The climate change and development related risks most relevant to the region based on the SREX report

UNFCCC Expert Meeting on a range of approaches to address loss and damage associated with the adverse effects of CC including impacts related to extreme weather and slow onset events
27-29 August 2012, Bangkok, Thailand

Bach Tan Sinh. Ph.D.
Lead Author of the Chapter 2 of the SREX Report
National Institute for Science and Technology Policy and Strategy Studies,
Ministry of Science and Technology, Vietnam

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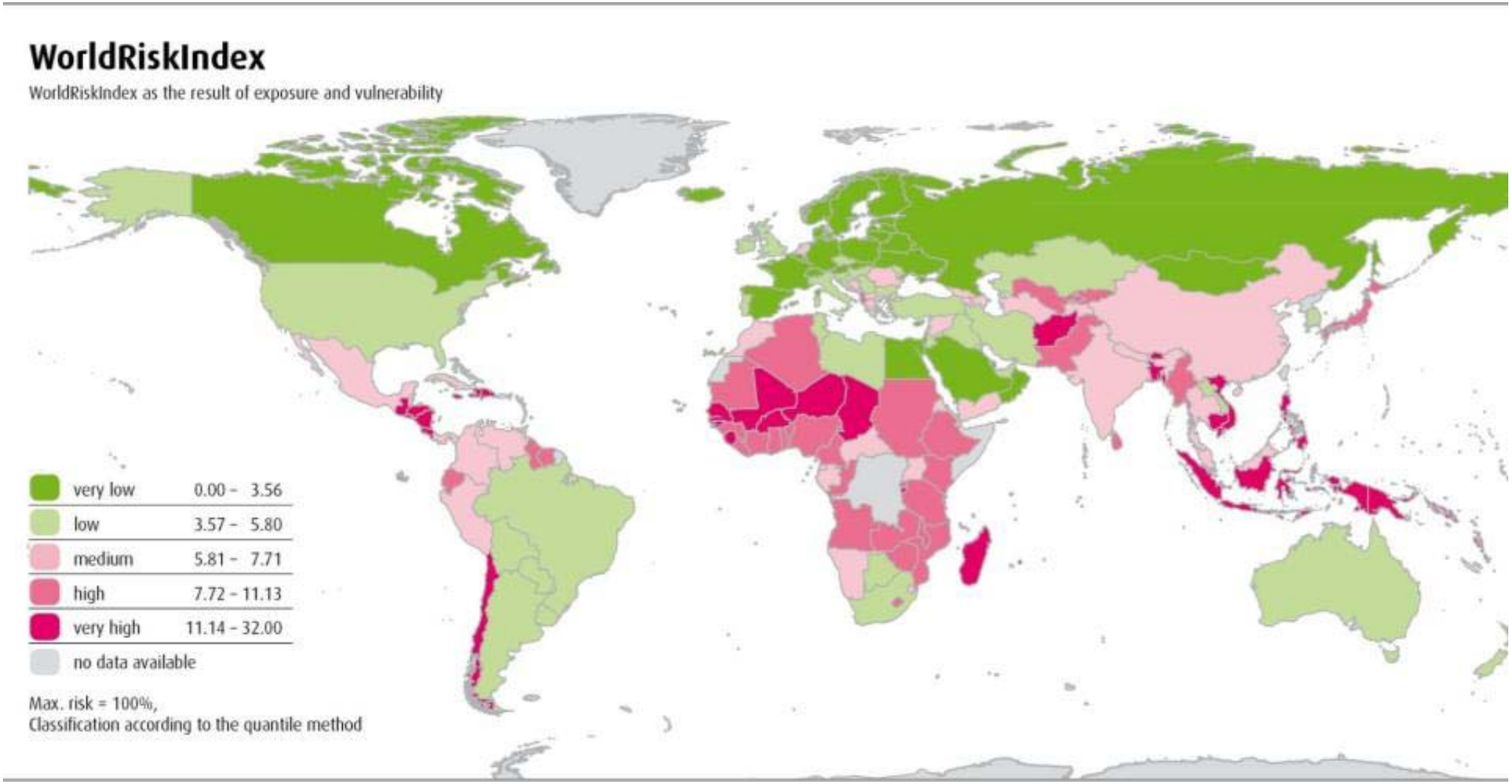
Why is the IPCC SREX Report relevant for Asia?



