

Data challenges and integration of data driven subnational planning

Thematic Session 1: Risk Informed Development Planning

Demystifying the Global Agenda Frameworks into Practice

Presented by -

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Outline of Presentation

- ▶ **Issues - Need for building the evidence base**
- ▶ **Creating evidence by building disaster loss and damage databases**
- ▶ **Extensive and intensive disaster risks**
- ▶ **Hazard and poverty analysis**
- ▶ **Cambodia – data disaggregation and road sector analysis**
- ▶ **Global Centre for Disaster Statistics**

Issues - Need for building the evidence (1)

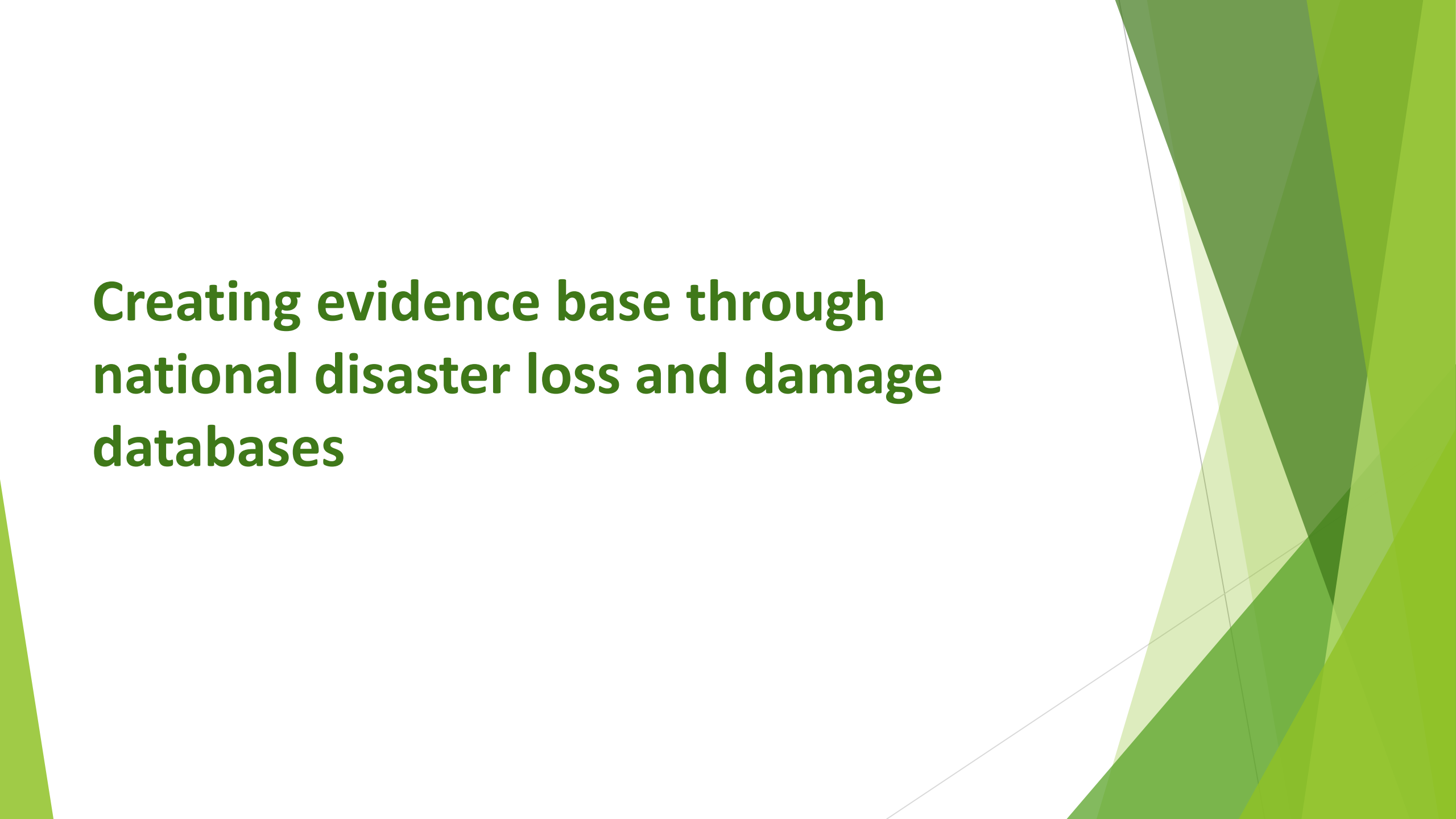
- ▶ Rising temperatures and sea level rise causing extreme weather events
- ▶ Intensity and frequency of typhoons and floods increasing causing unprecedented losses (Haiyan, Chennai, Sri Lanka, Nepal)
- ▶ Significant threats to development in a region already known to be the most disaster prone
- ▶ 40 cm sea level rise will put 11% of land under water in Bangladesh and create 7-10 million climate refugees (Island nations such as Kiribati likely to become uninhabitable)



Issues - Need for building the evidence (2)

