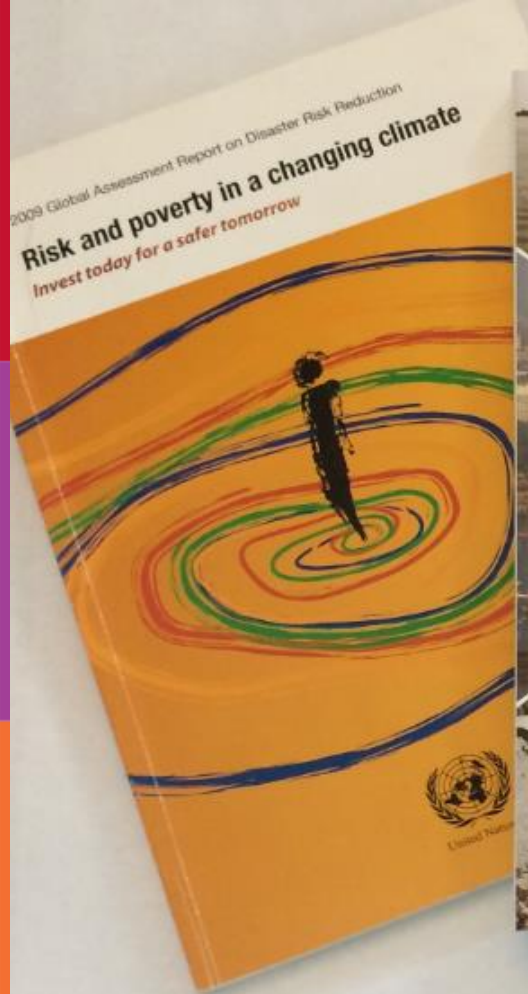
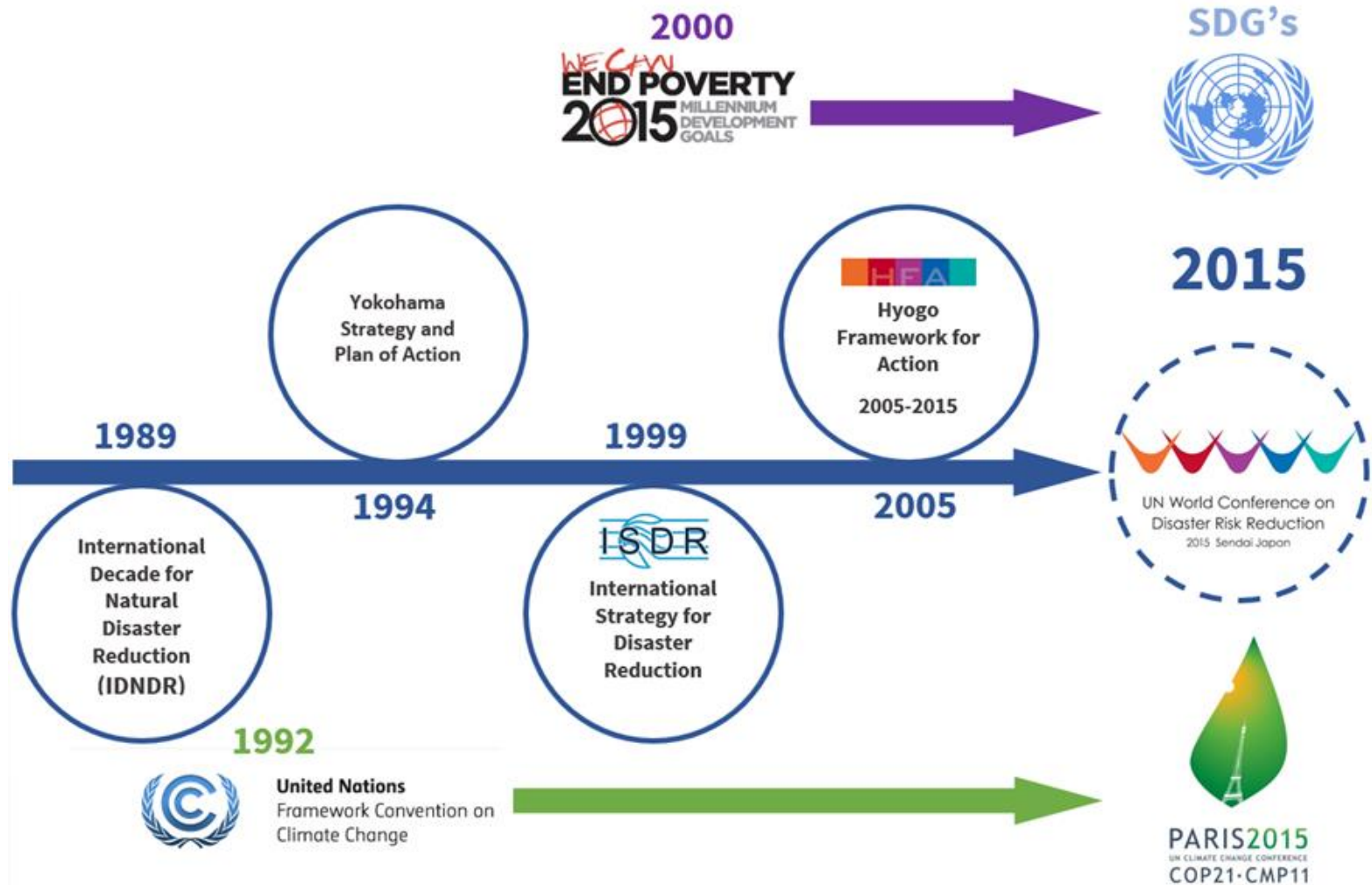


UN Global Assessment Report on Disaster Risk Reduction



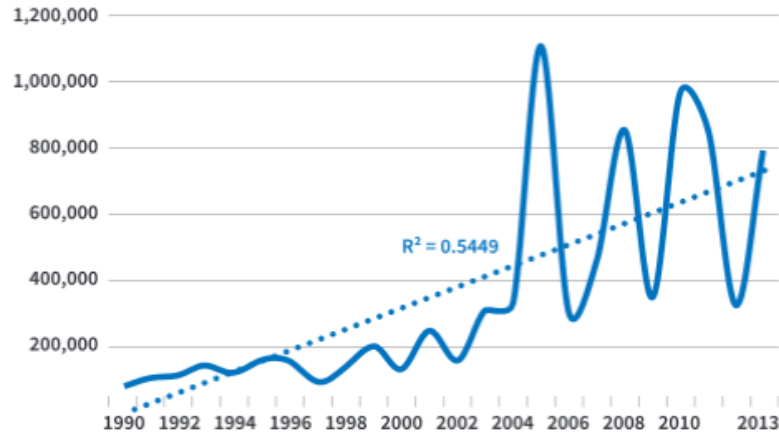
Lessons from the GAR to support implementation of the Sendai Framework and the SDGs