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A changing climate leads to changes in extreme weather and climate events

Impacts from weather and climate events depend on:

nature and severity of event

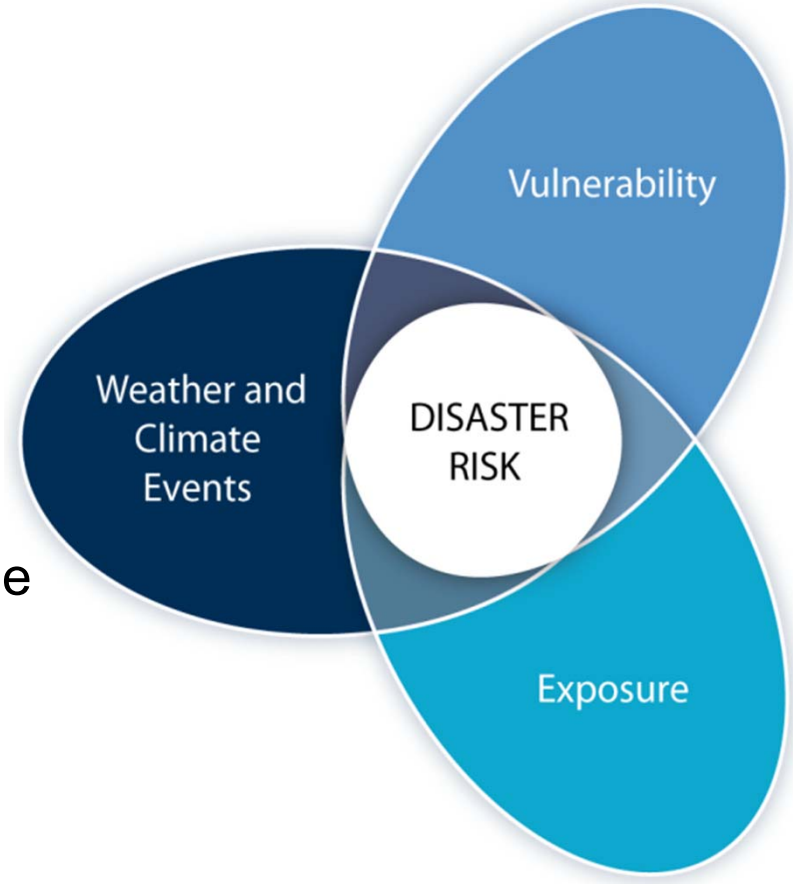
vulnerability

exposure

Socioeconomic development interacts with natural climate variations and human-caused climate change to influence disaster risk

Disaster Risk:

the likelihood of severe alterations in the normal functioning of a community or society due to weather or climate events interacting with vulnerable social conditions