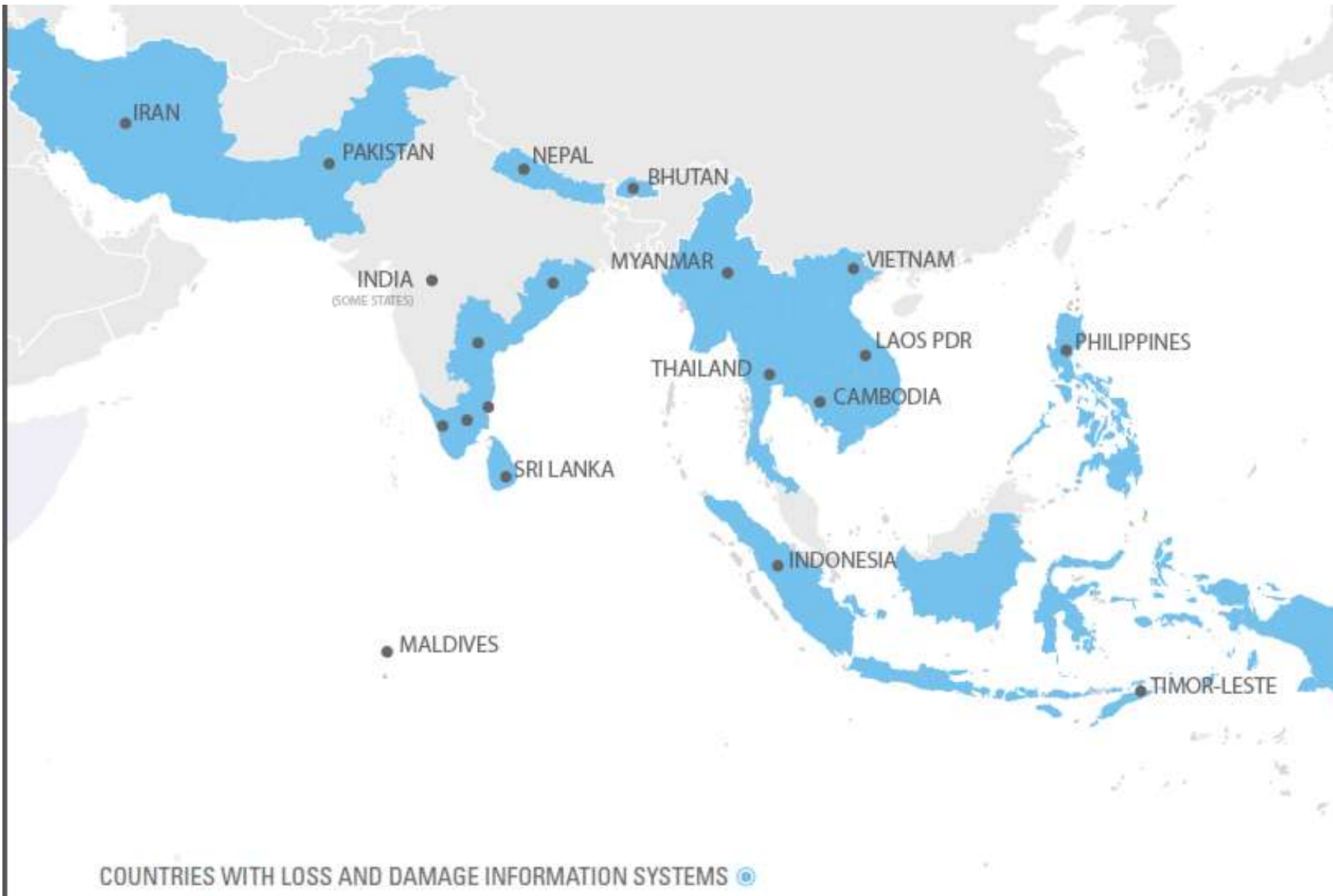
- ▶ In the past, main focus on emergency response and relief with no efforts to systematically understand the impacts and causal factors
- ▶ No data about disasters being collected and analyzed leading to lack of understanding of disaster-development linkages at national and sub-national levels
- ▶ Poor understanding of the disaggregated impacts of disasters on populations and sectors to feed into sub-national levels



The background features abstract, overlapping geometric shapes in various shades of green, ranging from light lime to dark forest green. These shapes are primarily located on the right side of the slide, creating a modern, layered effect. The text is positioned on the left side of the slide, set against a plain white background.

Creating evidence base through national disaster loss and damage databases

National Disaster Loss and Damage Databases in Asia



220,000 records

First event in **1815**AD

15 countries

UNDP helped establish national disaster loss and damage databases

- ▶ The 2004 tsunami disaster brought forward the need for disaggregated data for planning recovery and risk reduction - Maldives, Sri Lanka, Tamil Nadu (India), Thailand and Indonesia
- UNDP has supported more than 30 countries globally in setting up national disaster loss and damage databases



About national disaster loss and damage database

- ▶ 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
- ▶ Most UNDP supported databases collect data disaggregated at sub-national level (usually sub-district or equivalent)

However, according to the HFA Progress Review: Sex and age disaggregated data (SADD), which is key in creating the evidence for addressing gender needs and priorities in DRR policy formulation is lacking: Gender disaggregated data was available only in 14% of the countries and many countries stated a total absence of gender disaggregated data.

Intensive and extensive risks

- ▶ **Intensive (high intensity low frequency)**
 - > 30 deaths, or
 - > 600 houses destroyed

- ▶ **Extensive (low intensity high frequency)**
 - <30 deaths, or
 - < 600 houses destroyed

Key findings

Intensive and extensive risks in Asia

- ▶ **Intensive risk**
 - ▶ concentrated in seismically active regions, coastal zones, flood plains and cyclone track zones
 - ▶ changes over time with changes in vulnerable populations, economic assets and lifeline infrastructure exposure

Key findings

Intensive and extensive risks in Asia

▶ Extensive risk

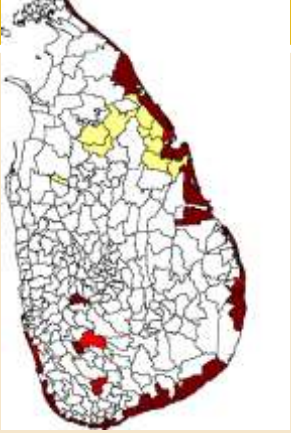
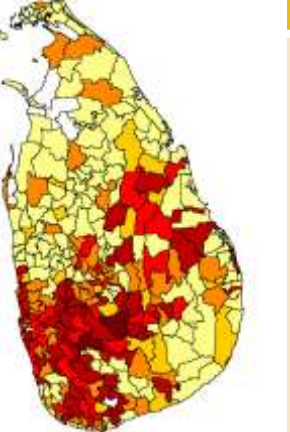
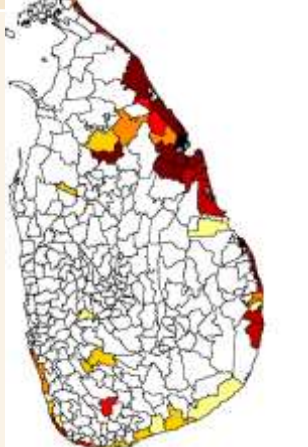
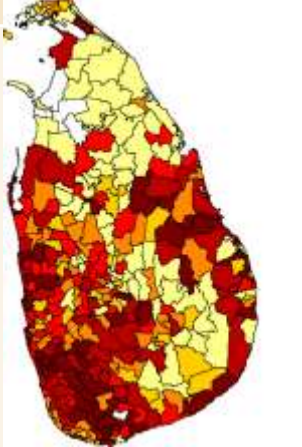
- ▶ more frequent, dynamic and widespread, invisible to official response systems, affecting livelihoods and poverty
- ▶ increasing in Asia due to greater frequency and intensity of extreme climate events

▶ We found out many hidden stories in history...

