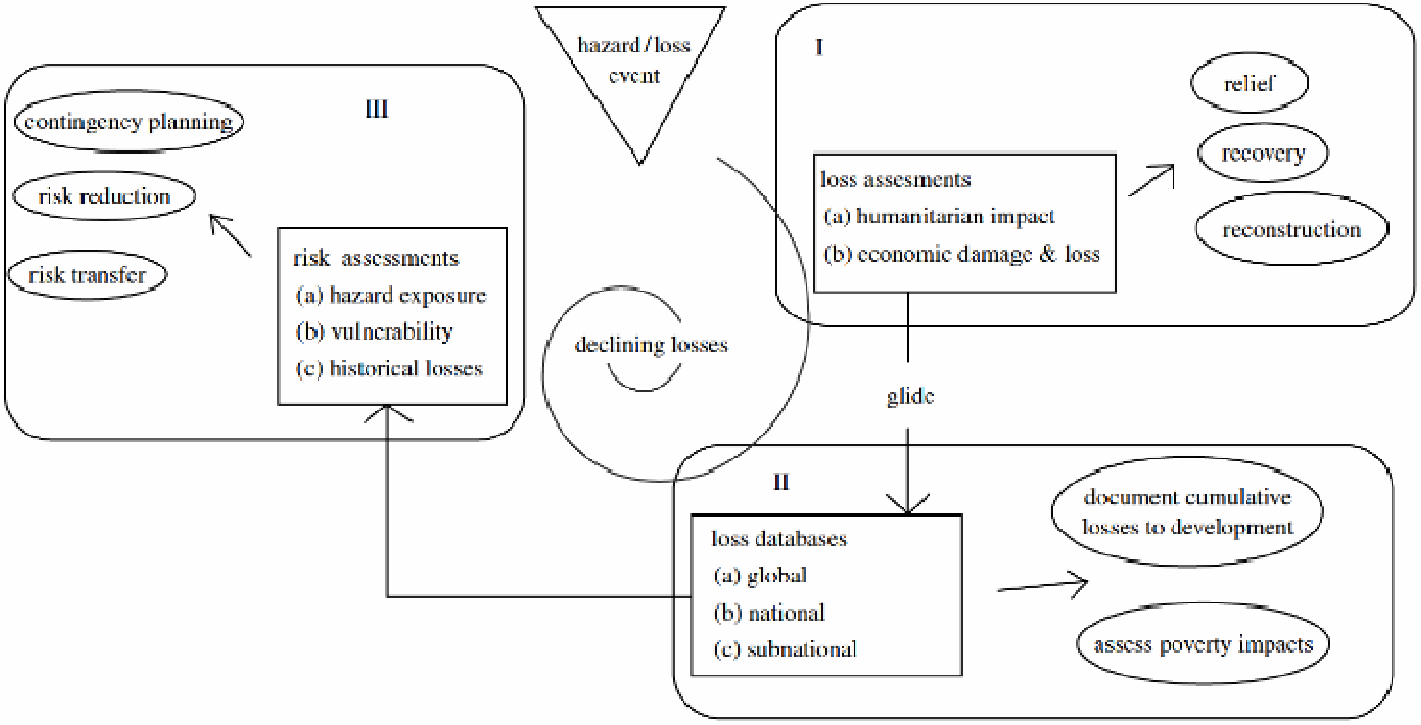
- Collection of homogeneous data about disasters
- Data capture over a period of time and geographical unit
- Storage, retrieval and compilation of data and information
- Sharing of data and information to all stakeholders in real time
- Analysis of data over a period of time and space to understand patterns and trends of risks

Types of data captured by the databases

- Data captured at high resolution – *sub-district level*
- Information about occurrences and impacts are captured over a long period of time (20-30 years)
- Direct impacts of an event
  - Event details *(date, location, intensity)*
  - Population affected *(death, injured, affected, …)*
  - Damages and losses to sectors *(education, road, health, etc.)*
- Analysis undertaken at provincial, district and sub-district levels to derive emerging trends and patterns of events and impacts to feed into national and sub-national planning