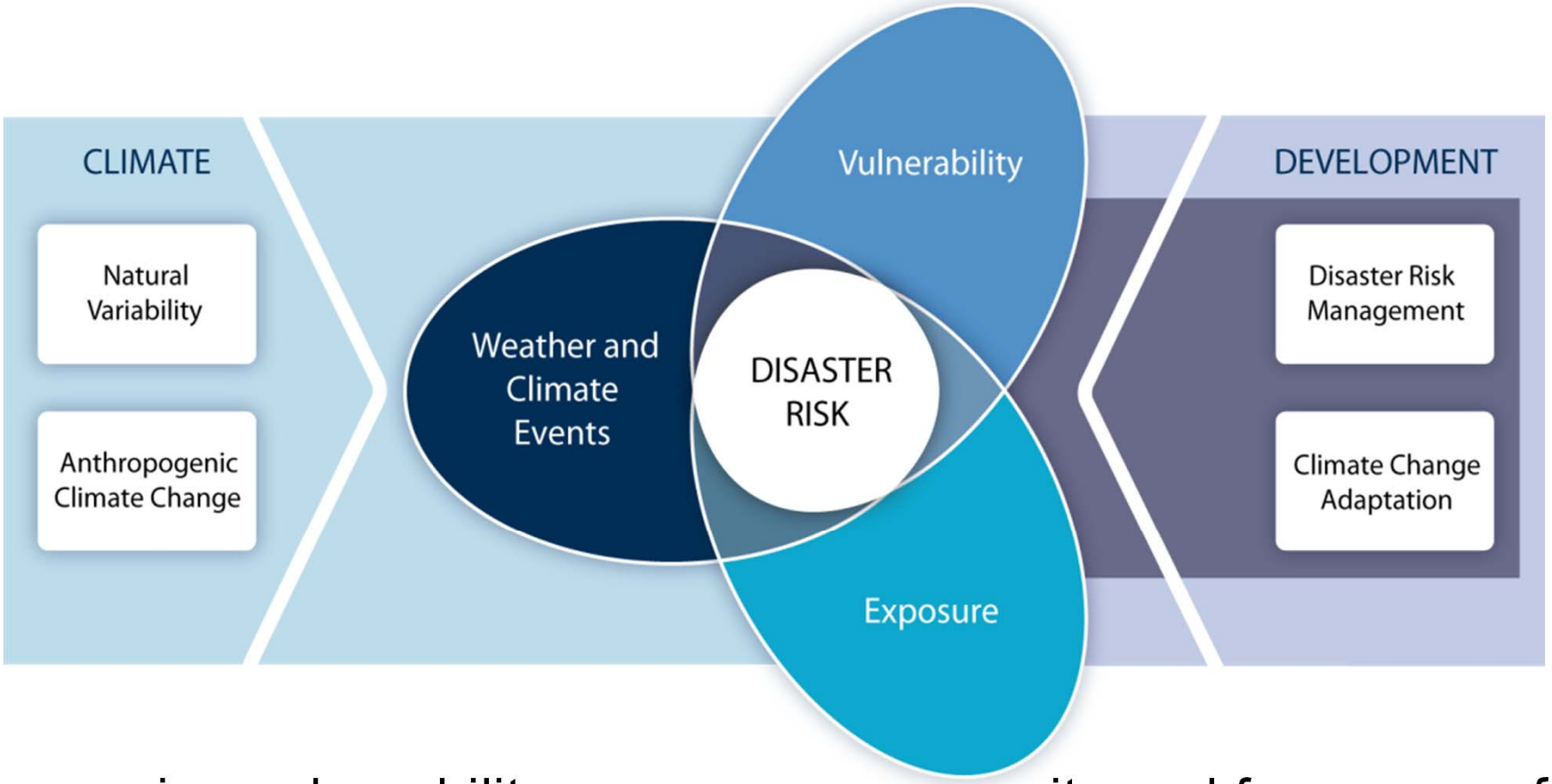


Vulnerability:

the predisposition of a person or group to be adversely affected

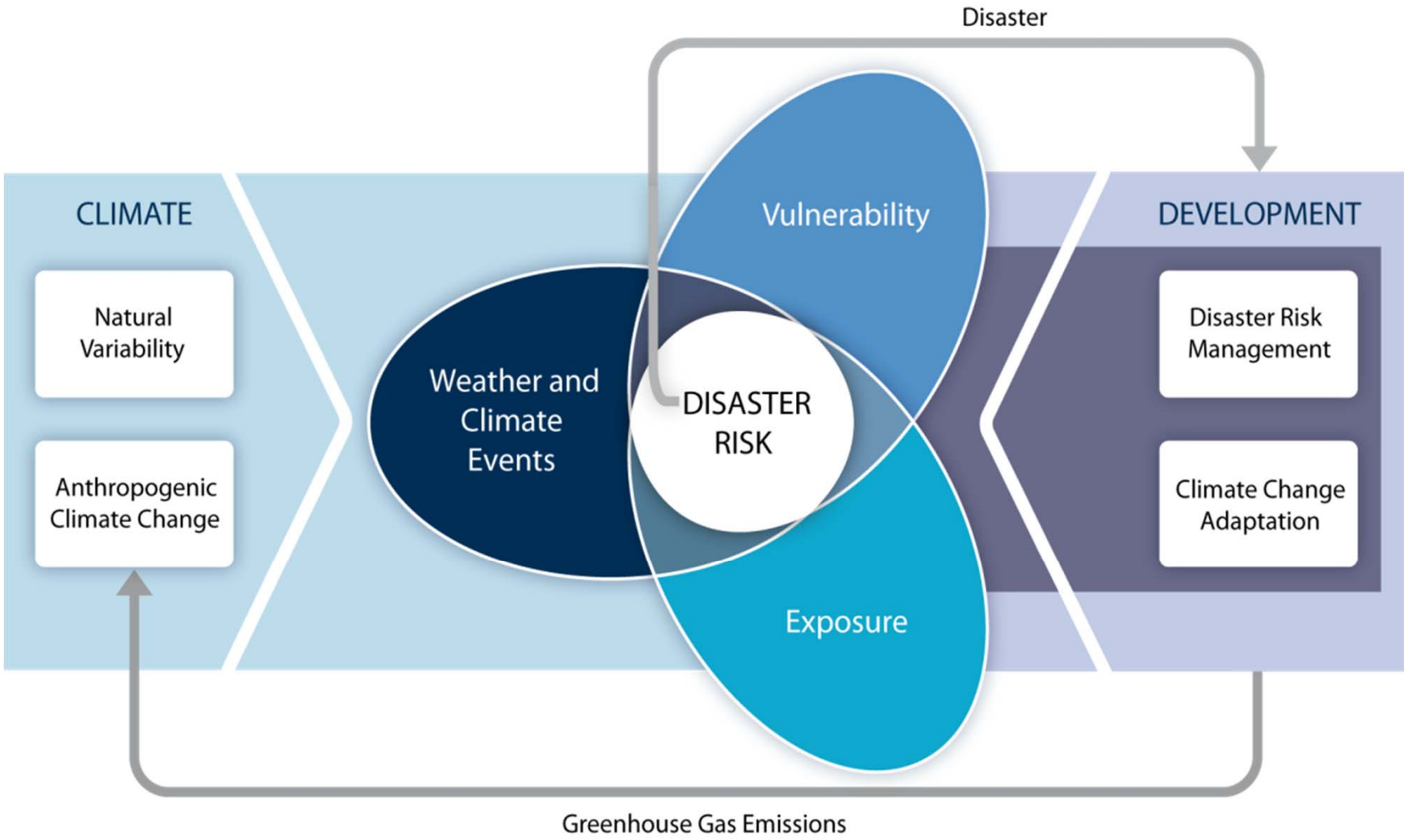
Exposure: The presence of people; livelihoods; environmental services and resources; infrastructure; or economic, social, or cultural assets in places that could be adversely affected.