▶ Sri Lanka

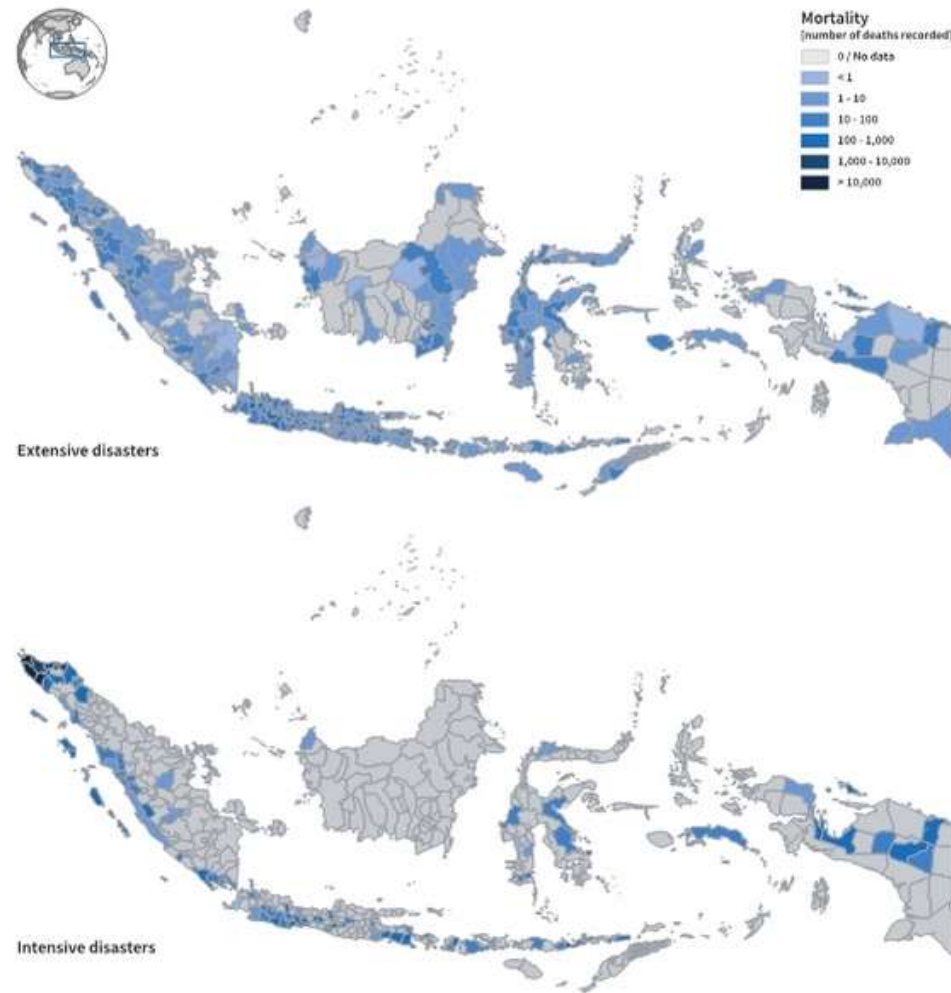
▶ Indonesia

Intensive and extensive risks in Sri Lanka

	Intensive Risk	Extensive Risk
Mortality	 A map of Sri Lanka showing intensive risk for mortality. The map is divided into small administrative units. Most units are white, with a few scattered units colored red and yellow, primarily along the southern and eastern coasts.	 A map of Sri Lanka showing extensive risk for mortality. The map is divided into small administrative units. A large majority of units are colored red and yellow, covering most of the island, particularly in the southern and eastern regions.
Houses Destroyed	 A map of Sri Lanka showing intensive risk for houses destroyed. The map is divided into small administrative units. Most units are white, with a few scattered units colored red and yellow, primarily along the southern and eastern coasts.	 A map of Sri Lanka showing extensive risk for houses destroyed. The map is divided into small administrative units. A large majority of units are colored red and yellow, covering most of the island, particularly in the southern and eastern regions.

Indonesia

Figure 4.1 The different footprints of extensive vs intensive disaster loss in Indonesia, 1990-2013



(Source: UNISDR with data from Indonesian national loss database.)