Setting priorities

Global patterns of disaster risk



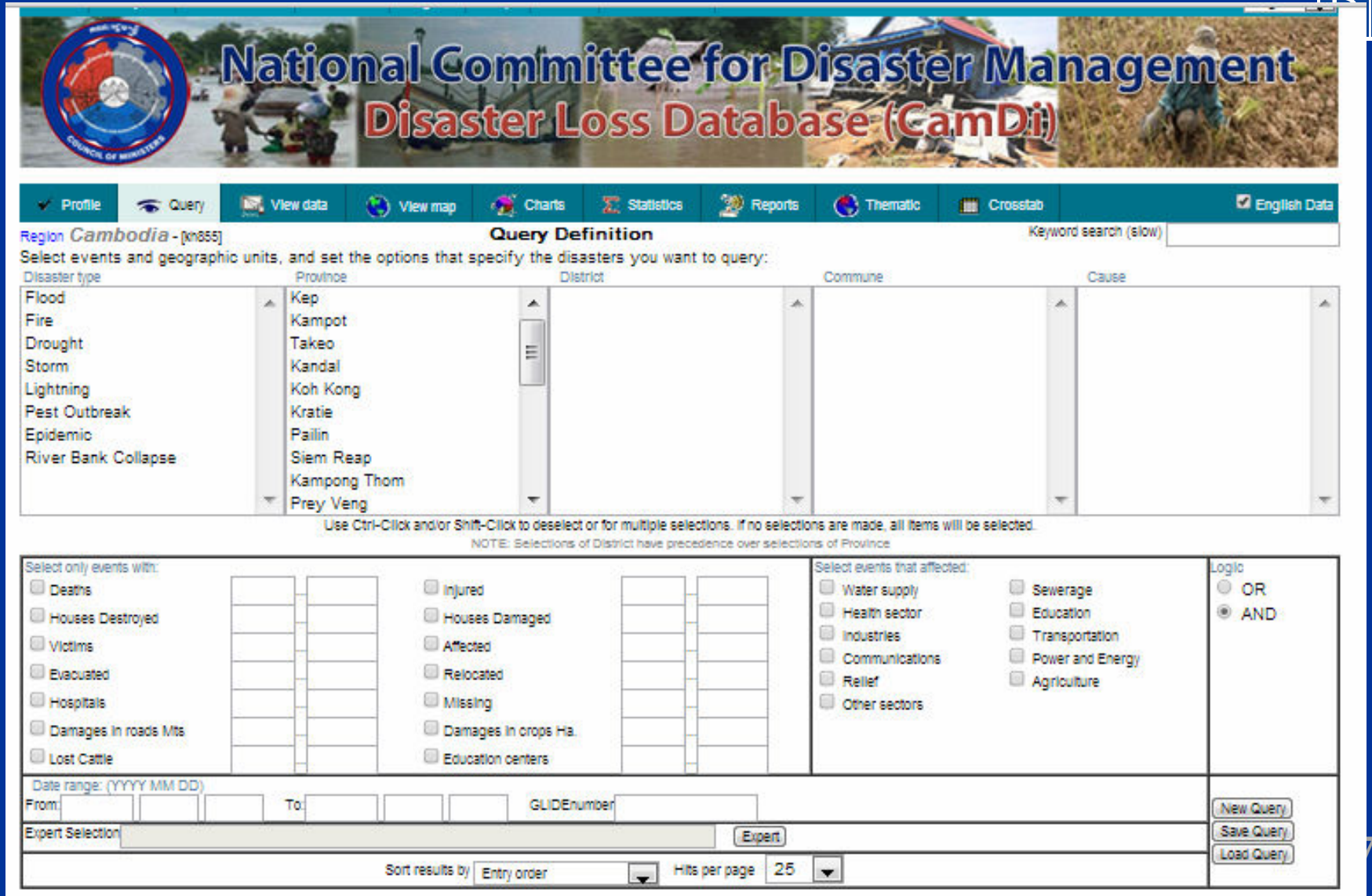
Multiple-uses and value-added data on disaster losses used throughout the disaster and risk management cycle.