25 years of international commitment to disaster risk reduction

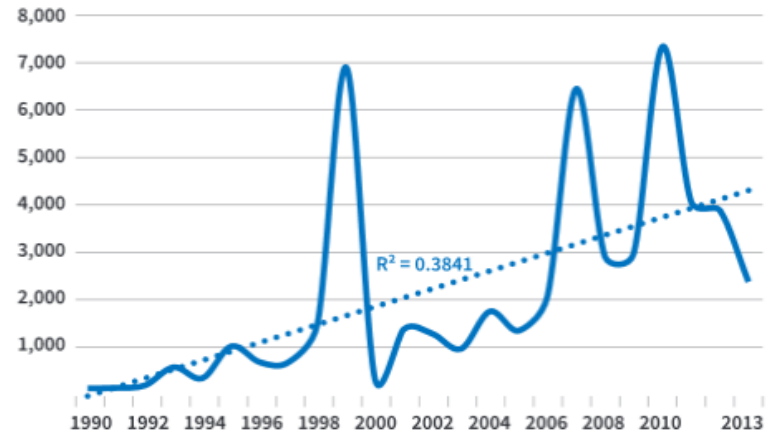


Escalating losses

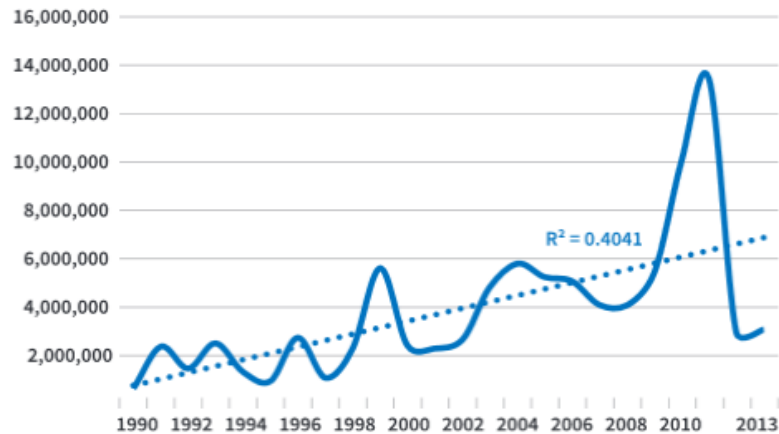
Reported damage to housing



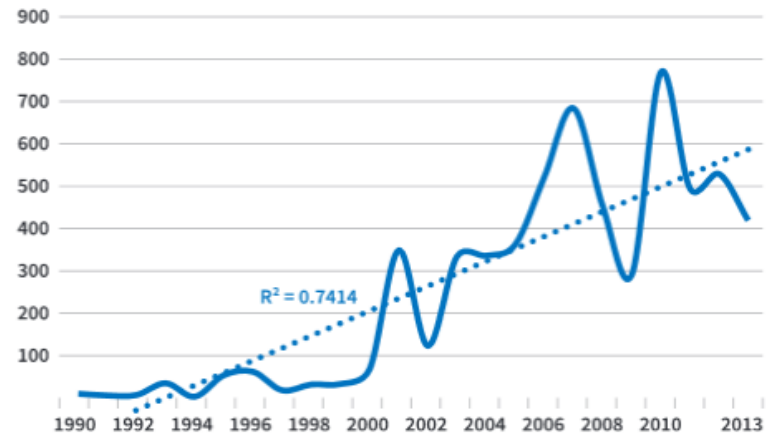
Reported damage to education facilities



Reported damage to agriculture in ha

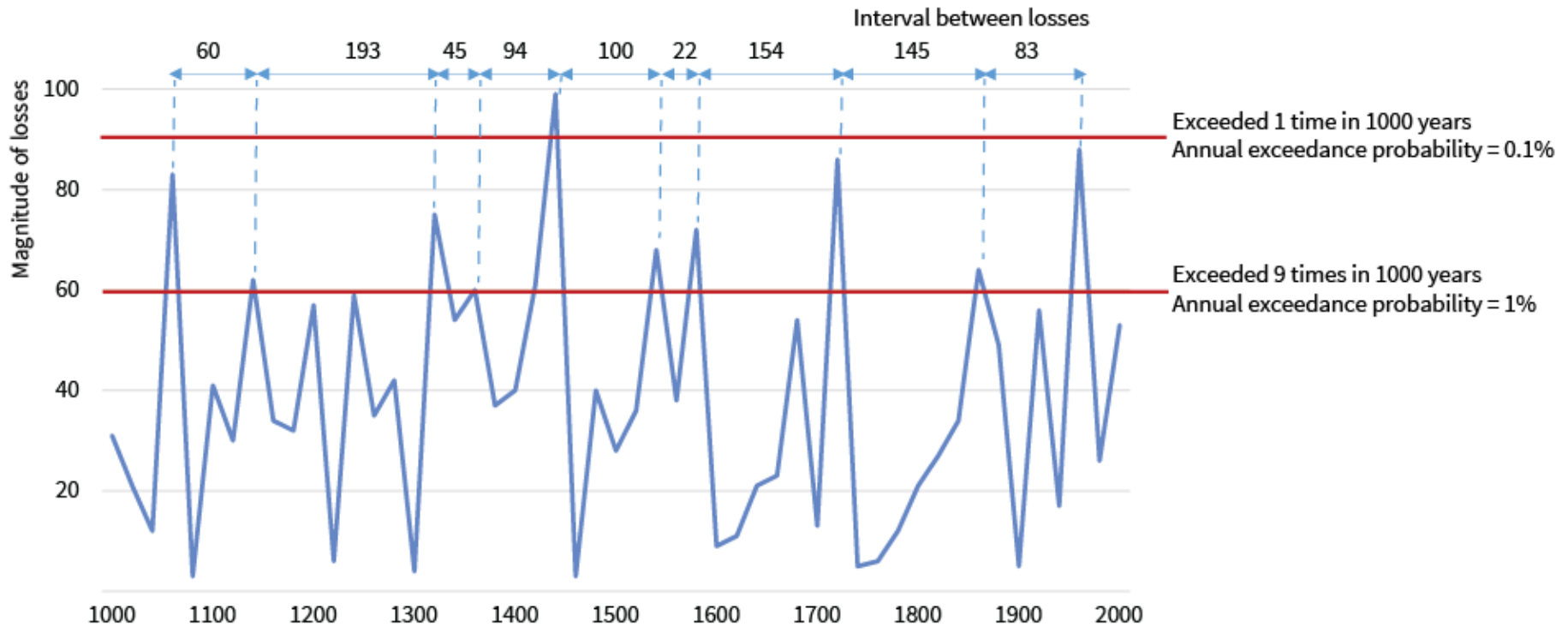


Reported damage to health facilities

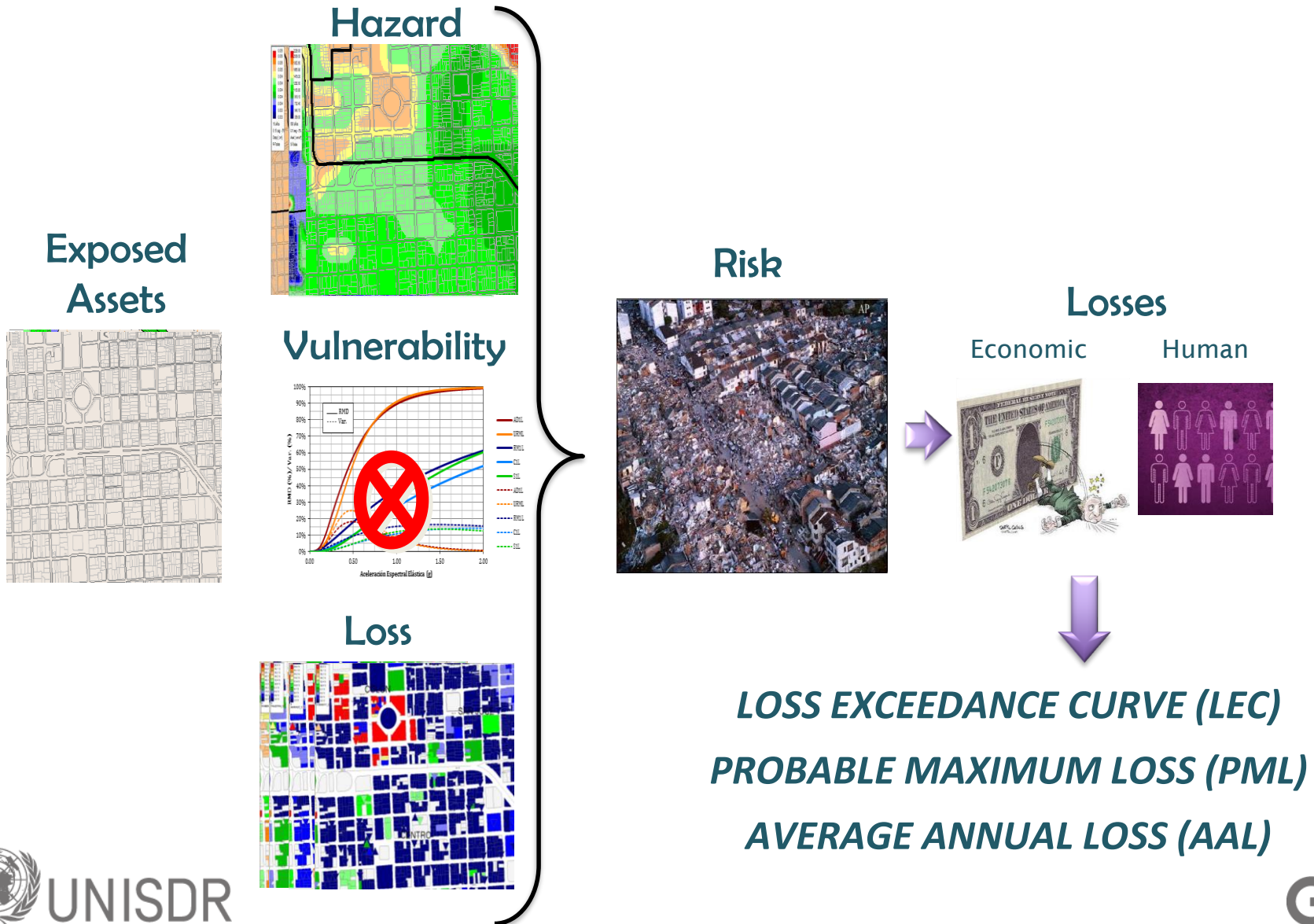


Reported damage from extensive disasters, 1990-2013 (65 countries, 2 states)

Risk and probability

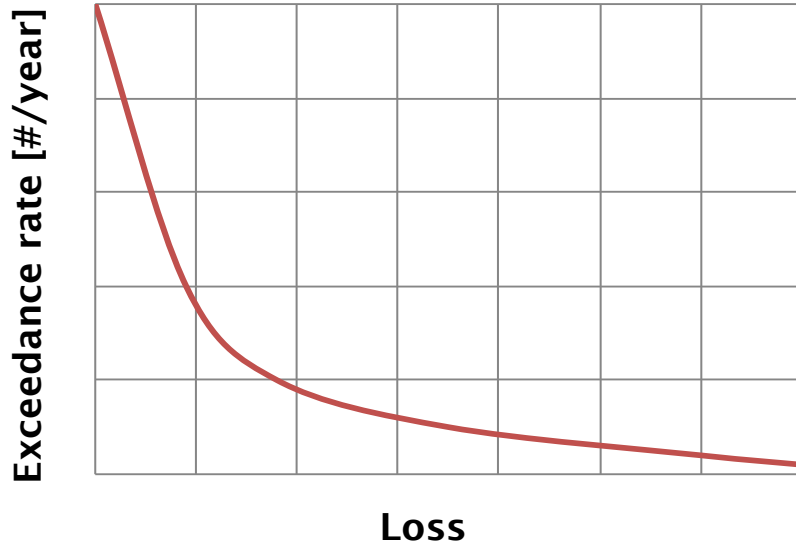


Probabilistic risk model: Loss assessment

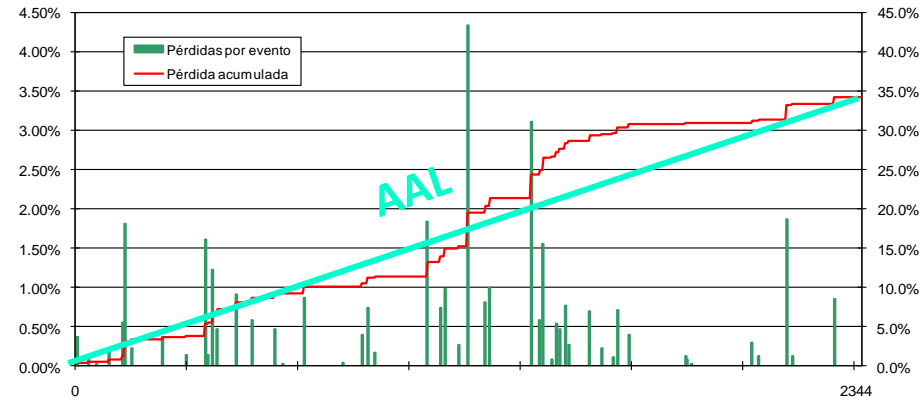


Risk metrics obtained with a probabilistic risk assessment

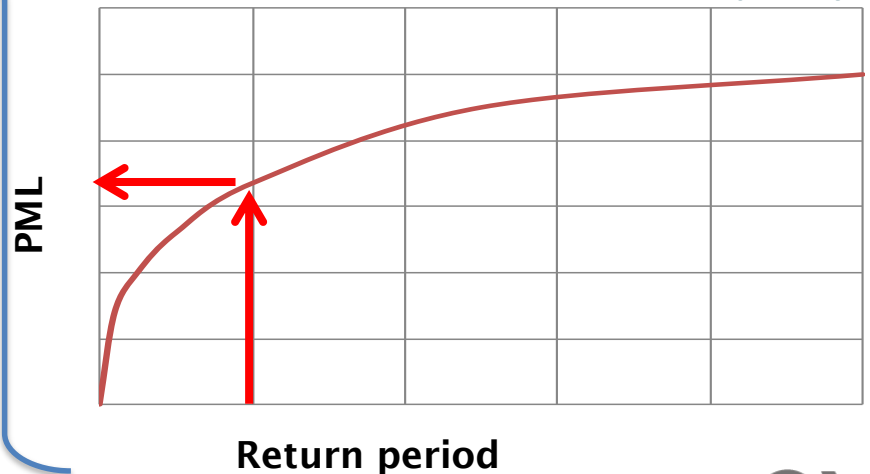
LOSS EXCEEDANCE CURVE (LEC)