► **Extensive (high frequency low intensity)**

< 30 Deaths, or

< 600 Houses destroyed

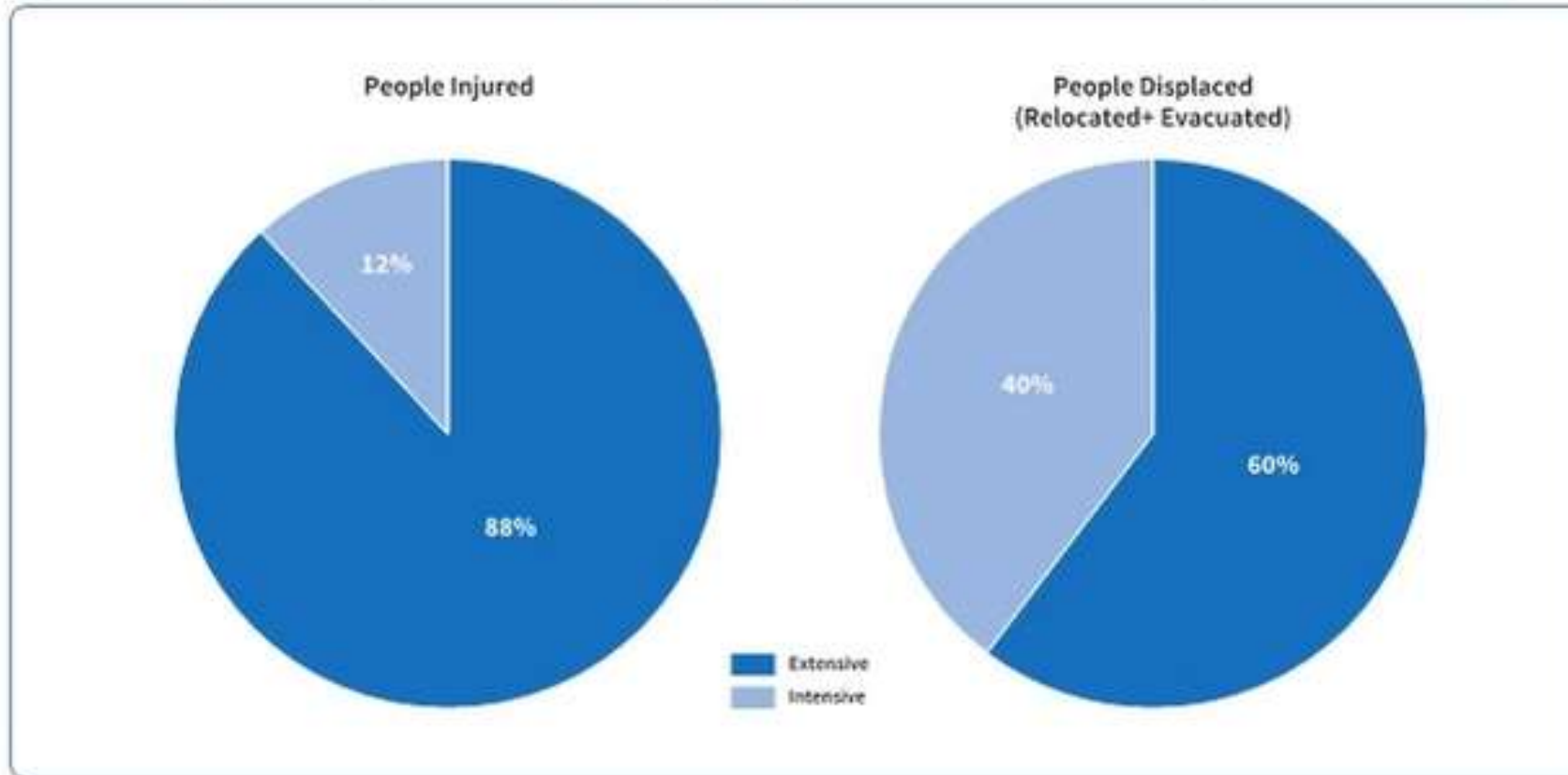
► **Intensive (low frequency high intensity)**

> 30 Deaths, or

> 600 Houses destroyed

Impact of intensive and extensive risks

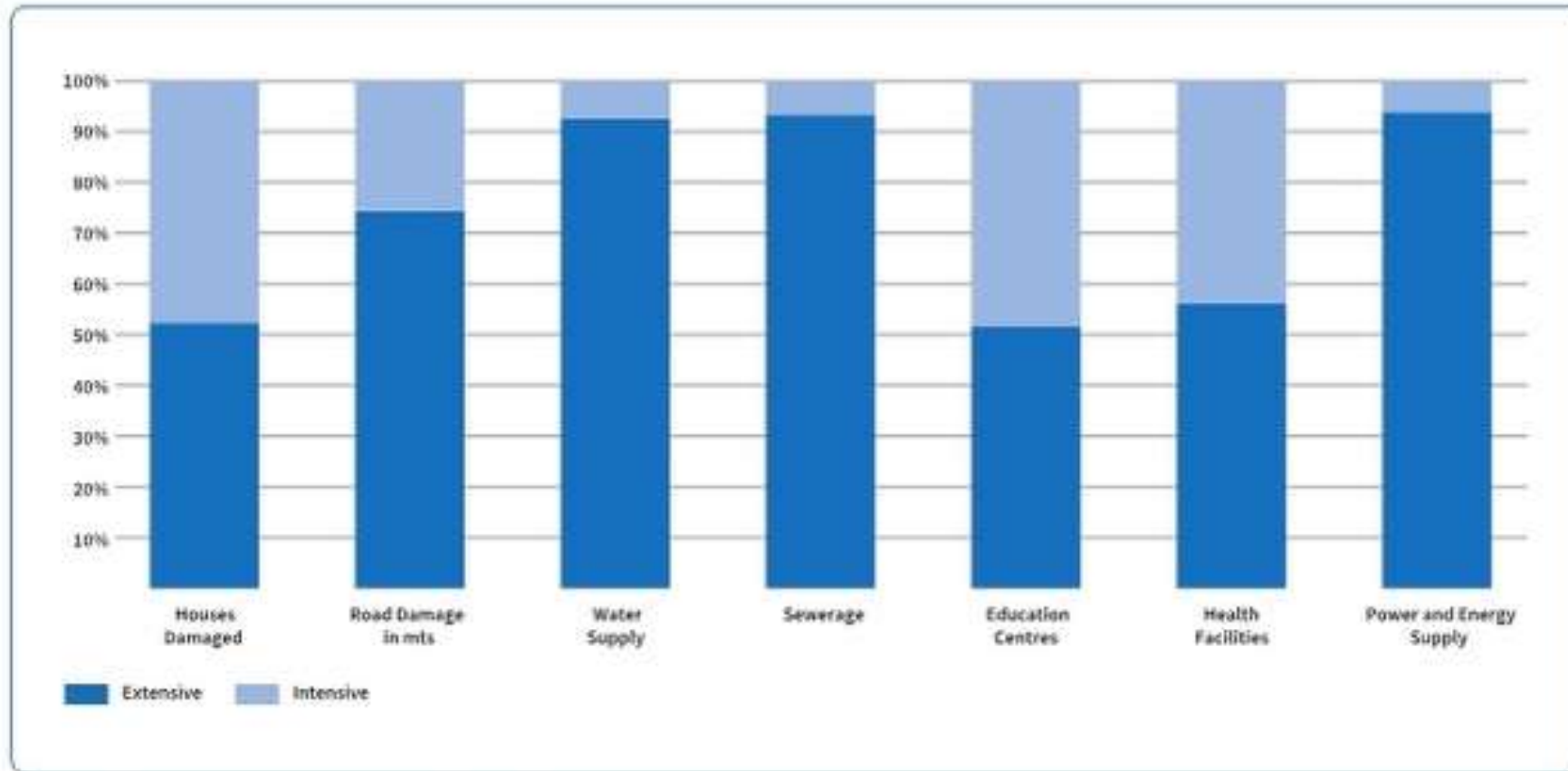
Figure 4.6 Proportion of injured and displaced people reported in extensive disasters (65 countries, 2 states)



(Source: UNISDR with data from national loss databases.)

Impact of intensive and extensive risks

Figure 4.7 Percentage of damage and loss from extensive and intensive disaster events (65 countries, 2 states)



(Source: UNISDR with data from national loss databases.)