Source: *Dilley Maxx, "Setting priorities: global patterns of disaster risk' in Philosophical Transactions of the Royal Society, 2006*

Specific applications of loss and damage data

- Guiding relief, recovery and reconstruction
- Assessing risks of future disasters
- Calibrating the cost-effectiveness of investments intended to reduce losses
- Tracking loss patterns and trends
- Performing thematic analysis
- Tracking, monitoring and evaluating the outcome indictors on loss and damage

Disaster Loss Database for Cambodia (example)



Disaster Loss Database for Cambodia (example)

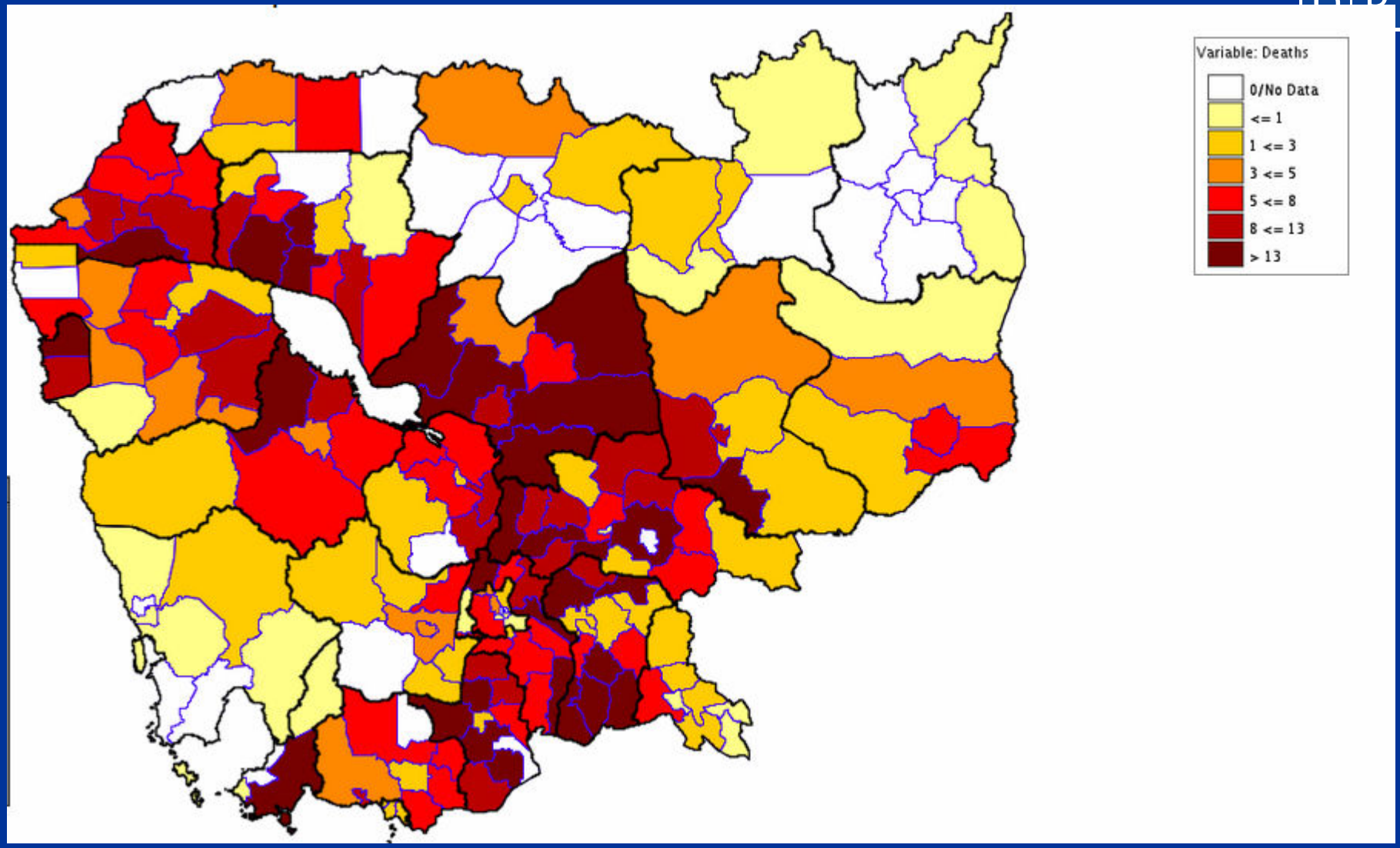
Profile | Query | View data | View map | Charts | Statistics | Reports | Thematic