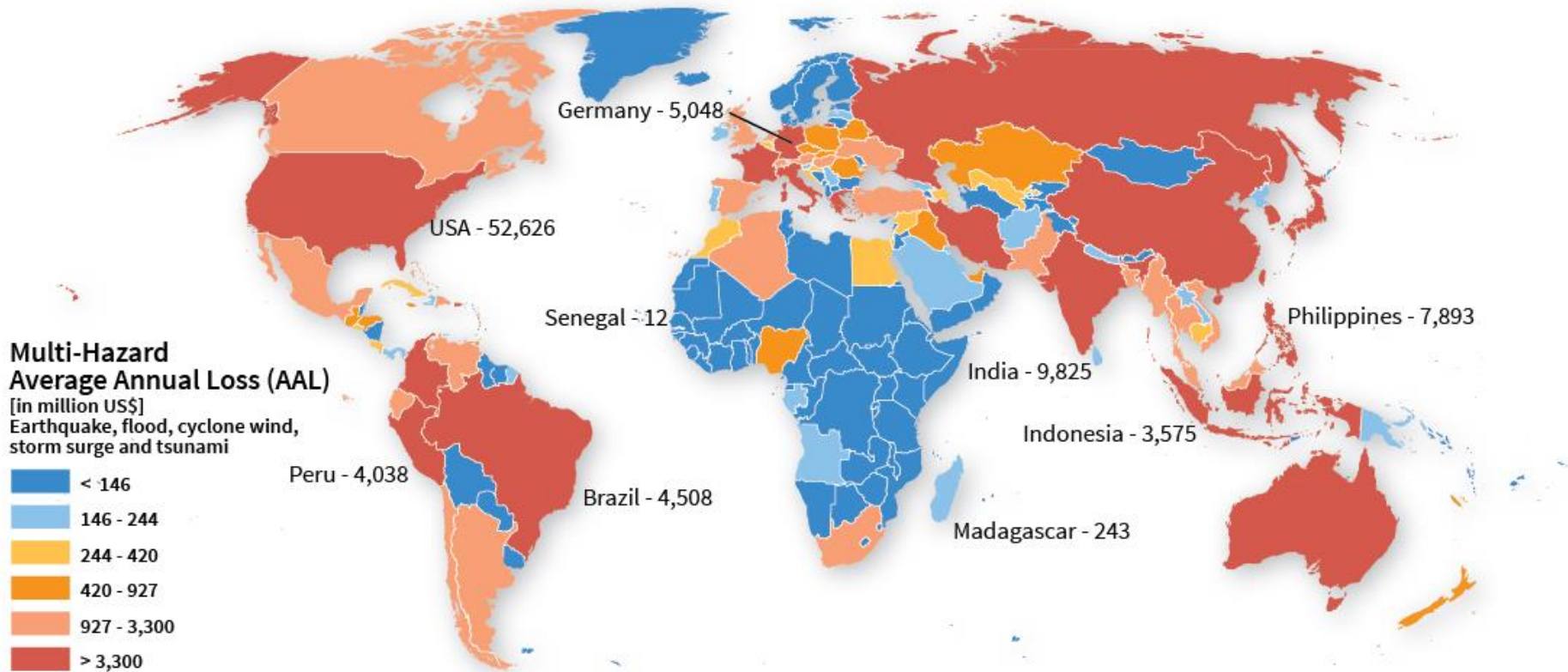
AVERAGE ANNUAL LOSS (AAL)



PROBABLE MAXIMUM LOSS (PML)

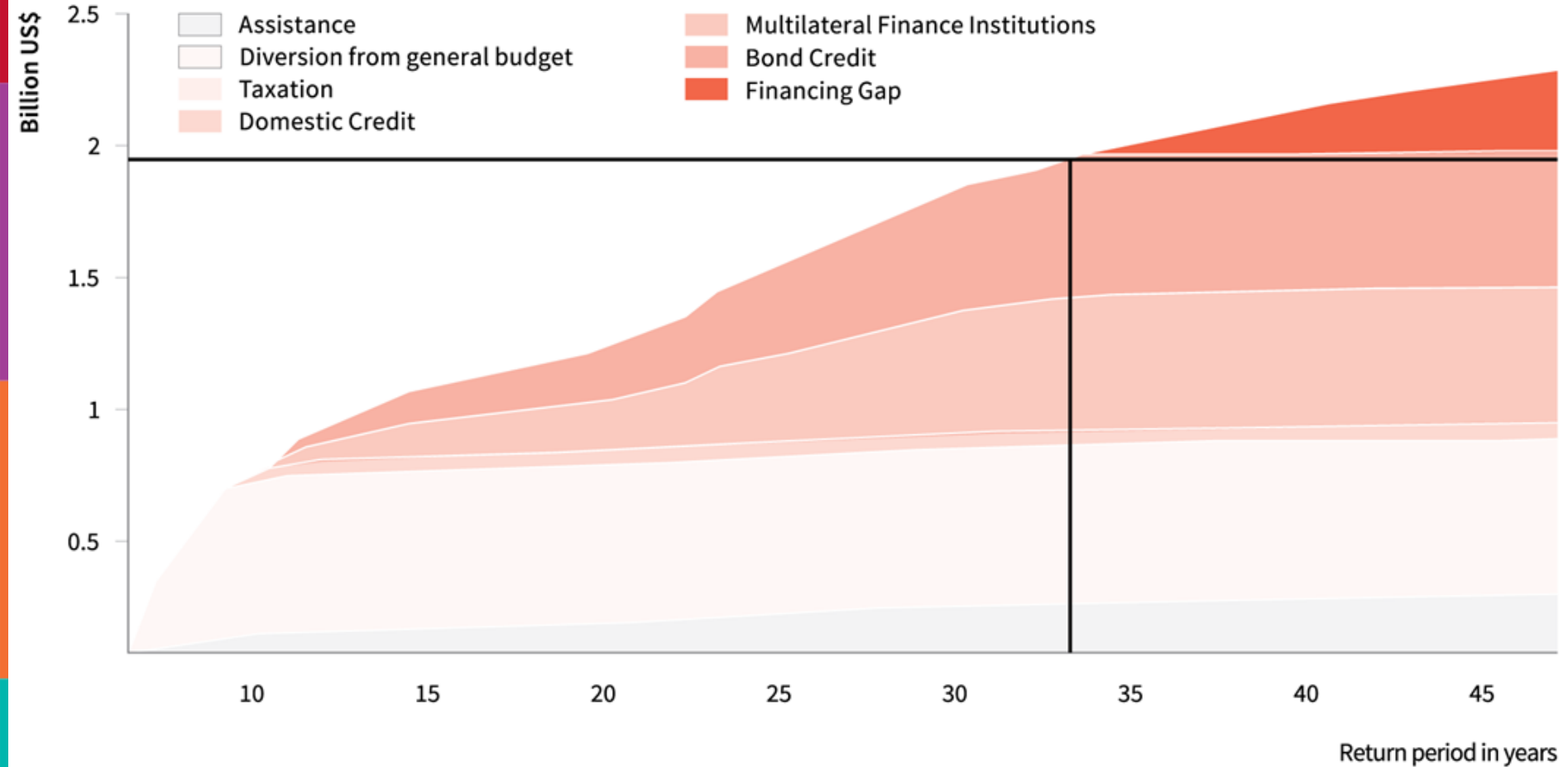


A risky world



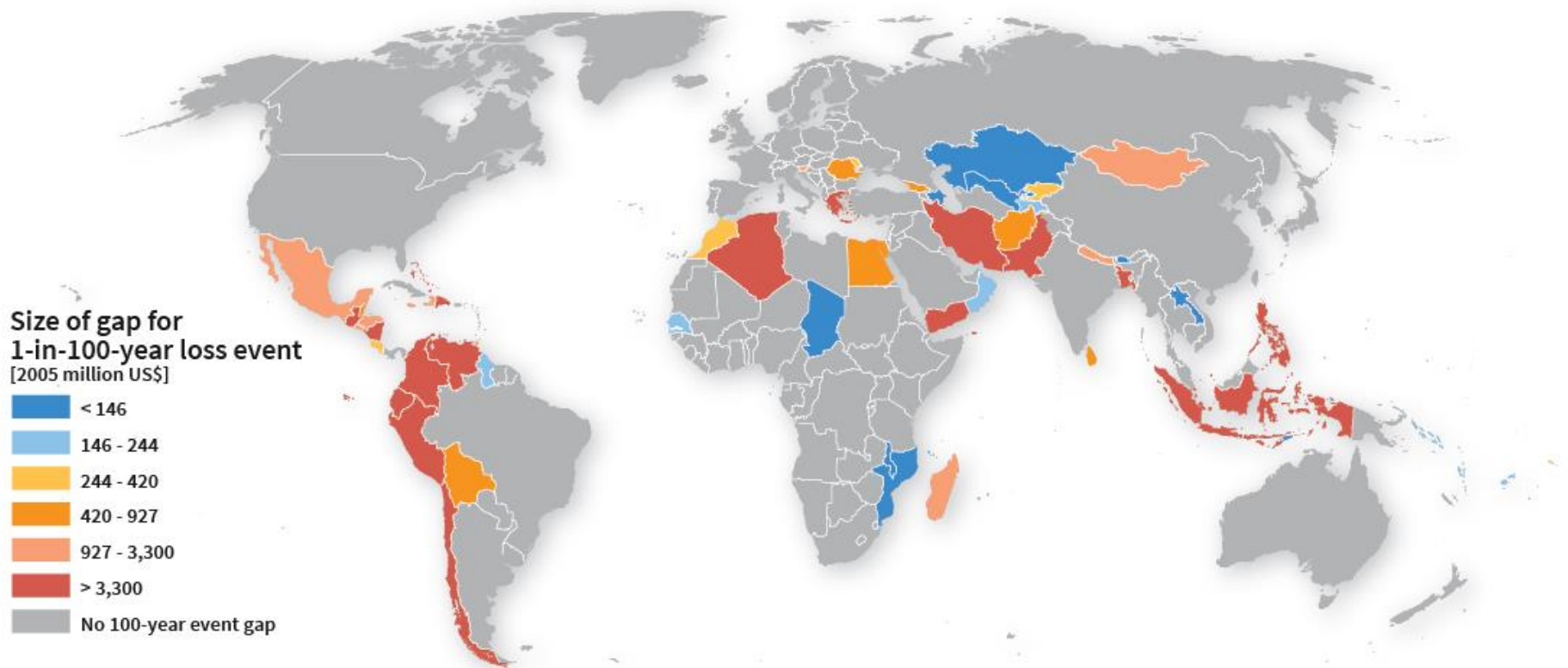
Expected future disaster losses annualized over the long term