► **But we had questions about relationship between poverty and disaster**

Poverty in Banda Aceh/Aceh Province

In the first year after the tsunami, poverty increased from 28.4 percent of the population in 2004 to 32.6 percent in 2005.

Hazard and Poverty Analysis

Methodology and Research

- ▶ **Do natural hazards contribute to or exacerbate poverty?**
- ▶ **Does poverty impact the susceptibility to loss of life, buildings and agricultural assets?**

Development and application of methodology for analyzing disaster risk and poverty linkages



Assessing the Relationship between Natural Hazards and Poverty

A Conceptual and Methodological Proposal

Regional Programme on Capacity Building for Sustainable Recovery and Risk Reduction

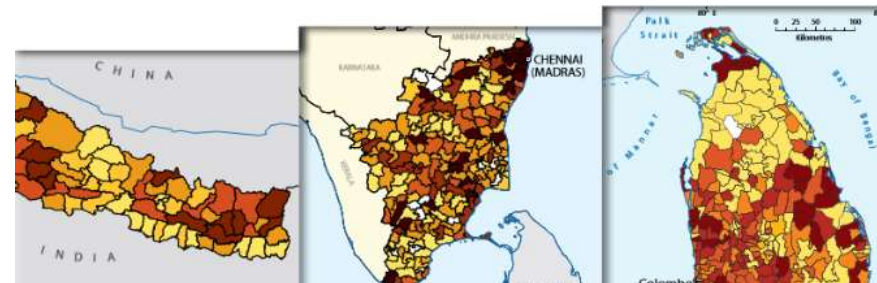


Assessing the Relationship between Natural Hazards and Poverty

Asia Country and State Case Study Report

Islamic Republic of Iran, Nepal, Orissa (India), Tamil Nadu (India), Sri Lanka

Regional Programme on Capacity Building for Sustainable Recovery and Risk Reduction



Yes to both ... BUT

- ▶ **Poor availability of HH panel data**
- ▶ **Lack of Pre-disaster and post-disaster poverty data**
- ▶ **Macro level analysis could not establish strong correlation between disaster and poverty**
- ▶ **Disaster datasets focus on mortality and economic impacts, not on human development impacts (health, education, nutrition)**

Recommendations for the region

- ▶ **Build and maintain quality disaster loss databases (including historical)**
- ▶ **Improve poverty datasets**
- ▶ **Disaster risk reduction must include considerations for the poor and vice-versa**
- ▶ **Use intensive/ extensive analysis to draw attention of policy makers to extensive risks**
- ▶ **Monitoring and reporting systems for DRR should be established and sustained**

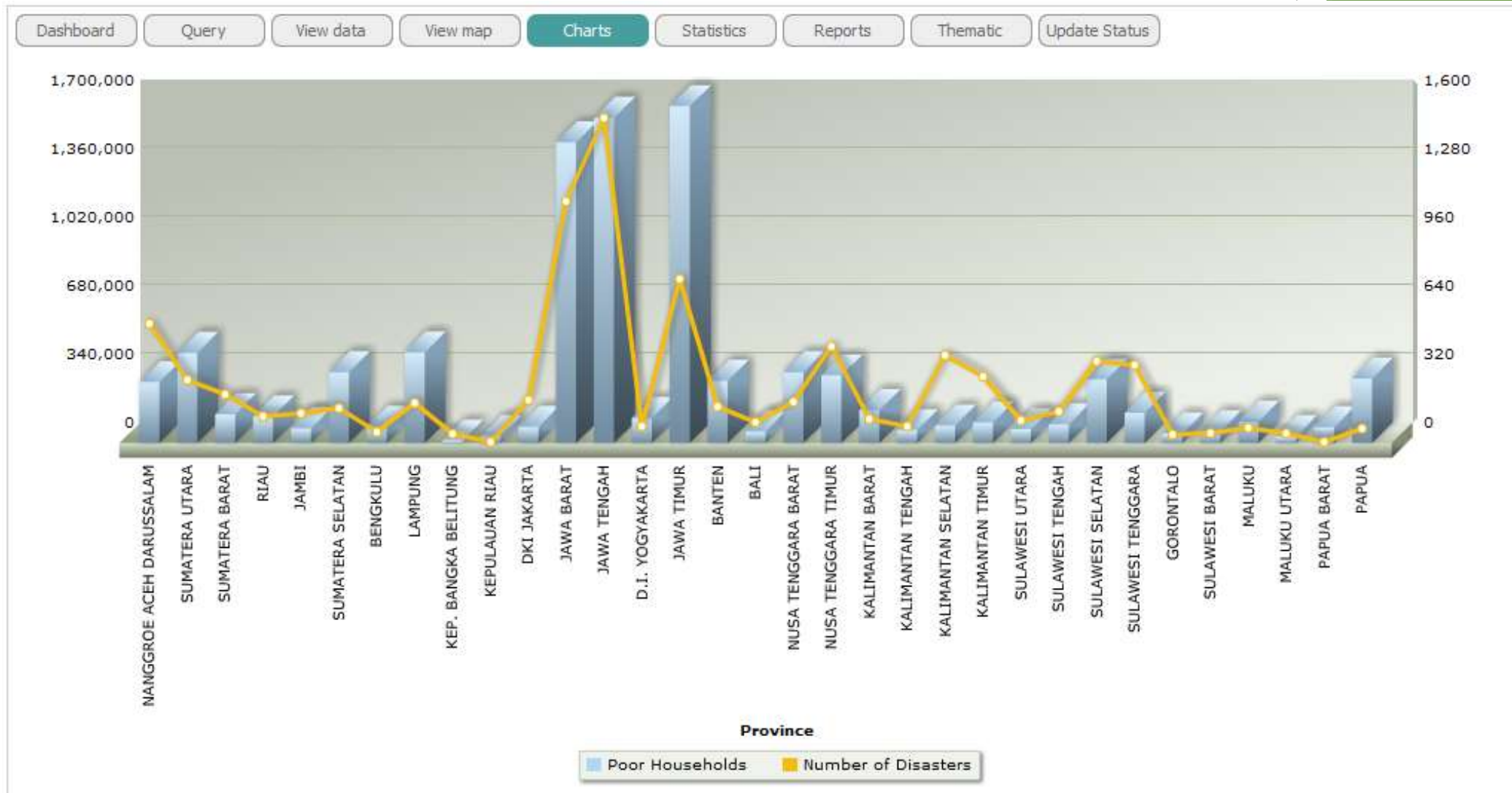
Adaptation of DIBI for Poverty Monitoring in Indonesia