Region *Cambodia* - [kh855]

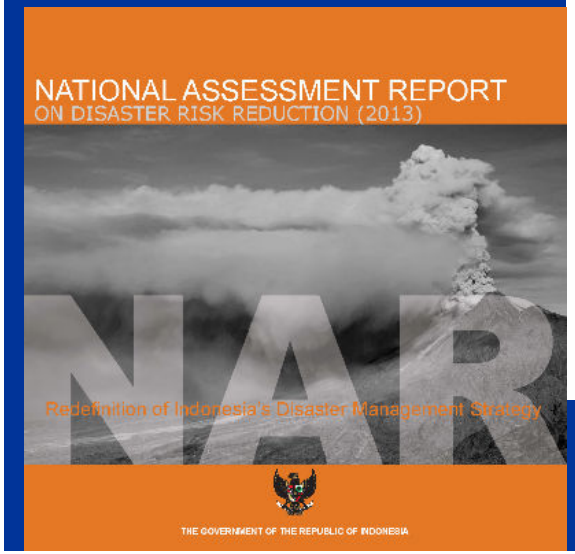
Data: Query Results

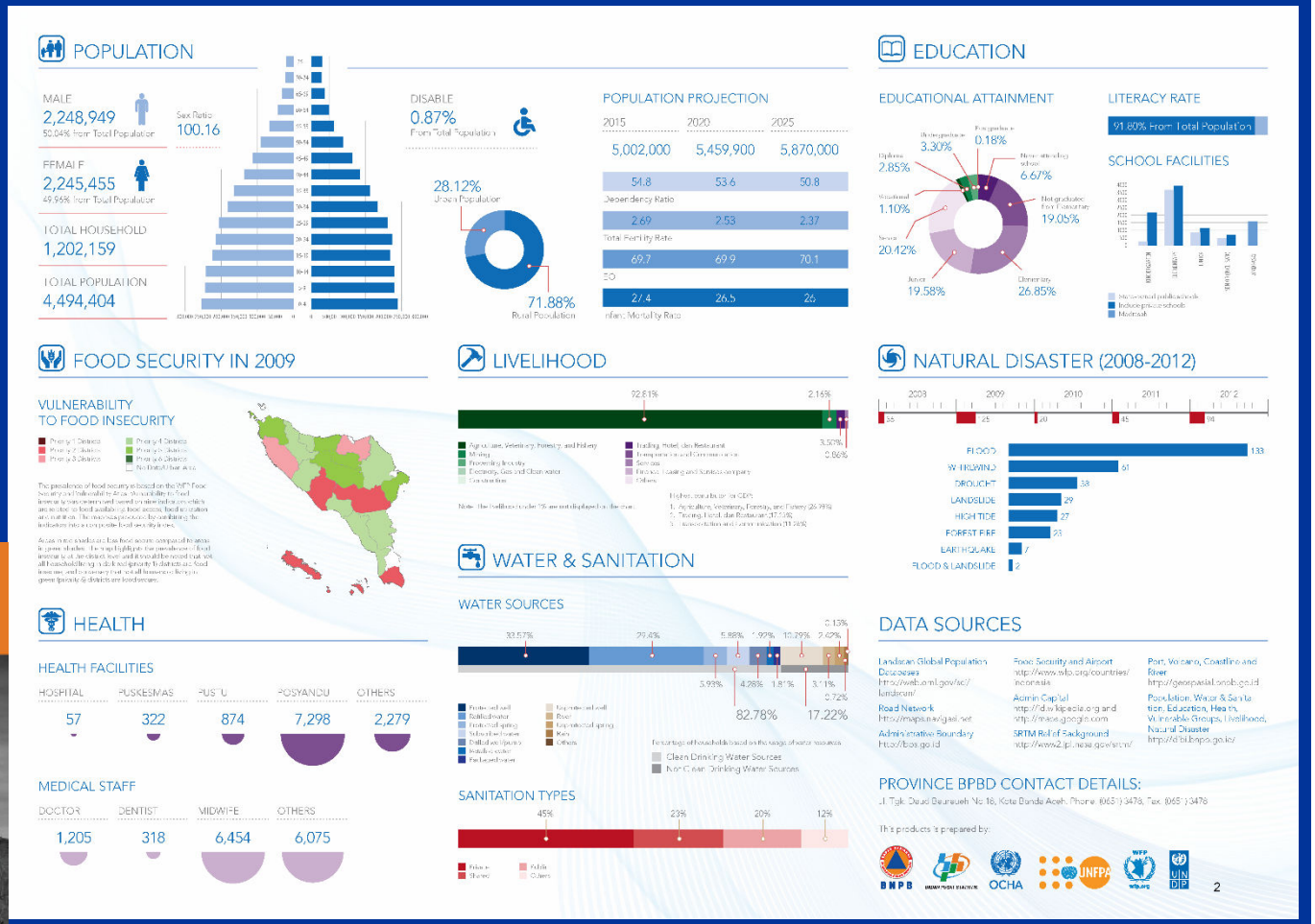
Serial	Event	Province	District	Commune	Date	Location	Deaths	Injured	Missing	Ho
ST2009	Storm	Ratanak Kiri			2009/10/15		3	1		13
131	Storm	Siem Reap			2009/10/15		8	16		60
KS2009	Storm	Kampong Cham			2009/10/15		3			6
136	Storm	Kampot			2009/10/15		3			3
FL2011	Flood	Takeo	Borei Cholsar		2011/10/23		✔			12
FL2011	Flood	Takeo	Angkor Borei		2011/10/23		3			12
ST2012	Storm	Kandal	Leuk Daek	Peam Reang	2012/04/12		1	1		8
ST2010	Storm	Siem Reap	Krong Siem Reab		2010/05/15		1	2		29
ST2010	Storm	Siem Reap	Krong Siem Reab		2010/05/31		1	2		30
KS2009	Storm	Kampong Thom	Sandan		2009/09/29		9	20		39
FL2011	Flood	Kratie	Preaek Prasab		2011/08/13		10			1
FL2011	Flood	Kratie	Sambour		2011/08/13		2			7
ST2013	Storm	Battambang	Sampov Lun		2013/03/25		1	2		21
FL2011	Flood	Pailin			2011/07/06		✔	1		36
ST2011	Flood	Pailin	Sala Krau	Stueng Trang	2011/09/08		✔	2		4
St2009	Storm	Siem Reap	Puok	Puok	2009/02/20		6	15		35
ST2000	Storm	Kampong Thom	Santuk		2000/04/10		2	10		74
FL2010	Flood	Kampong Chhnang	Chol Kiri	Peam Chhkaok	2010/10/--		1			1
ST2010	Storm	Kampong Thom	Baray		2010/05/--		1			12
St2010	Storm	Siem Reap	Krong Siem Reab		2010/05/31		2	3		30
St2010	Storm	Siem Reap	Krong Siem Reab		2010/05/31		1			30
ST2013	Storm	Kratie	Chhloung	Kanhchor	2013/05/28		1	7		1
St2013	Storm	Battambang	Sampov Lun	Serei Mean Chey	2013/03/13		1	2		22

Disaster Loss Database for Cambodia (example)



PROVINCE INFOGRAPHIC – Aceh (Indonesia)