The inter-linkages between the core concepts of the SREX



Increasing vulnerability, exposure, or severity and frequency of climate events increases disaster risk

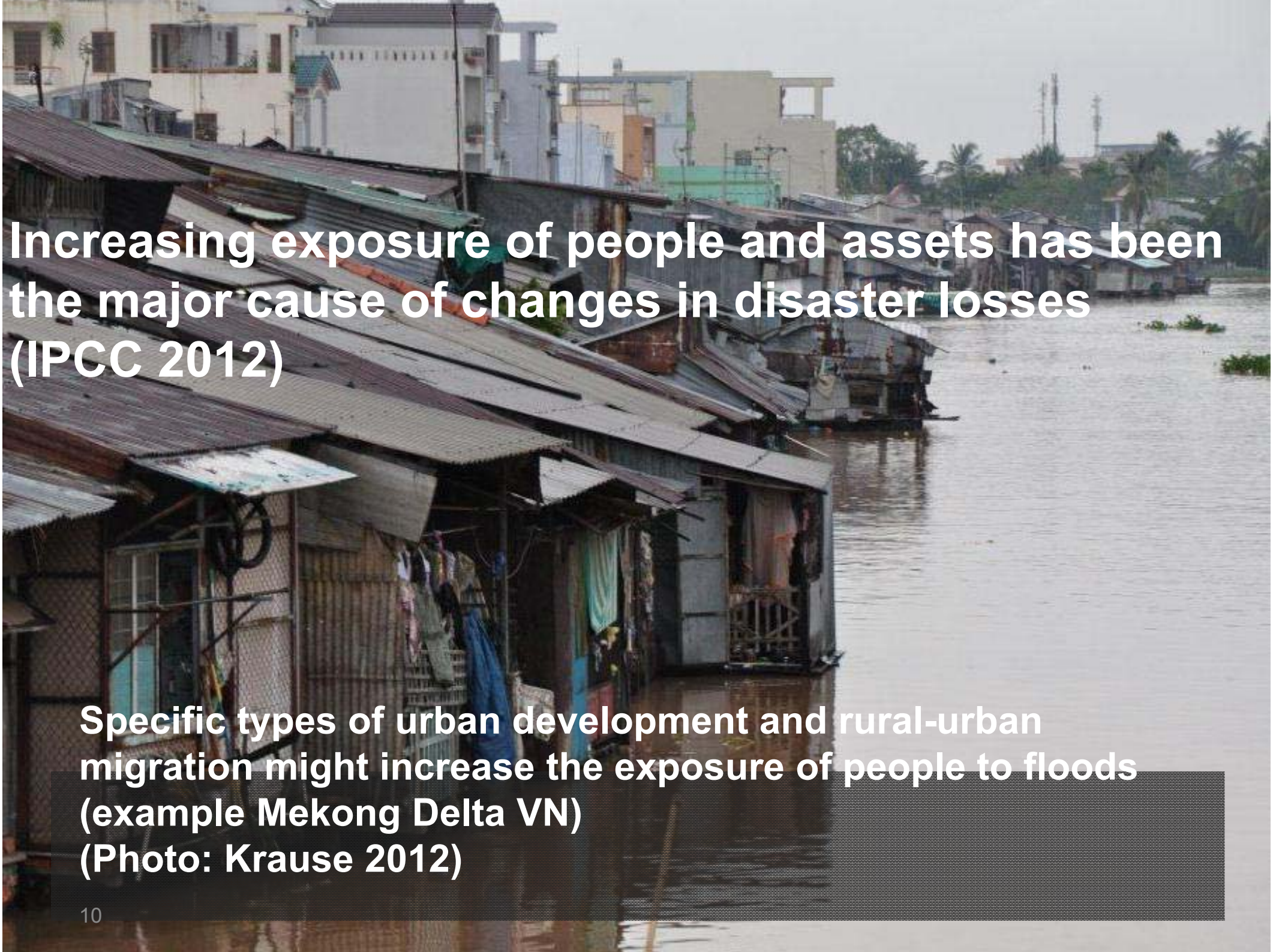
The inter-linkages between the core concepts of the SREX



Disaster risk management and climate change adaptation can influence the degree to which ***extreme events translate into impacts*** *and* ***disasters***

The inter-linkages between the core concepts of the SREX

- Both changes in vulnerability and exposure and changes in weather and extreme climate events contribute and combine to create disaster risk. Thus, there is a need to address both disaster risk management (DRM) and climate change adaptation (CCA) in development processes.
- Risk is not only a function of extreme climate events but of urban development decisions as well. Trends in urban development may mean that more and more people are exposed to higher risk both due to poor construction practices AND to increasing severity and frequency of extreme events. The combination of factors increases risk, and makes it more immediate.