PNPM Mandiri

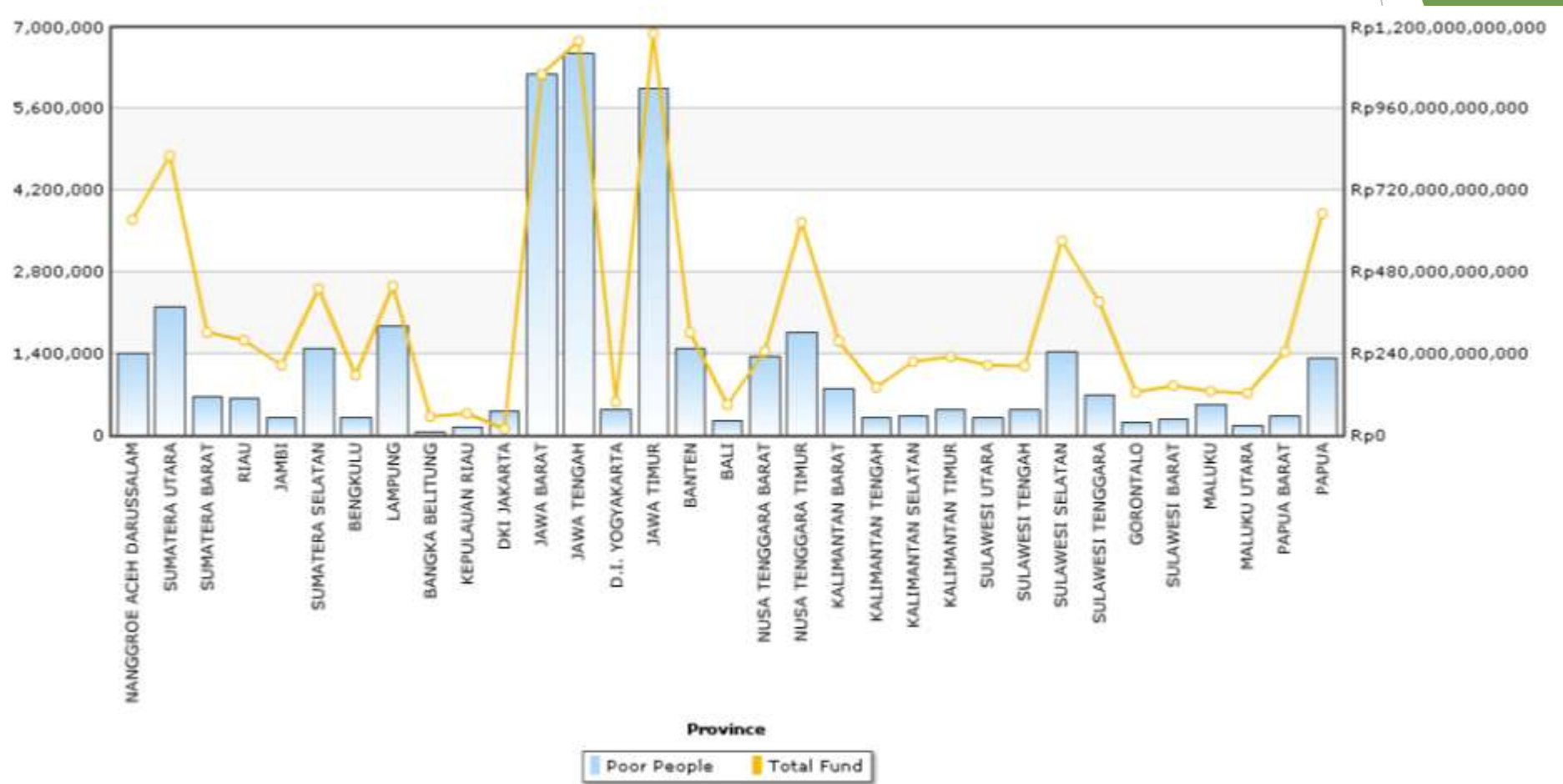
Monitoring system (SIMPADU)