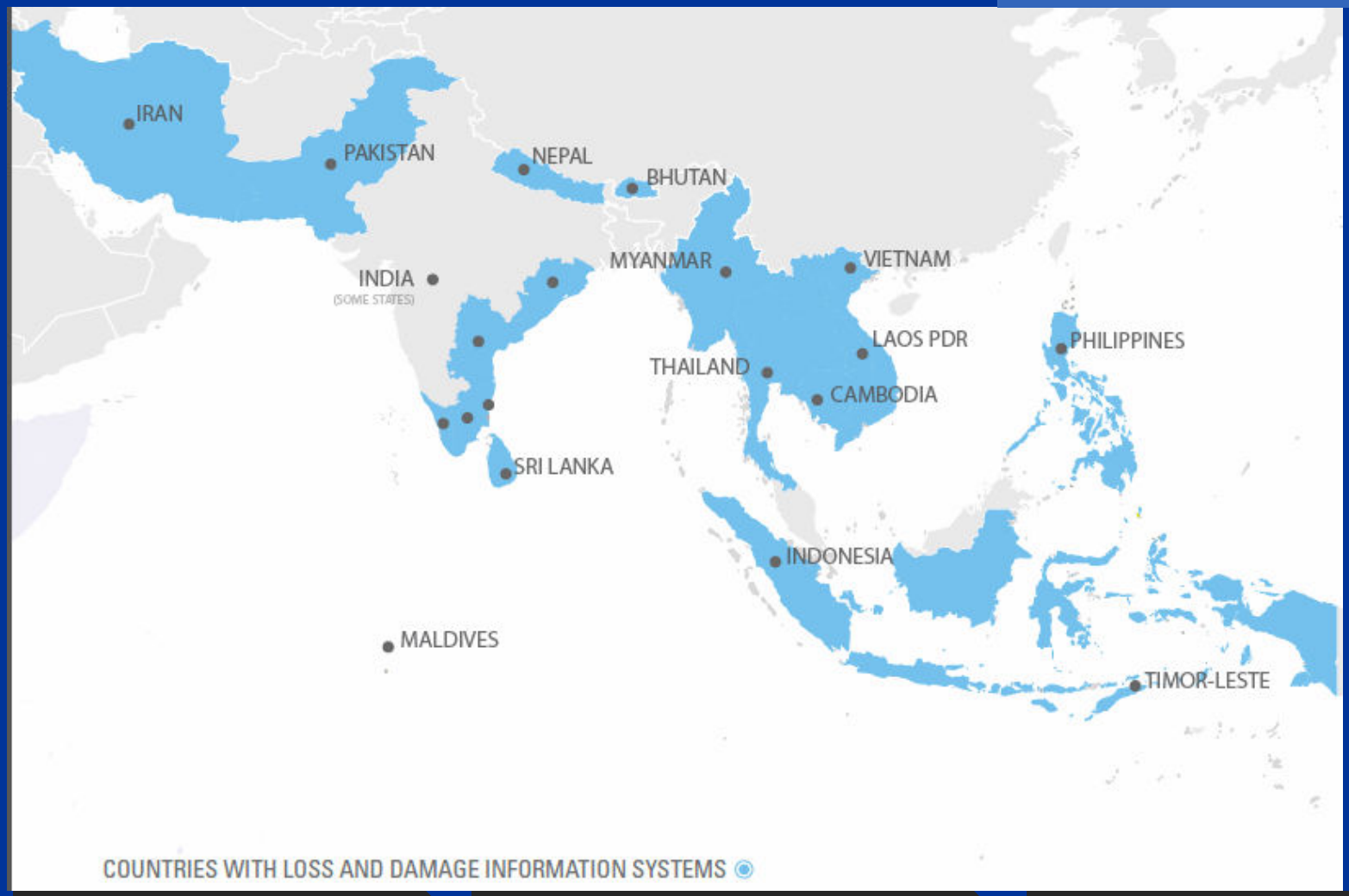
UNDP's work on disaster loss and damage databases

Global

- Out of 50 national disaster loss and damage databases globally, UNDP has supported the development of **31** databases and more are under development
- Of **57** regional, country and sub-national loss and damage databases, 45 use a common format (DesInventar)
- Globally, most databases hosted by governments