Increasing exposure of people and assets has been the major cause of changes in disaster losses (IPCC 2012)

Specific types of urban development and rural-urban migration might increase the exposure of people to floods (example Mekong Delta VN)
(Photo: Krause 2012)

Exposure is solely one factor of disaster risk (IPCC 2012)

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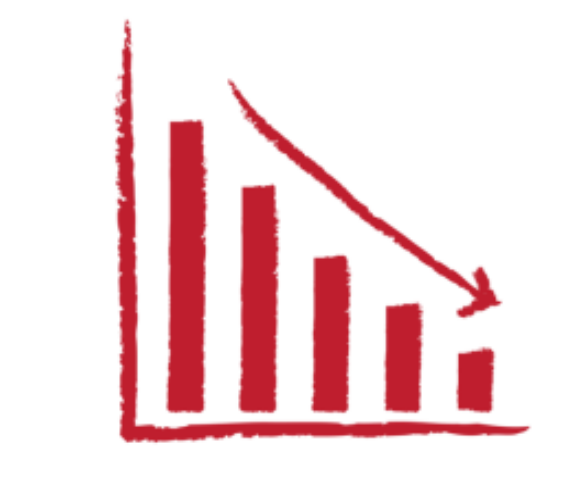
Climate change projected impacts on food fiber and forests

- Consequences for **down-stream agriculture** which relies on glacial melt and rivers for irrigation will be unfavorable in most south Asian countries.
- **Complex and localized impacts of climate change will affect groups with low adaptive capacity such as**
  - Small holders
  - Subsistence farmers
  - Pastoralists
  - Artisanal fisher folk

Source : IPCC

Climate change projected impacts on livelihoods



- Low economic growth
- Lack of skilled labor
- Lack of industry

- Primary subsistence agriculture
- Communities face malnutrition
- Low literacy rates

- High population growth
- Poor health services and education systems
- Shortage of safe drinking water

Source: IPCC

Climate change projected impacts on health

Increases in:

- **Malnutrition**, with implications for child growth and development
- **Deaths, disease and injury** due to heat waves, floods, storms, fires and droughts
- **Diarrhoeal** disease
- Frequency of **cardio-respiratory** diseases

Projected climate change-related exposures are likely to affect the health status of millions of people, particularly those with low adaptive capacity

Source : IPCC

Vulnerable populations

- Vulnerability in **developing regions and among poor & marginalised communities** is aggravated by low adaptive capacity and non-climate stresses, such as:
  - Dependence on climate-sensitive resources
  - Integrity of key infrastructure
  - Preparedness and planning
  - Sophistication of the public health system
  - Exposure to conflict

Without appropriate measures, climate change will likely exacerbate the poverty situation and continue to slow down economic growth in developing countries