The resilience challenge



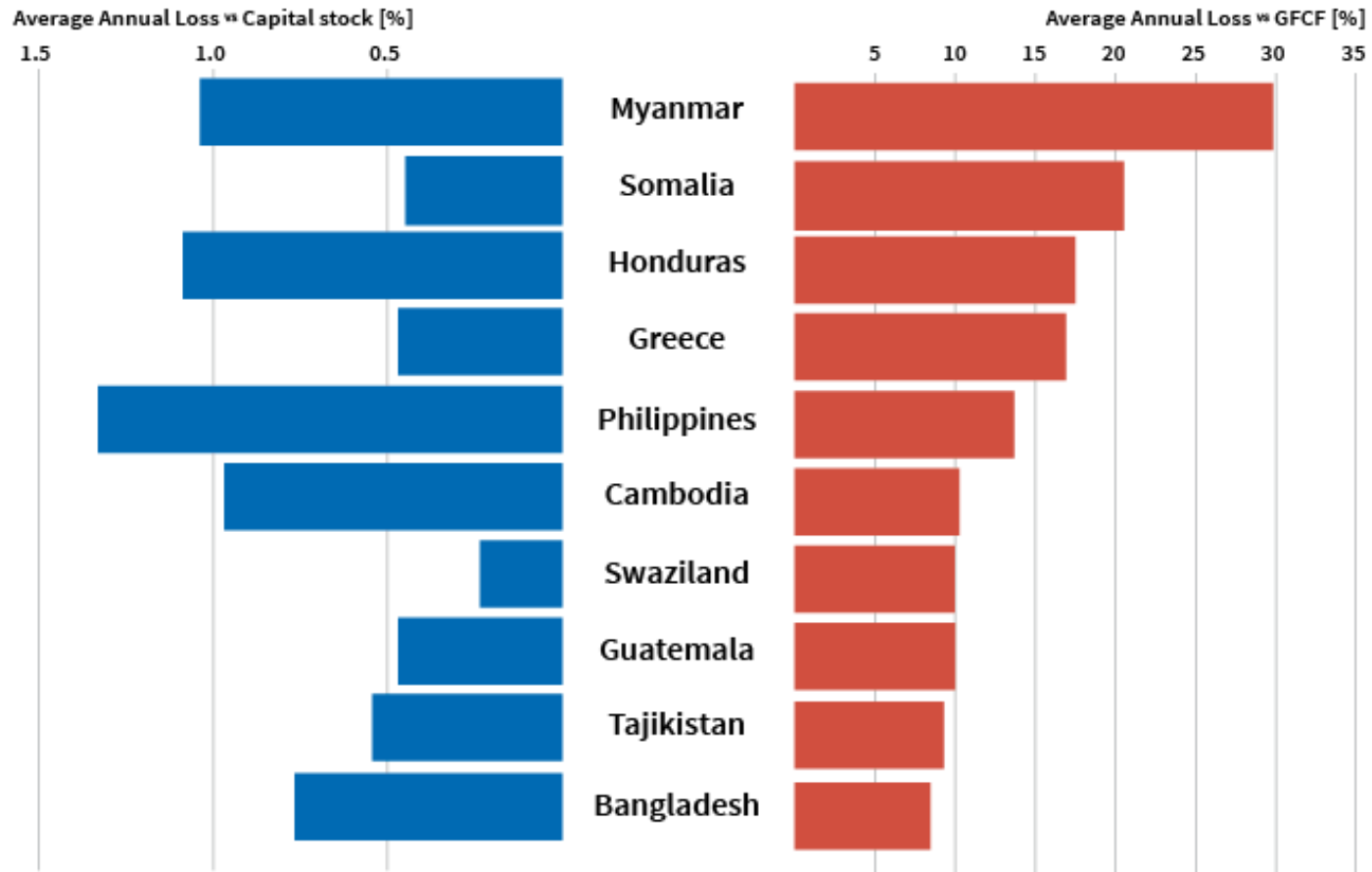
Fiscal vulnerability of Honduras to disaster loss

Global fiscal resilience



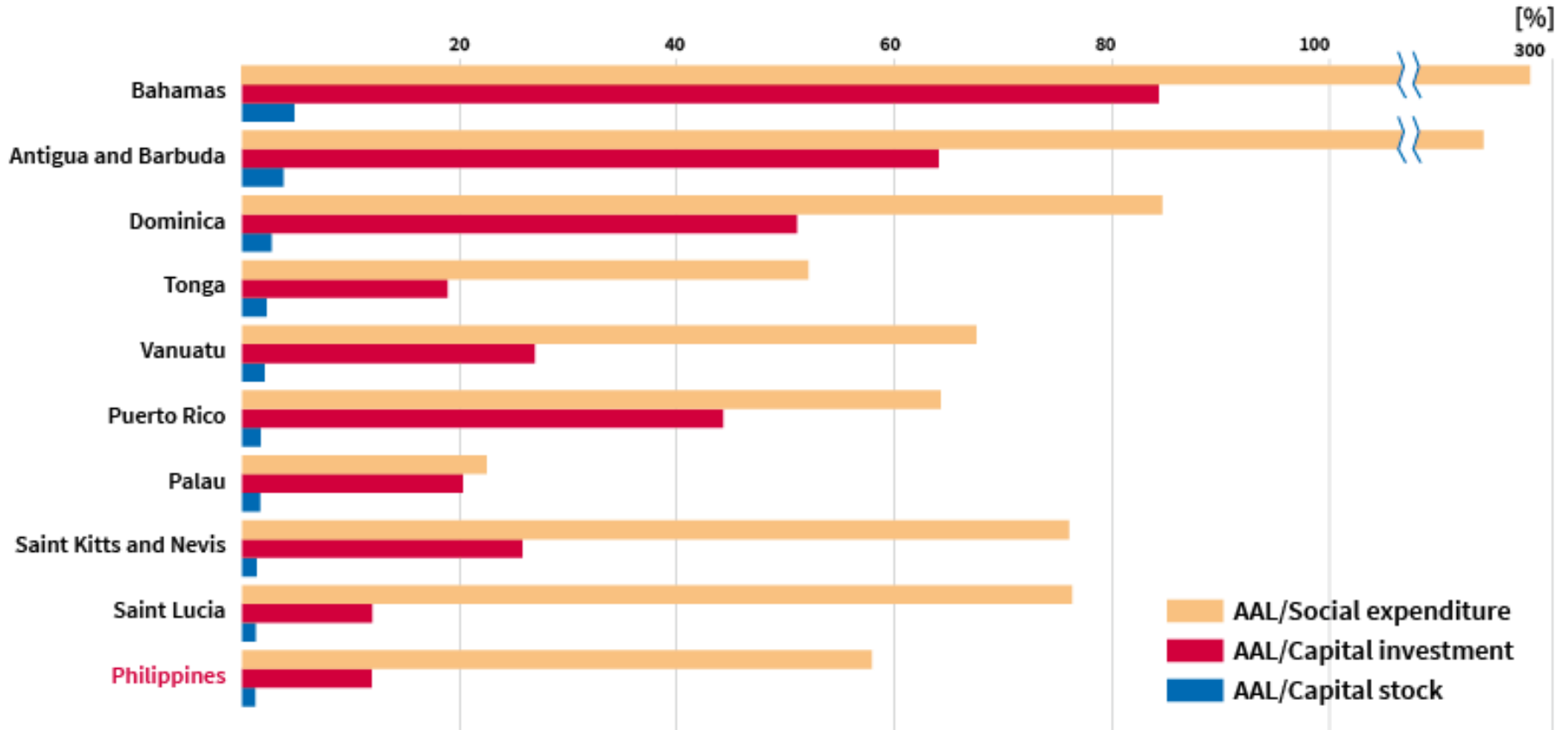
Potential financing gaps for a 1 in 100 year loss

An opportunity cost for development



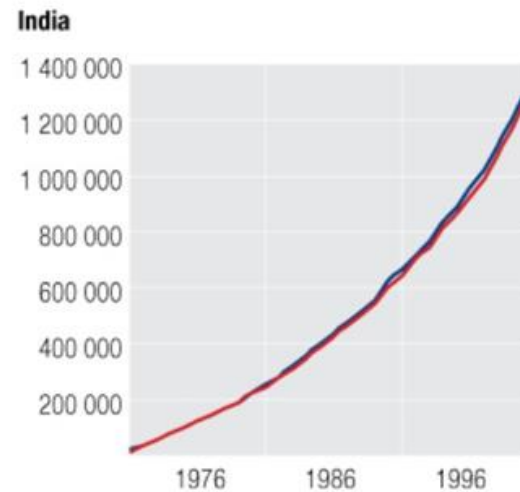
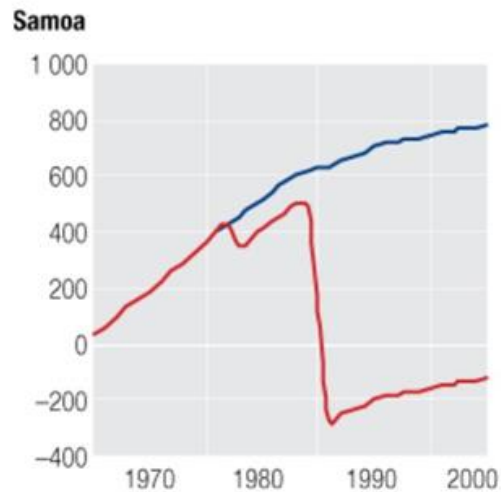
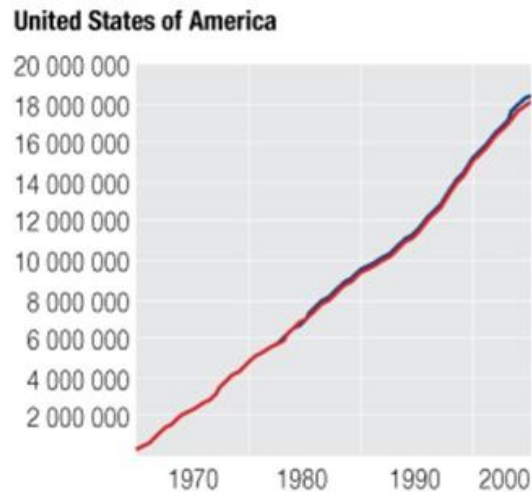
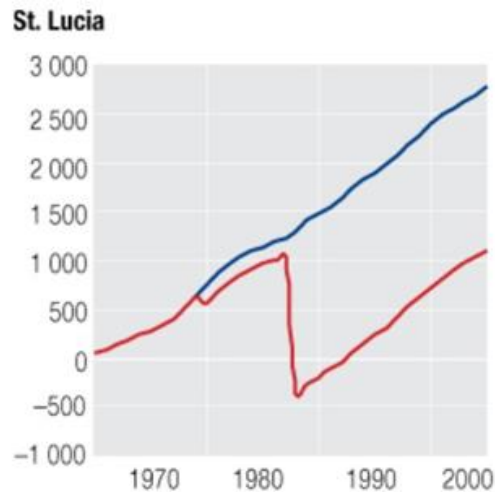
The risk to social progress, stability and economic development

SIDS: an existential threat



Average annual loss as a proportion of social expenditure, capital investment and capital stock: top 15 countries