Regional: Disaster databases in Asia

- In Asia, UNDP started supporting pilot implementation in 2002 in the Orissa state of India
  - Sri Lanka
  - Nepal
  - Iran
  - Indonesia *(more than 10 provinces)*
  - India *(Orissa, Tamil Nadu and other States)*
  - Lao PDR
  - Timor-Leste
  - Cambodia
- Several ongoing databases
  - Vietnam, Myanmar, Philippines, Pakistan and Bhutan
- Database highly configurable to country specific needs



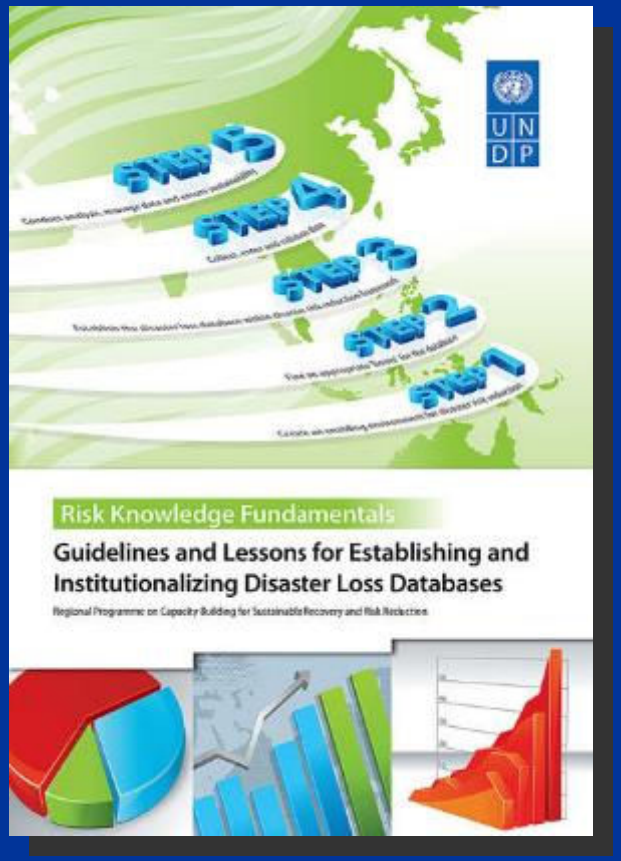
220,000 records

First event in **1815** AD

15 countries

Experiences of establishing disaster loss databases from Asia

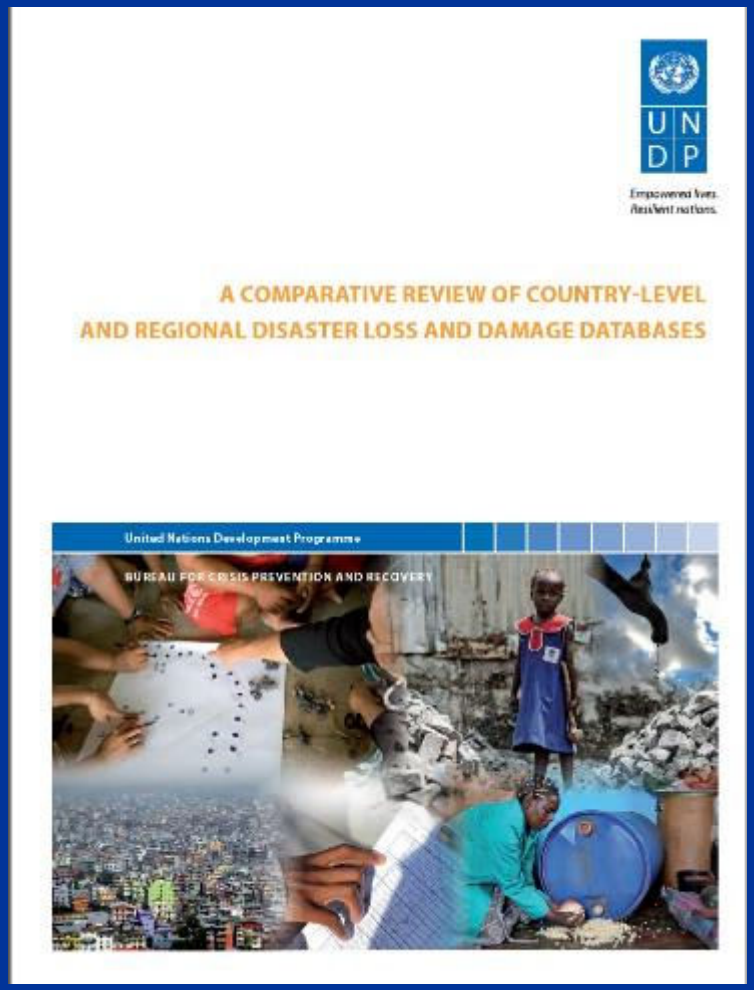
Risk Knowledge Fundamentals:
Guidelines and Lessons for Establishing and Institutionalizing Disaster Loss Databases