<http://simpadu-pnpm.bappenas.go.id>

Number of Disasters Event vs Poor Households



FUND ALLOCATION COMPARED TO THE NUMBER OF POOR PEOPLE IN EACH PROVINCE

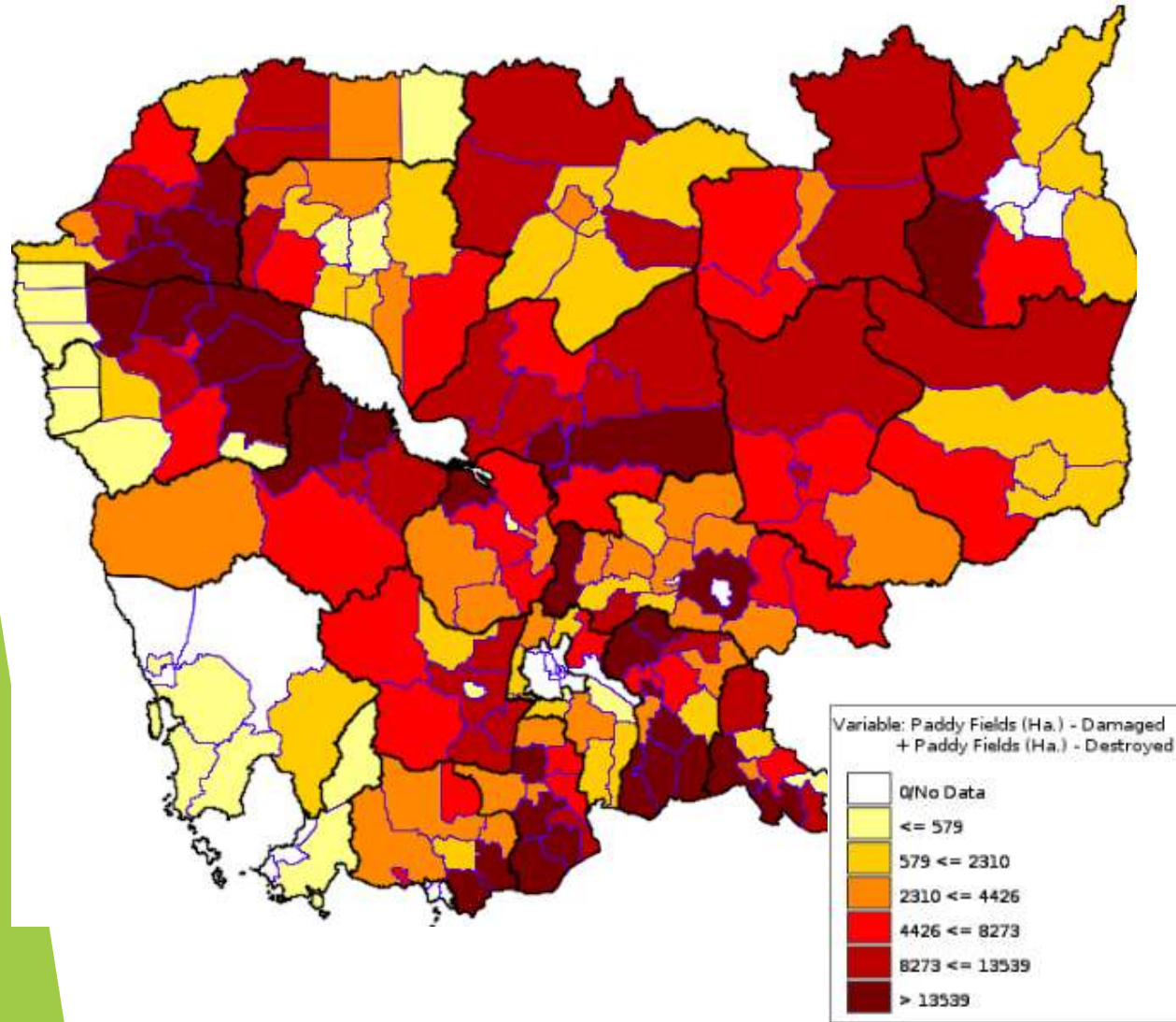


CamDi

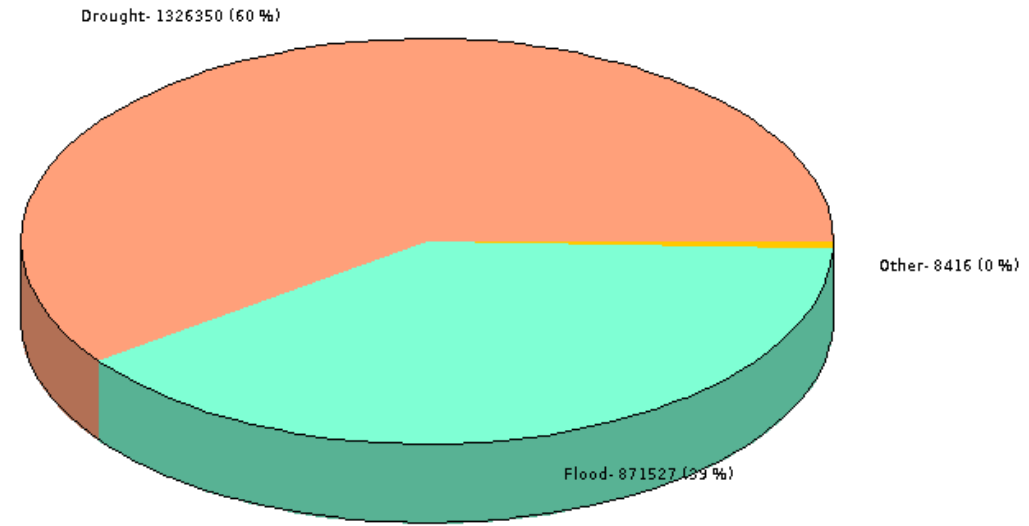
Cambodia National Disaster Loss & Damage Database (2000-2015)