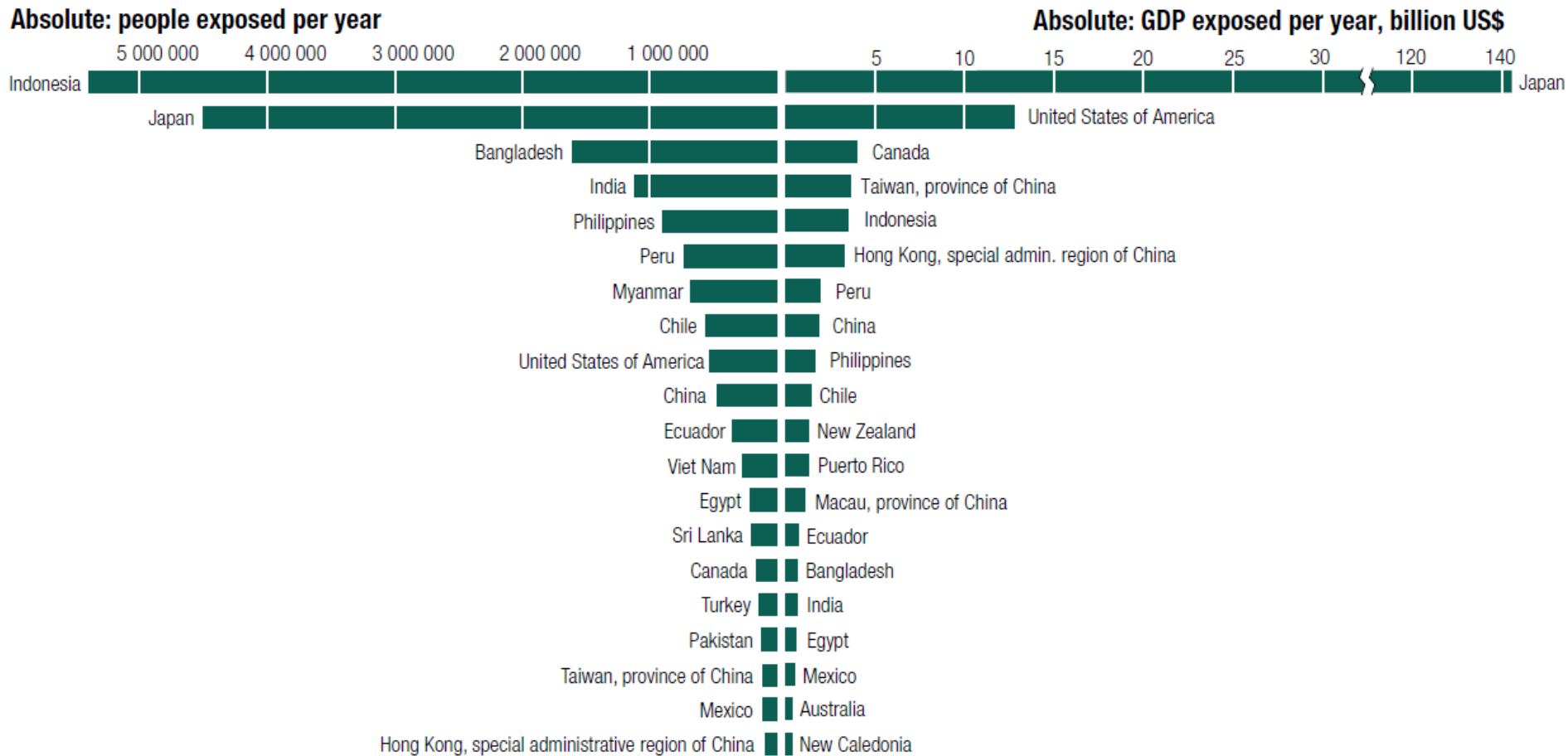
And.... hits small countries hardest.



Cumulative net capital formation (NKF) from 1970 to 2006, in millions of 2,000 US\$, with and without effect of economic disaster loss

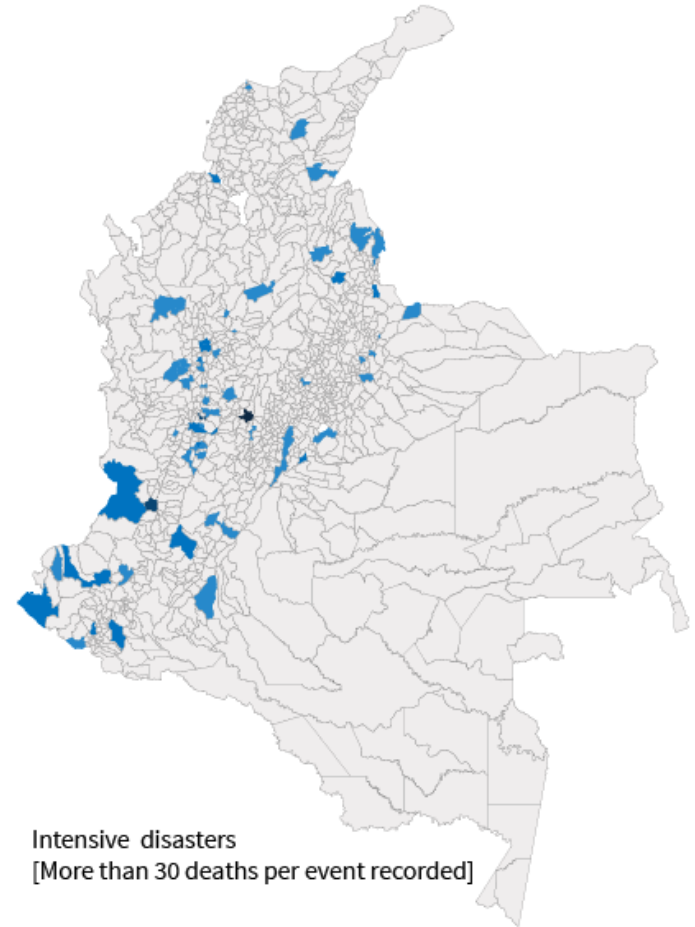
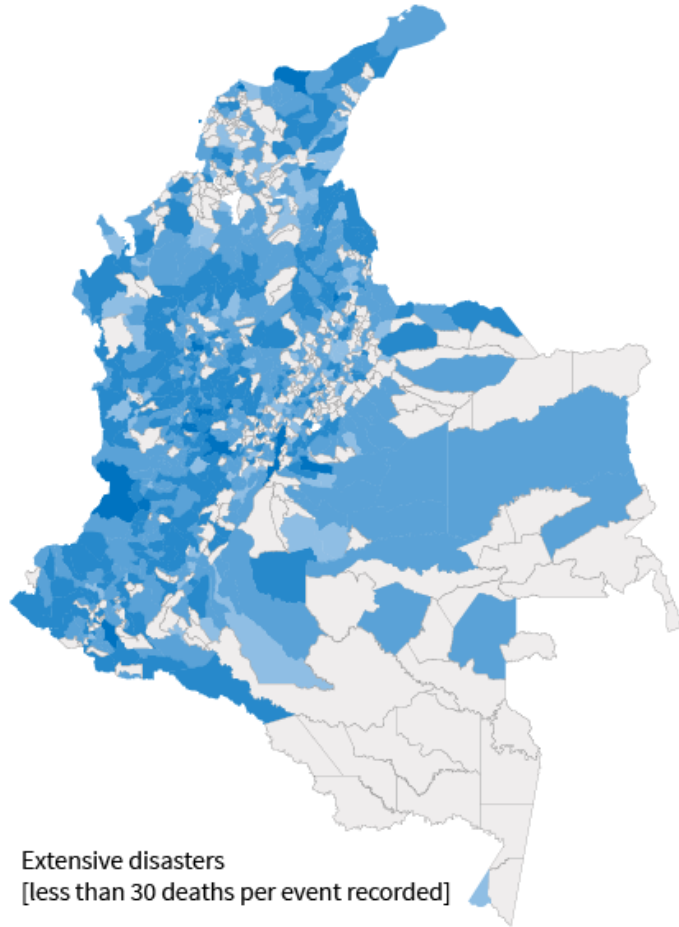
Risk - the future.

Synchronic failures and sequential crisis ?



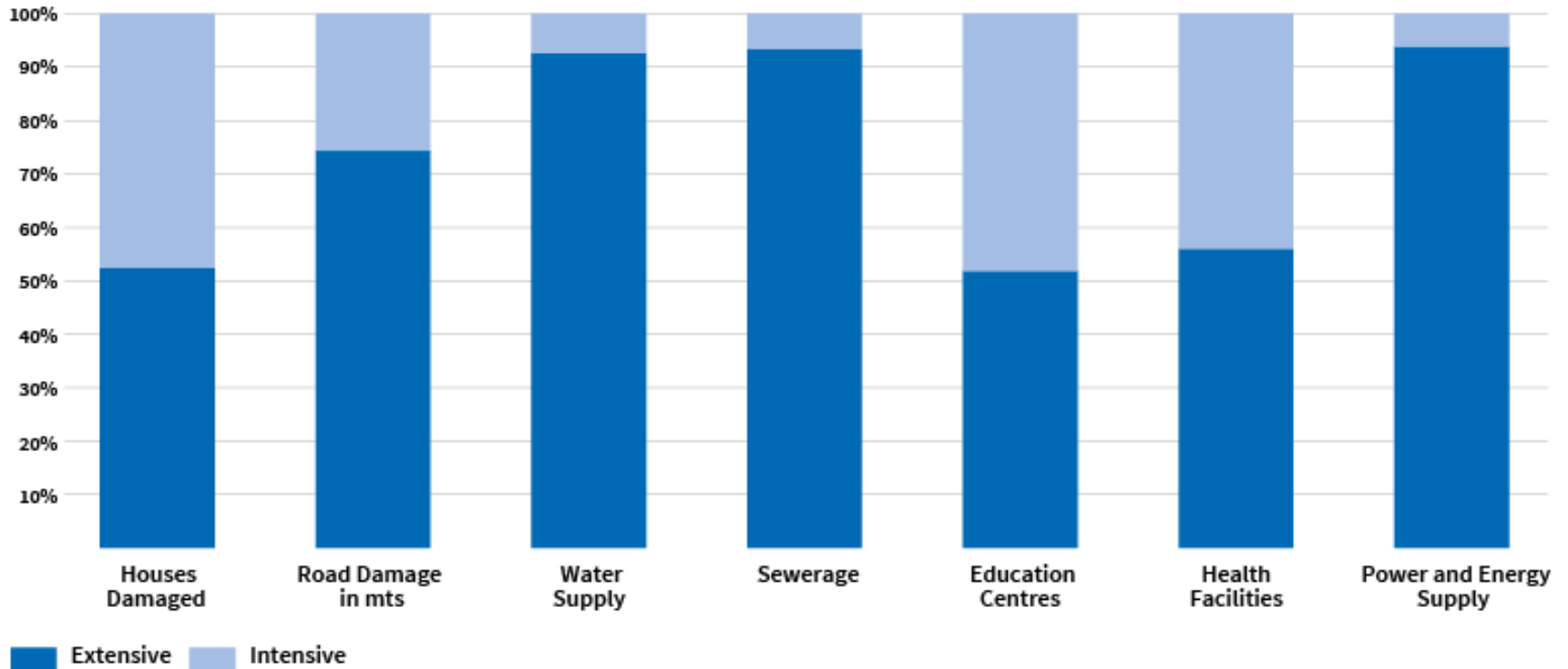
Populations and economies exposed to tsunamis

Risk is also extensively spread ...