Available online at: http://www.snap-undp.org/elibrary/Publications/DLDGuidelines.pdf

A comparative review of

Country-level and regional disaster loss and damage databases



Analysis of databases by

- *Database characteristics*
- *Database content profile*
- *Quality assurance*
- *Accessibility*
- *Database uses*

Available online at:
http://www.undp.org/content/undp/en/home/librarypage/crisis-prevention-and-recovery/loss-and-damage-database/

Applications

- GAR 2009, 2011 and 2013
- Extensive and intensive risk analysis
- Disaster risk and poverty analysis
- Poverty monitoring
- Allocation of funds based of levels of risks
- Local disaster management plans

Partnerships

- National focal agencies for disaster risk reduction
- United Nations Office for Disaster Reduction (UNISDR)
- United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP)
- Asian Development Bank (ADB)
- UN Habitat

Partnership with Japan

- UNDP has been collaborating with the International Research Institute of Disaster Science, Tohoku University to promote developing more coherent way of collecting disaster-related damage and loss data and statistics to meet with requirement at the global level, in particular monitoring Post 2015 DRR Framework and SDGs to be adopted in 2015.

Guiding principles for disaster loss databases

- Developing national capacities
- Establishment of database is guided by institutional and legal context
- Establishing and sustaining nationally led processes to create ownership and relevance
- The database should address the needs and priorities of the country
- Sharing of database and analysis with all stakeholders

Lessons and challenges

- All UNDP supported databases follow consistent database structure
- National databases follow legal mandates of national focal organization on DRR
- National DRR focal organizations in the region are relatively young (5-10 yrs old) and are still evolving
- Events classification driven by national context and priority (EQ and tsunami)

Lessons and challenges (2)

- Typically countries capture disaster occurrences and impacts in their national languages which are at times different from their standard English equivalents
- Consistency in the definitions of terms and data fields is to be established
- Processes for capturing and validating data need to be streamlined to ensure consistency and quality control

Why common minimum standards for disaster data?

- Regional and sub-regional analysis (ASEAN) can be undertaken to better understand the impacts of disasters
- Variety of analyses can be undertaken – urban/ rural, gender, ecosystem based, river basin (Mekong river), impact on sectors (agriculture), climatic zones
- Common minimum disaster data standards required given the context of climate change

Data and Information to support research

- Improvements in data collection, compilation, dissemination, analysis tools & methodologies
- Modelling of risks at national and local levels for guiding public investments
- Strengthening risk governance for efficient and effective management and reduction of risks
- Integration of disaster data with development data to derive new insights for development planning

Input to Tokyo Statement:

- Governments have stronger capacity in disaster statistics and analysis of impact to poor people
- Governments have stronger capacity for setting loss reduction (SDG/HFA) targets and indicators as well as in monitoring, reporting and analysis
- Government have increased risk informed public investments in DRR and Development
- Governments have stronger capacity for preparedness for resilient recovery

Empowered lives.
Resilient nations.

Thank you very much

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