Source : IPCC

ipcc

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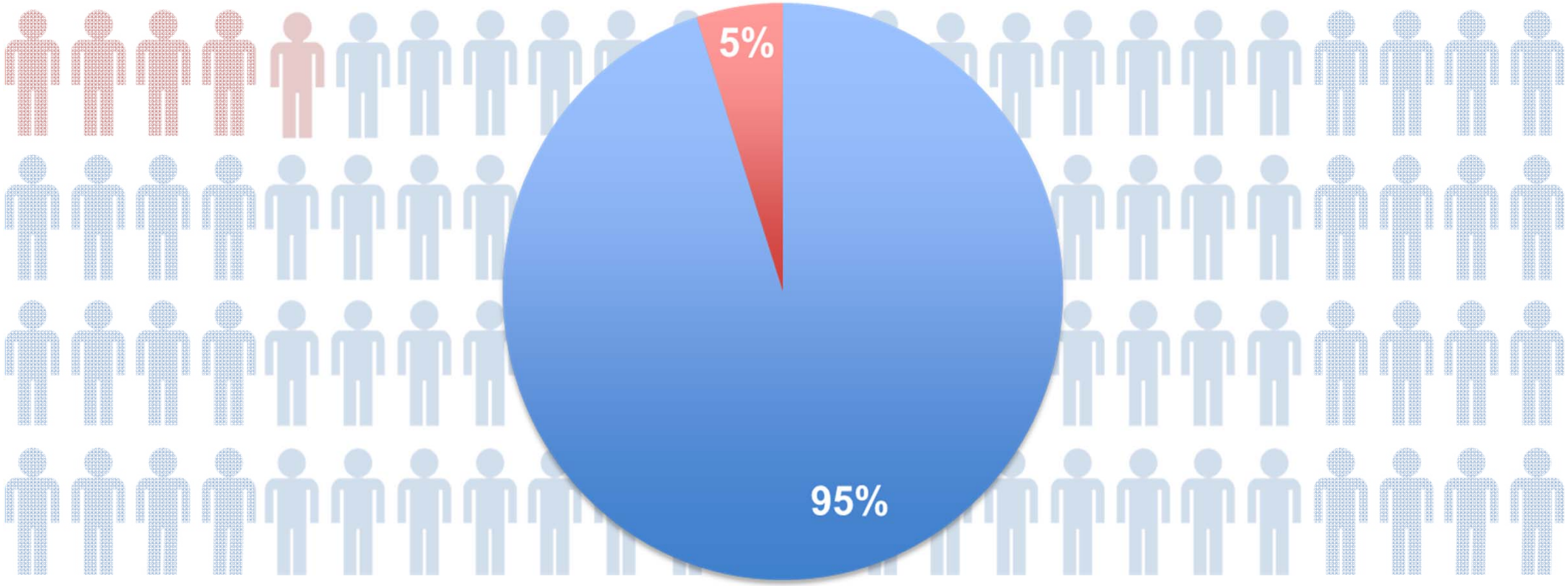
Fatalities are higher in developing countries



From 1970-2008, over **95%** of natural-disaster-related deaths occurred in developing countries