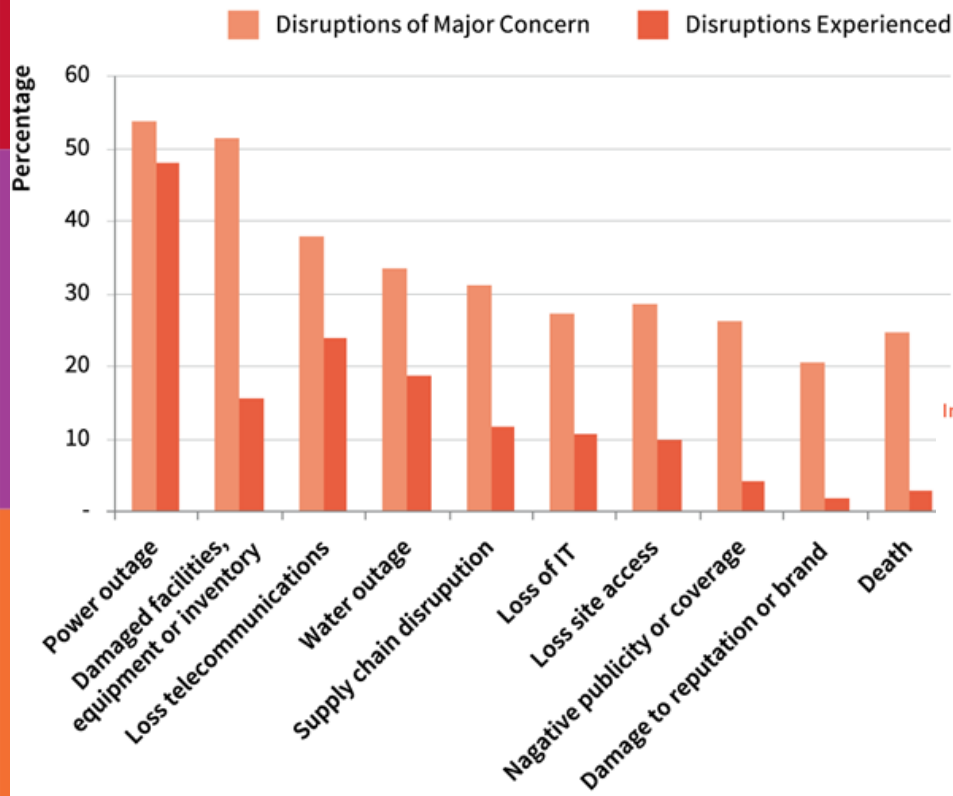
The different footprints of extensive vs intensive disaster loss in
Colombia, 1970-2013

Extensive risk: eroding resilience



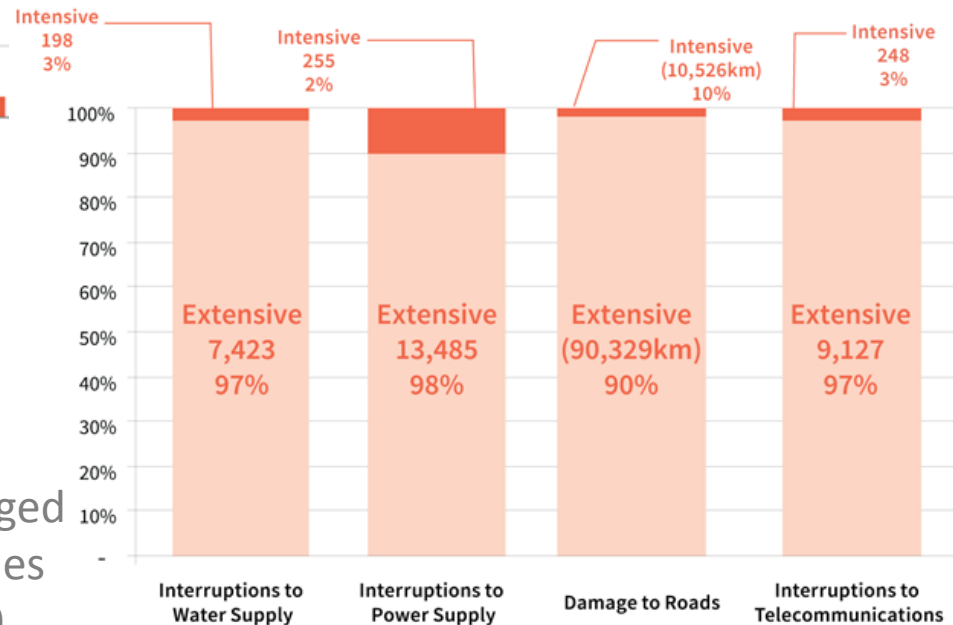
Most disaster impacts in infrastructure are associated with extensive risk

The impact on small and medium enterprises



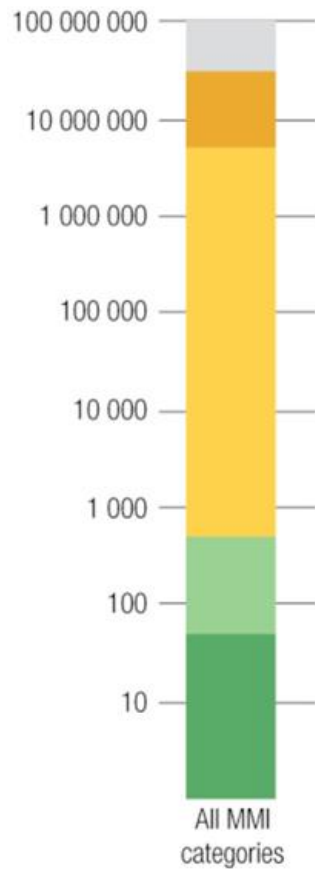
Hazard-related business disruptions: of major concern and that actually had been experienced during the last five years

Proportion of infrastructure damaged in extensive disasters in 56 countries and 2 Indian states, between 1970 and 2011

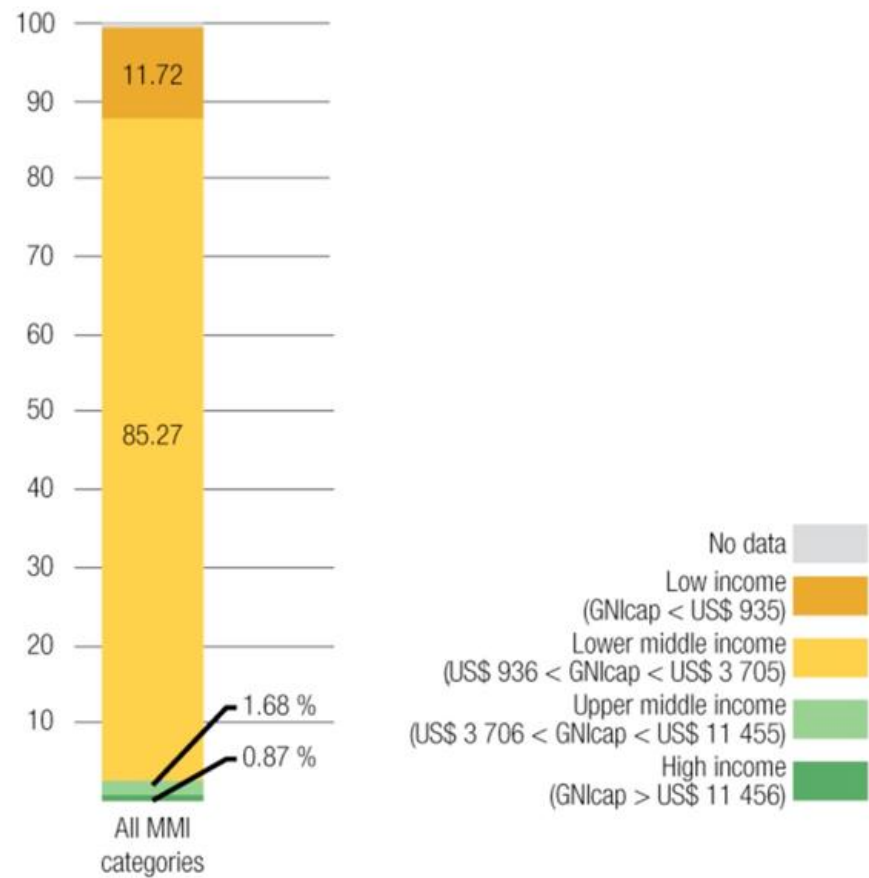


Global risk drivers: poverty and weak governance

Exposure to earthquakes
Number of people per year



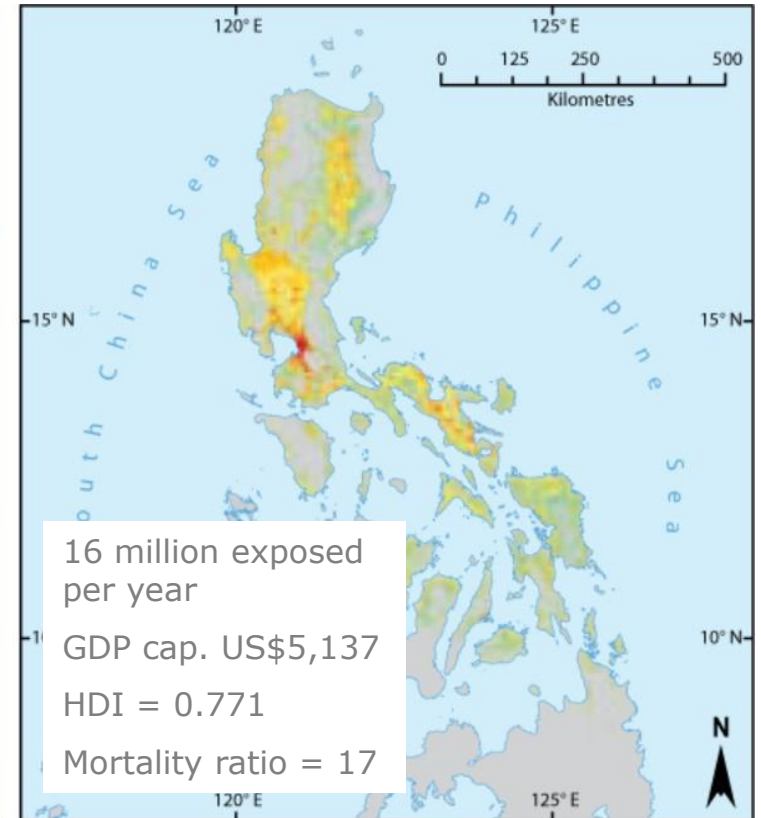
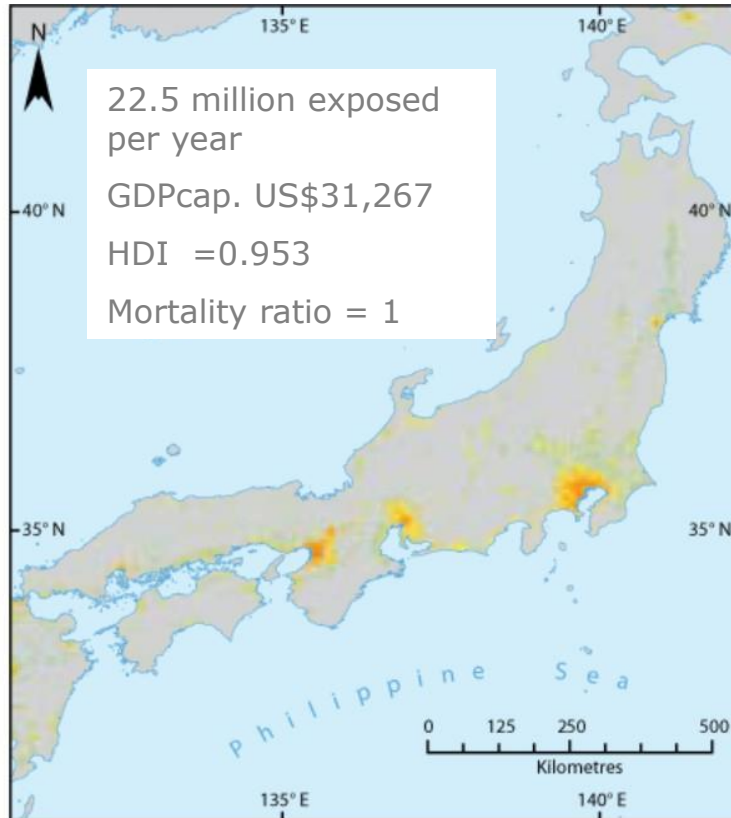
Modelled fatalities from earthquakes
Average number of people killed per year, percentage



- No data (grey)
- Low income (GNicap < US\$ 935) (orange)
- Lower middle income (US\$ 936 < GNicap < US\$ 3 705) (yellow)
- Upper middle income (US\$ 3 706 < GNicap < US\$ 11 455) (light green)
- High income (GNicap > US\$ 11 456) (dark green)