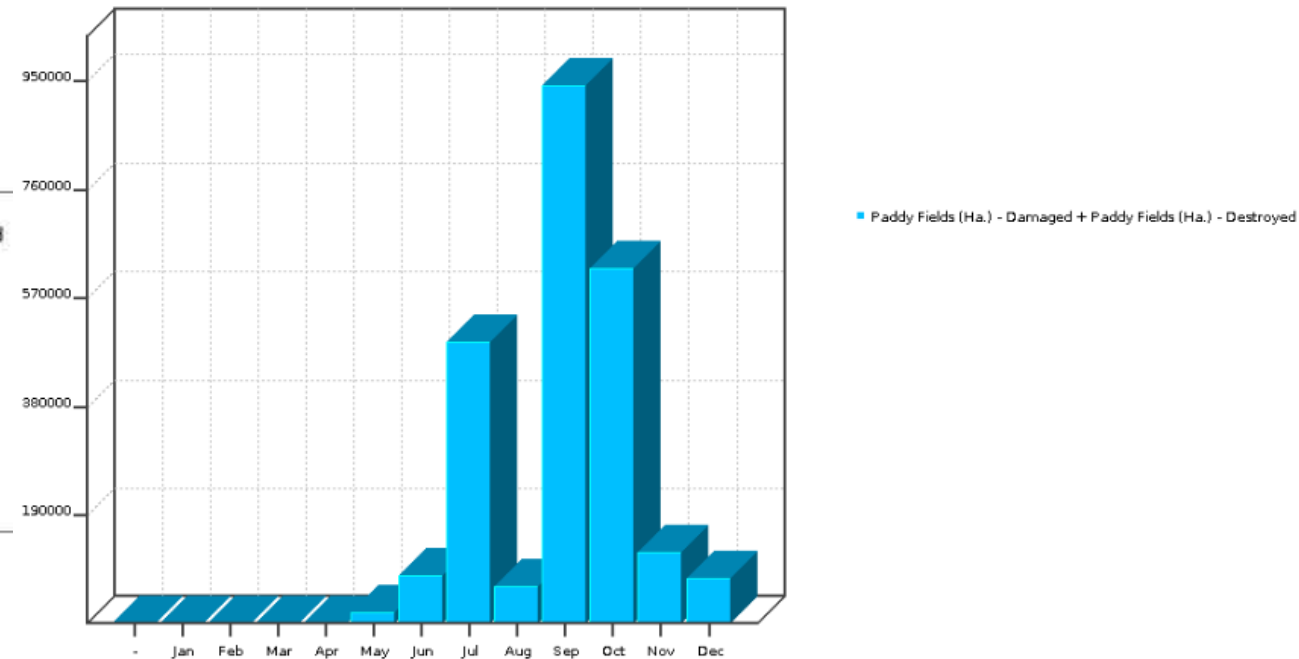
Agriculture



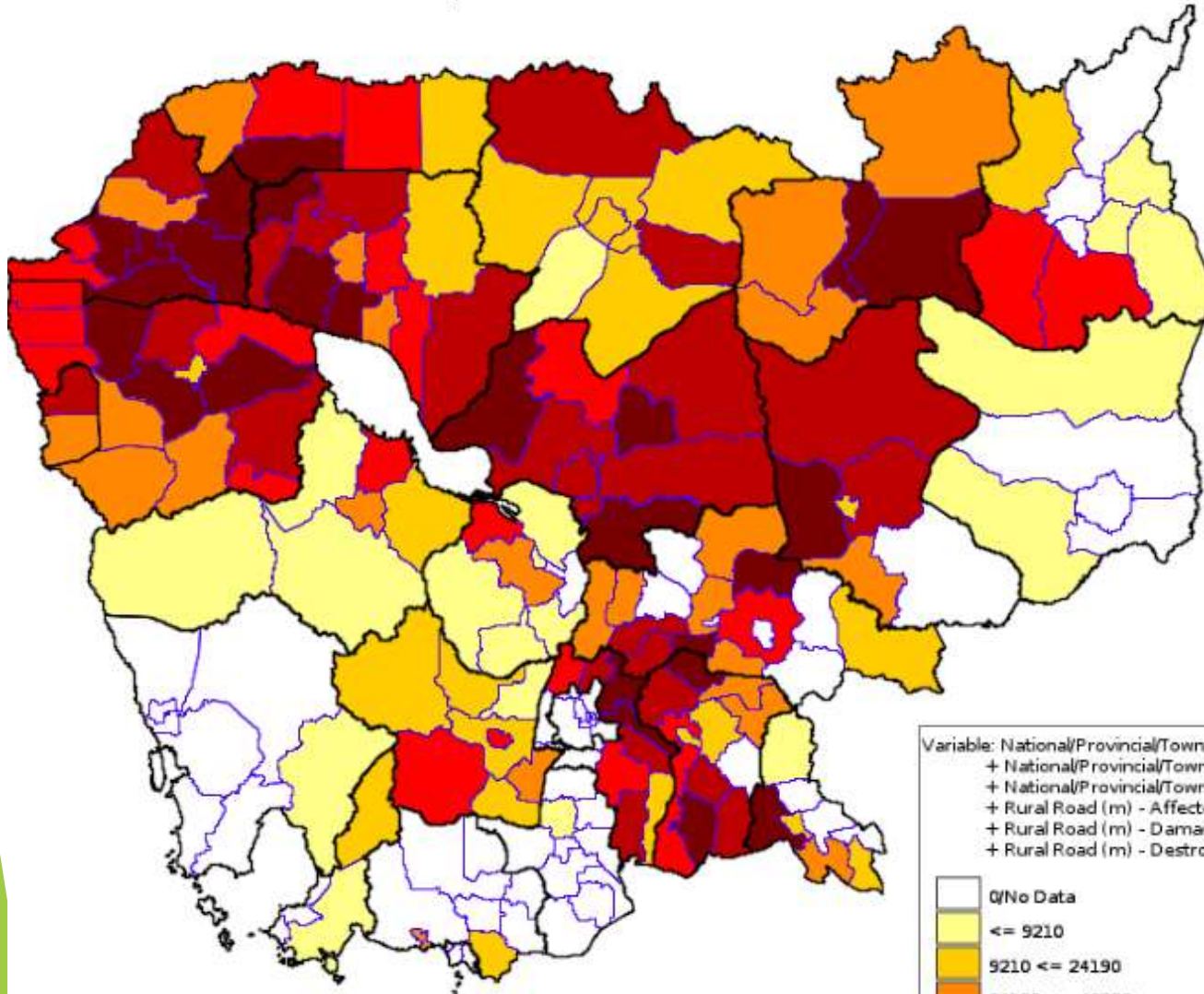
Paddy fields – damaged and destroyed



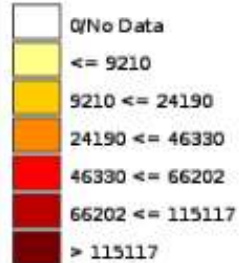
Most damaged and destroyed by drought and flood during the months of Sept & Oct



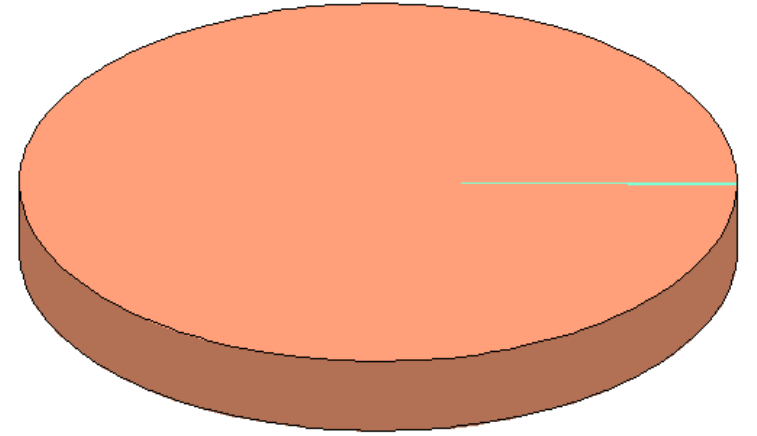
Road (national, provincial, town, rural)



Variable: National/Provincial/Town Road (m) - Affected
+ National/Provincial/Town Road (m) - Damaged
+ National/Provincial/Town Road (m) - Destroyed
+ Rural Road (m) - Affected
+ Rural Road (m) - Damaged
+ Rural Road (m) - Destroyed



Flood- 292549 (99 %)



Other- 815 (0 %)

Roads are mostly affected by floods

Global Centre for Disaster Statistics

- ▶ **Launched in 2015 at the WCDRR**
- ▶ **Partnership with Tohoku University and Fujitsu**
- ▶ **7 pilot countries – Cambodia, Indonesia, Myanmar
Philippines, Sri Lanka, Maldives, Nepal**

Questions/ Comments?



*Empowered lives.
Resilient nations.*

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