Physical Exposure to Tropical Cyclones

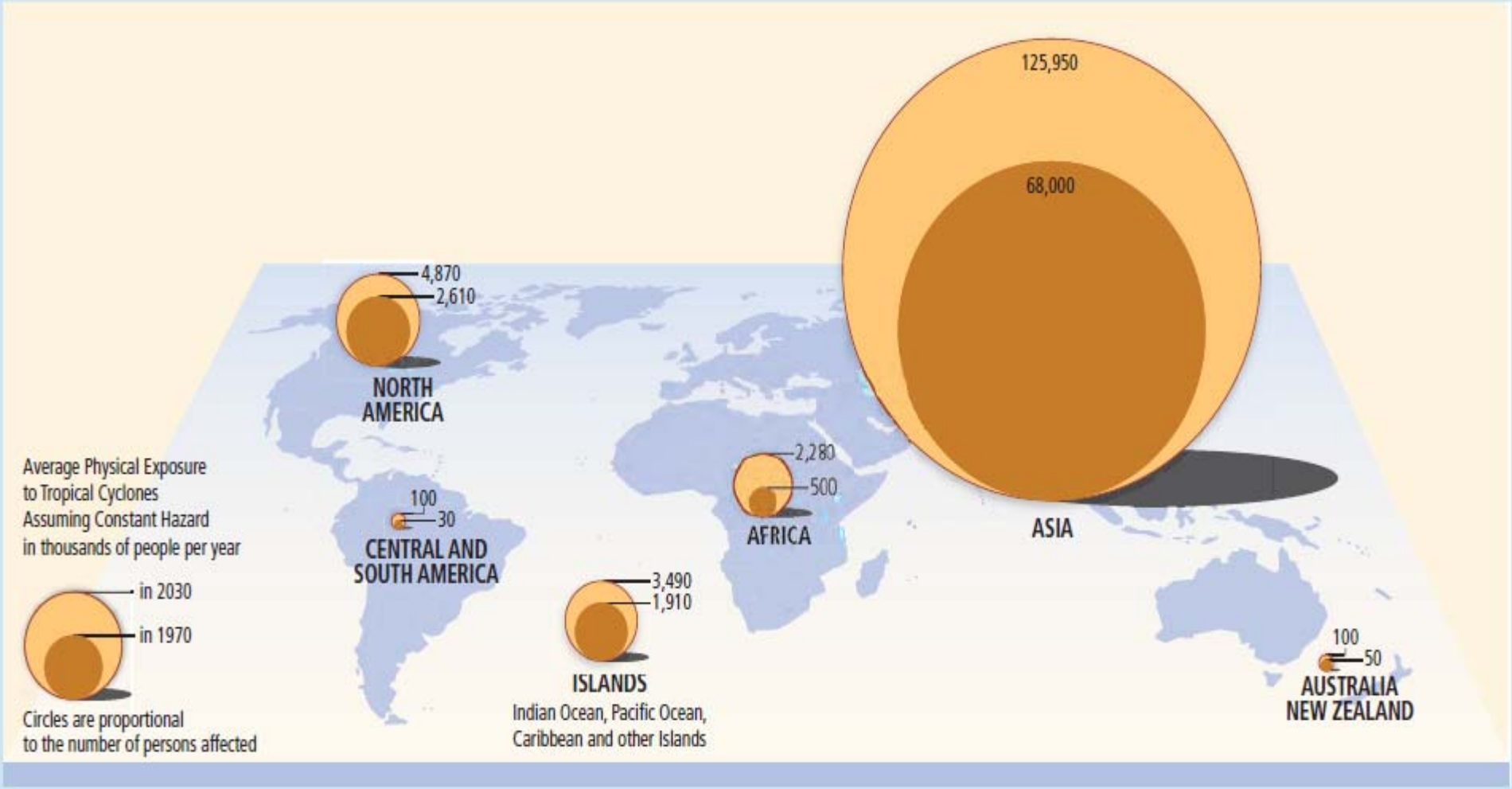


Figure 4-1 | Average physical exposure to tropical cyclones assuming constant hazard (in thousands of people per year). Data from Peduzzi et al., 2011.

Physical Exposure to Floods

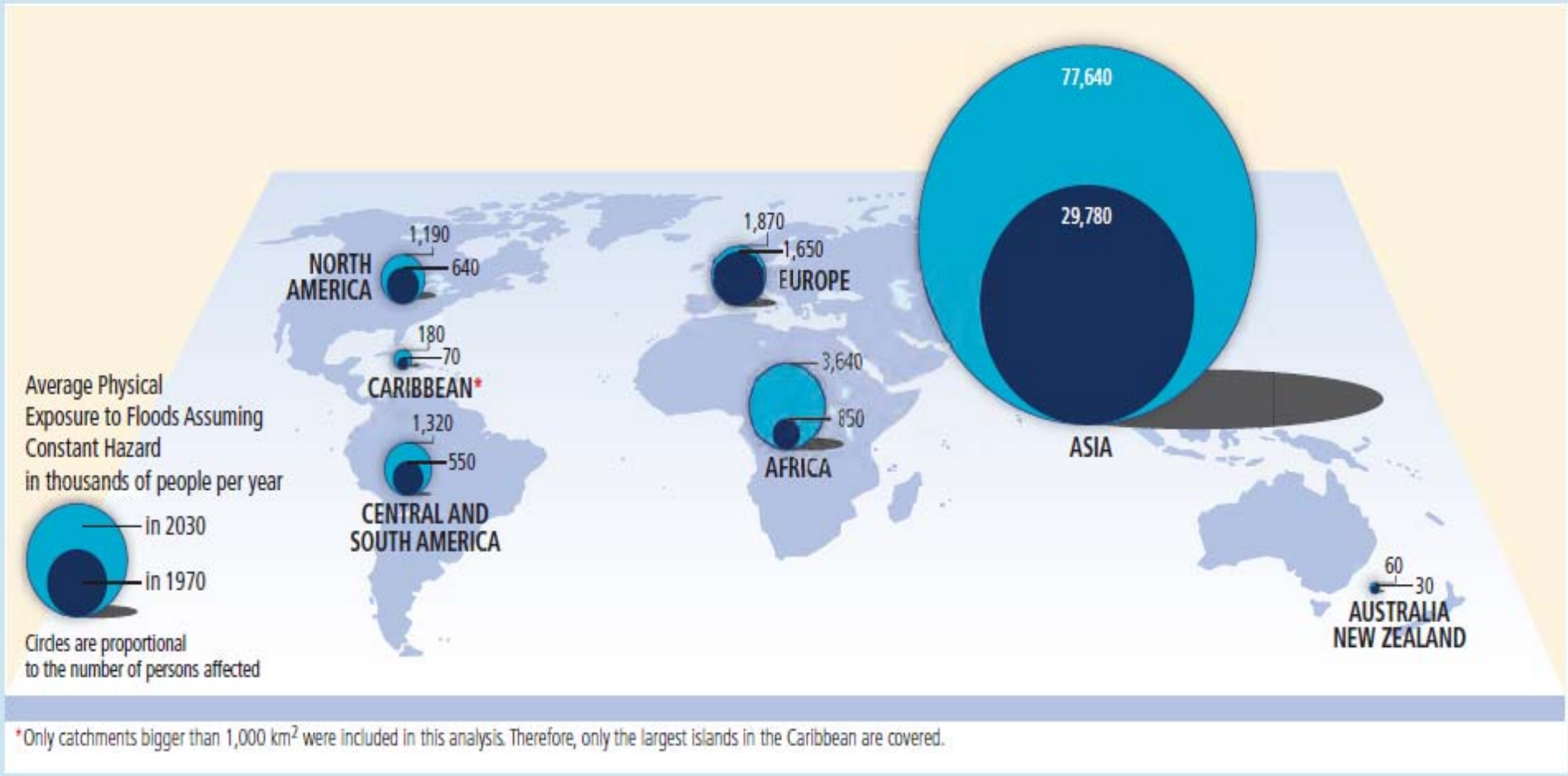


Figure 4-2 | Average physical exposure to floods assuming constant hazard (in thousands of people per year). Data from Peduzzi et al., 2011.