Uneven distribution of global risk

Mortality risk for tropical cyclones in two countries with similar exposure: Japan and the Philippines

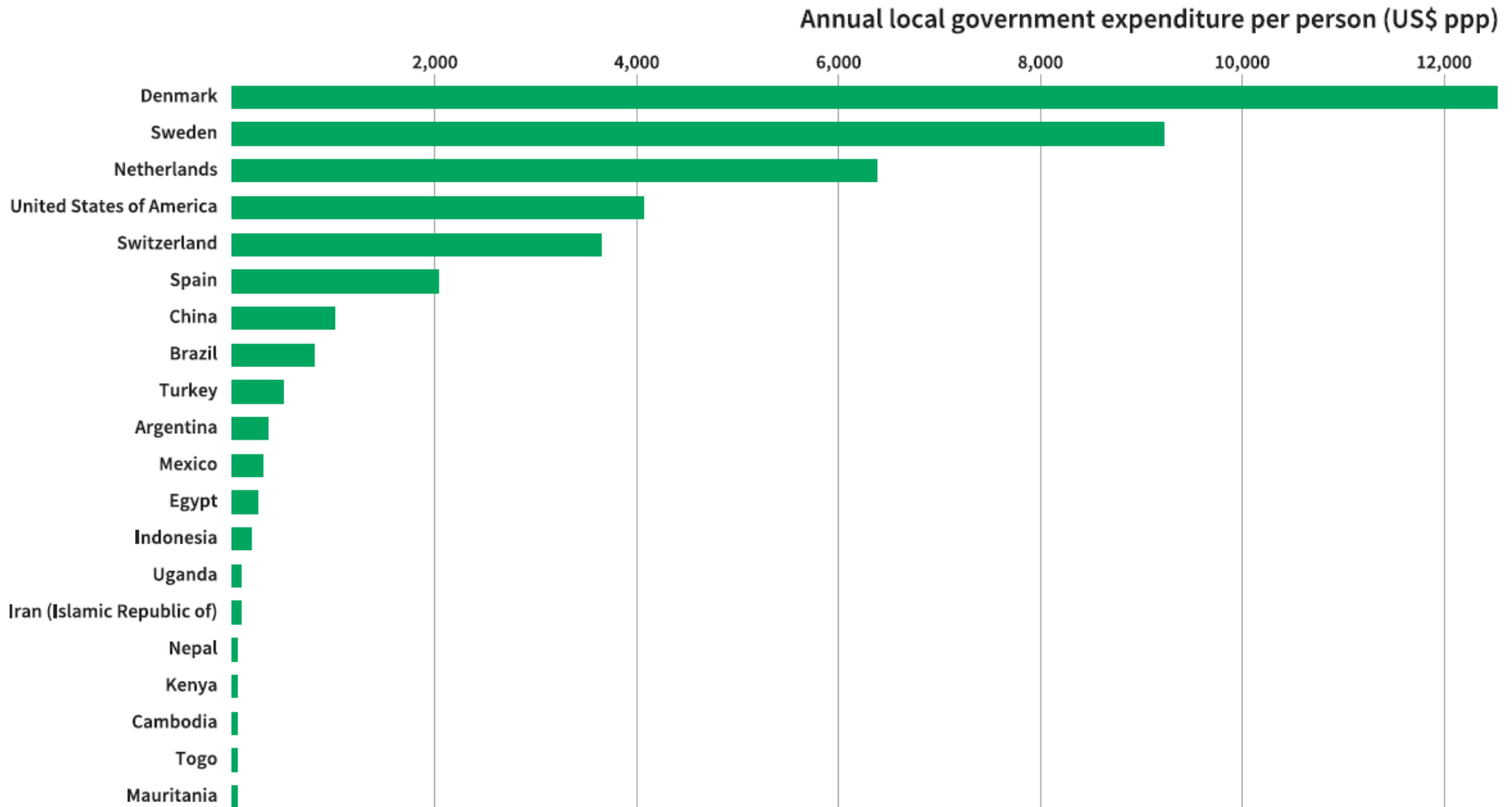


Modelled mortality risk



Mortality risk for tropical cyclones in 2 countries with similar exposure

Underlying causes: growing inequality

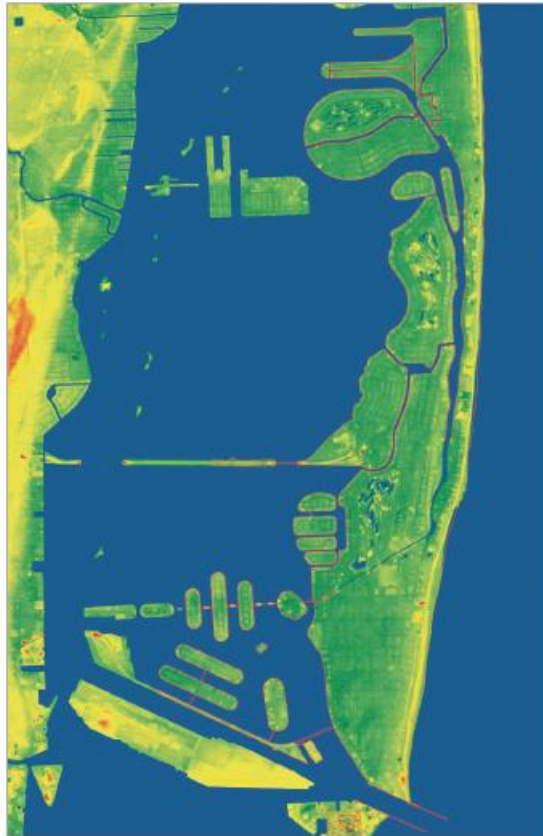


ppp = purchasing power parity with data from 2010

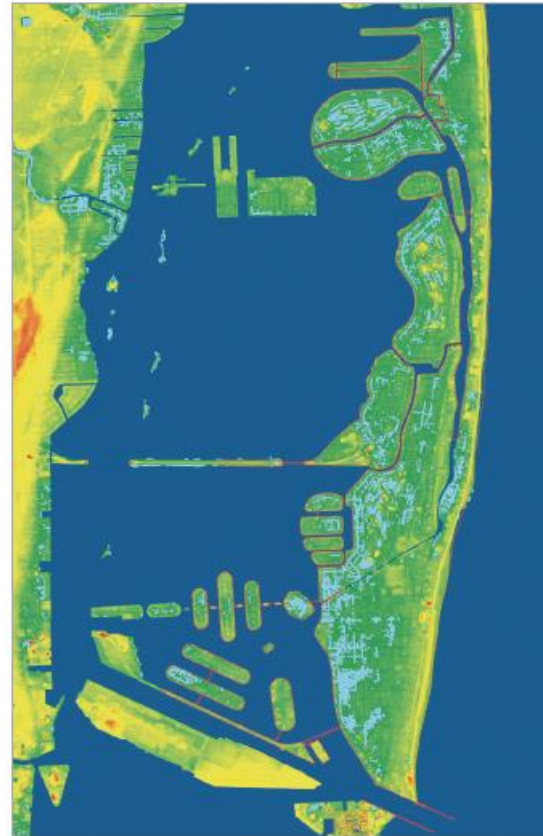
Annual local government spending per person for selected countries