Population Exposed to SLR

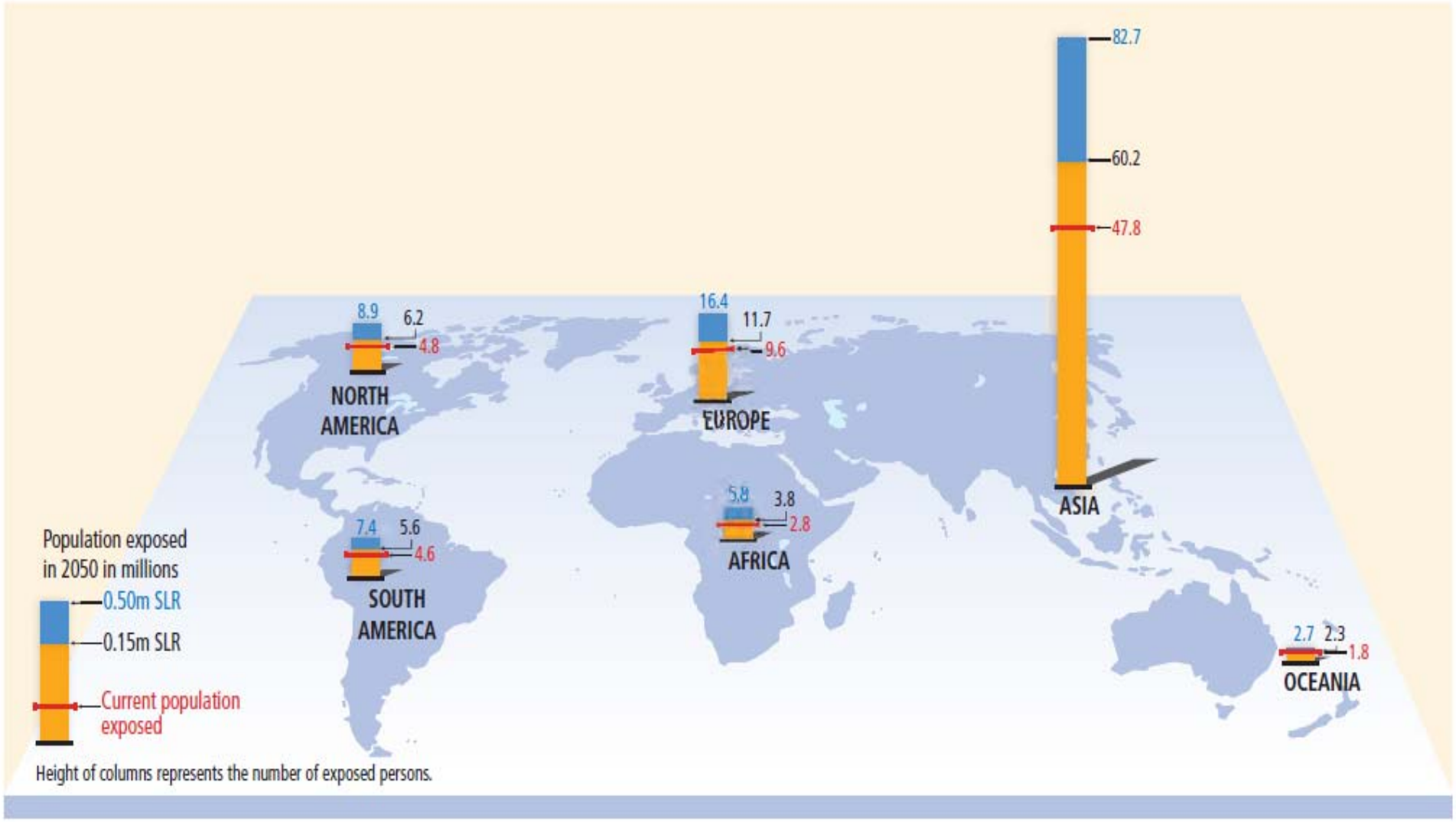


Figure 4-5 | For low-elevation coastal areas, current and future (2050) population exposure to inundation in the case of the 1-in-100-year extreme storm for sea level rise of 0.15 m and for sea level rise of 0.50 m due to the partial melting of the Greenland and West Antarctic Ice Sheets. Data from Lenton et al., 2009.

"Problems cannot be solved at the same level of awareness that created them"

- Albert Einstein

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Dr. Bach Tan Sinh

Email: sinhbt@yahoo.com

Thank you for your attention