Global risk drivers: climate change

Current sea level

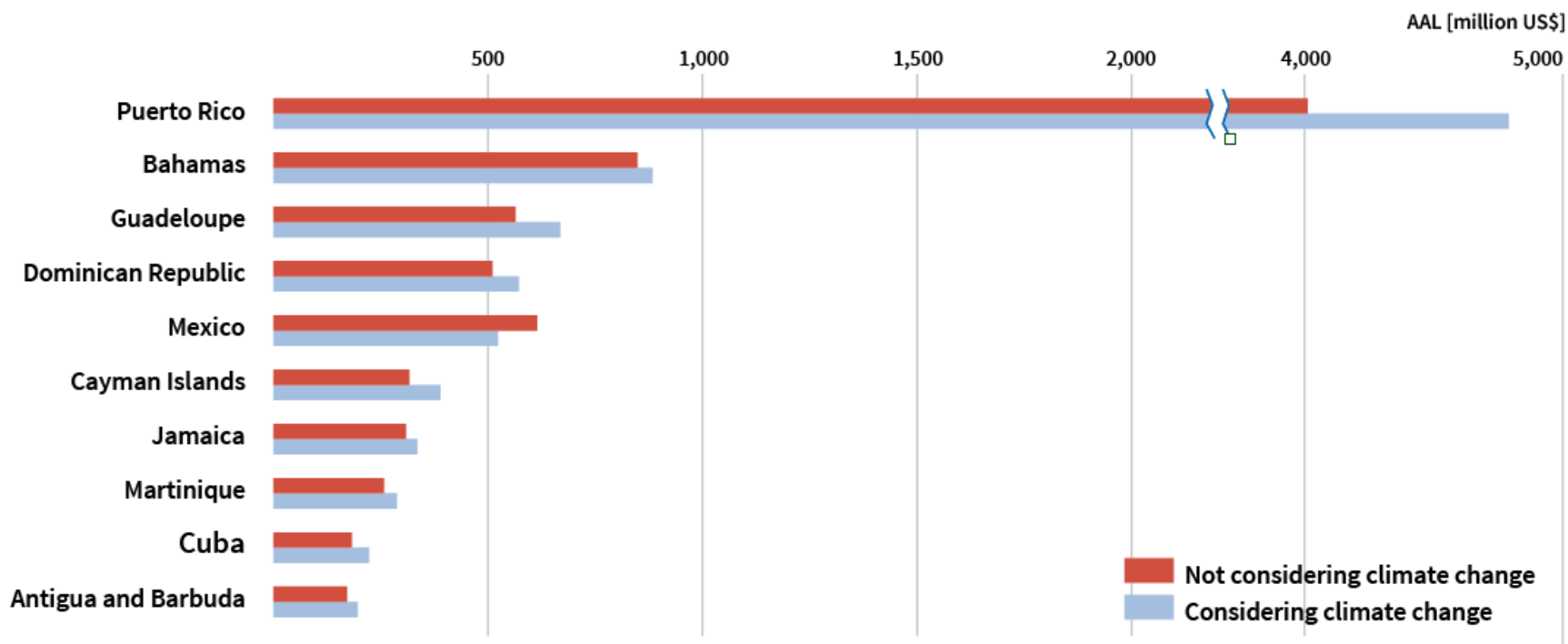


Inundation footprint for sea level rise of 2 feet



Estimated impact of sea level rise in Miami Beach by 2060

Climate change magnifies risk



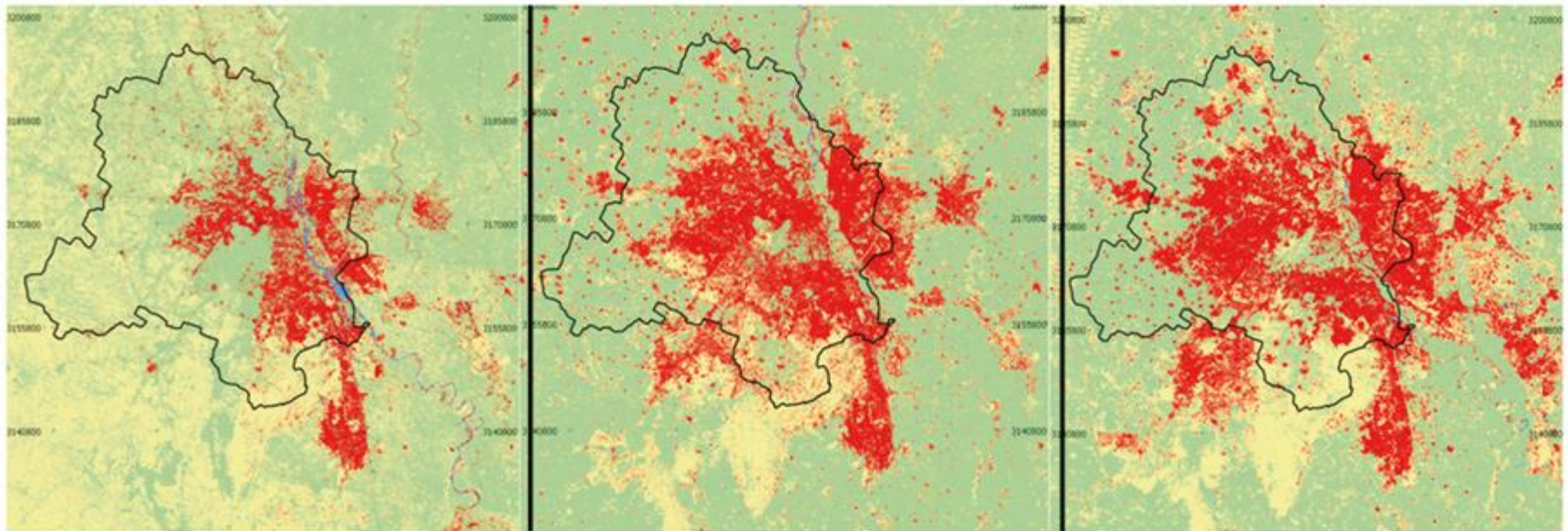
The increase in annual average loss due to wind damage in the Caribbean by 2050 as a result of climate change

Global risk drivers: badly planned and managed urban development

Delhi 1992, 8.7 million

Delhi 2000, 13.7 million

Delhi 2011, 16.3 million



Expansion of Delhi, India from 1992 to 2011

New patterns of extensive risk in cities

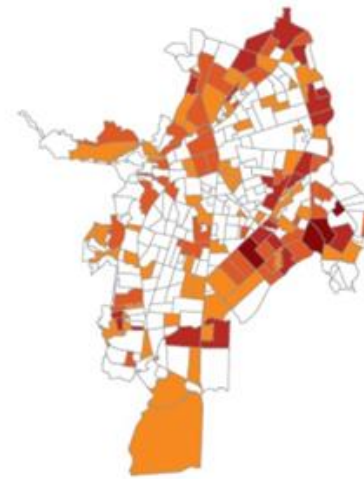
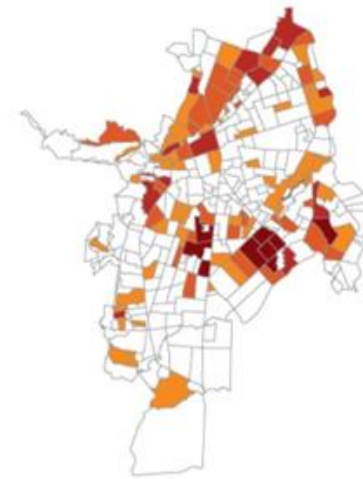
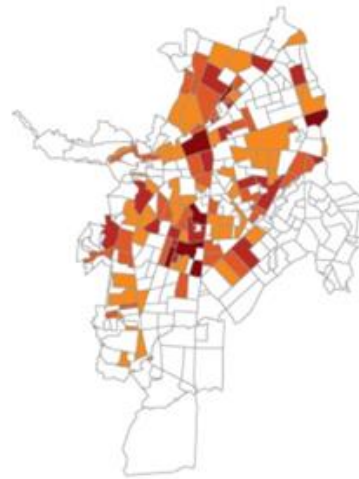
1950–1959

1960–1969

1970–1979

1980–1989

1990–2000

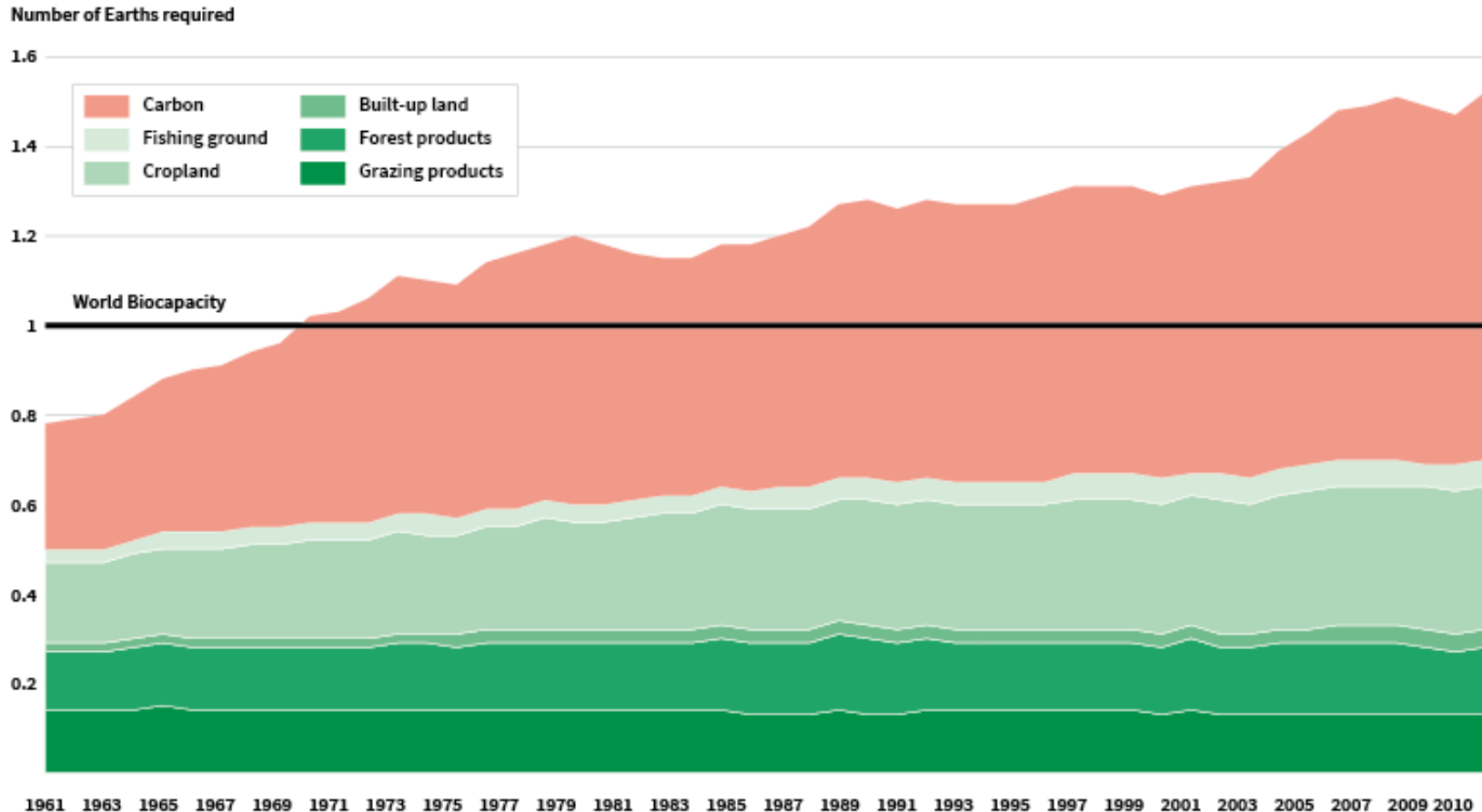


Number of flood events



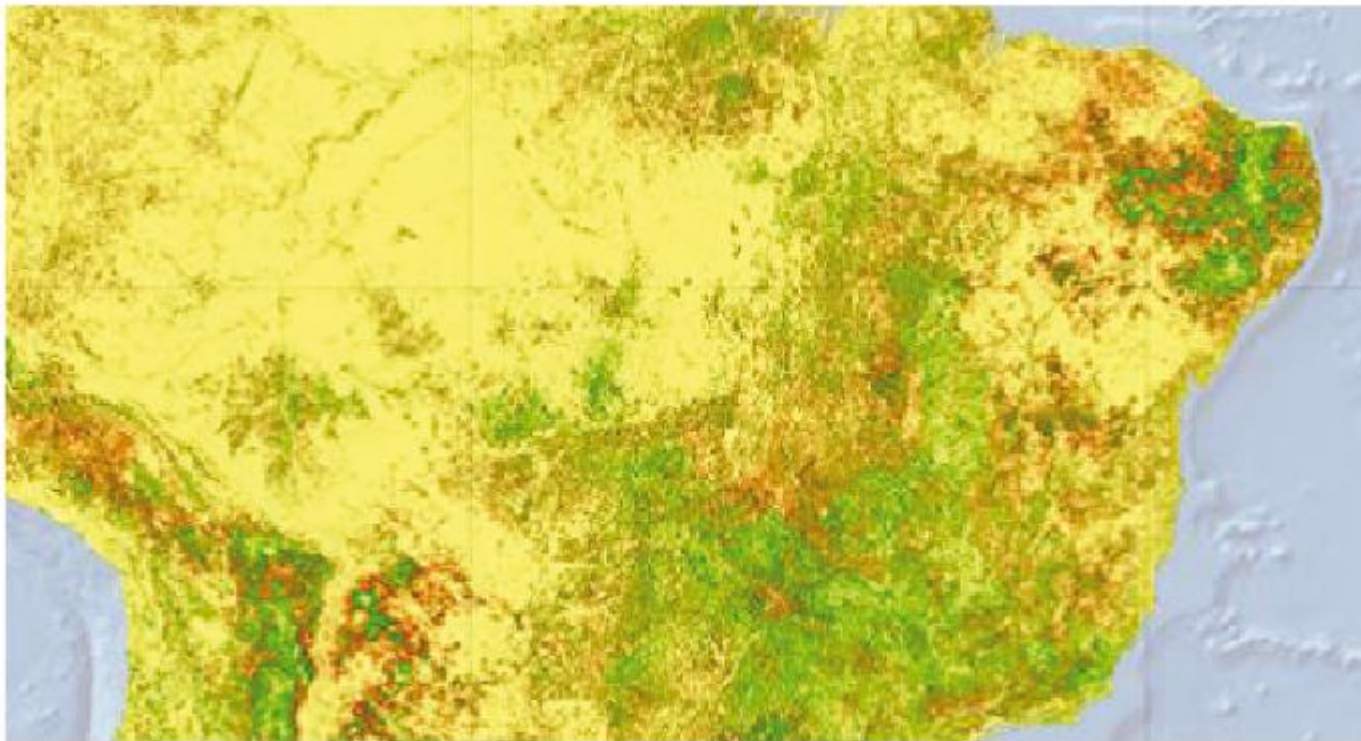
Floods in Cali, Colombia since the 1950's mirroring the expansion of informal settlements in the city

Underlying risk drivers: Overconsumption overwhelming bio-capacity



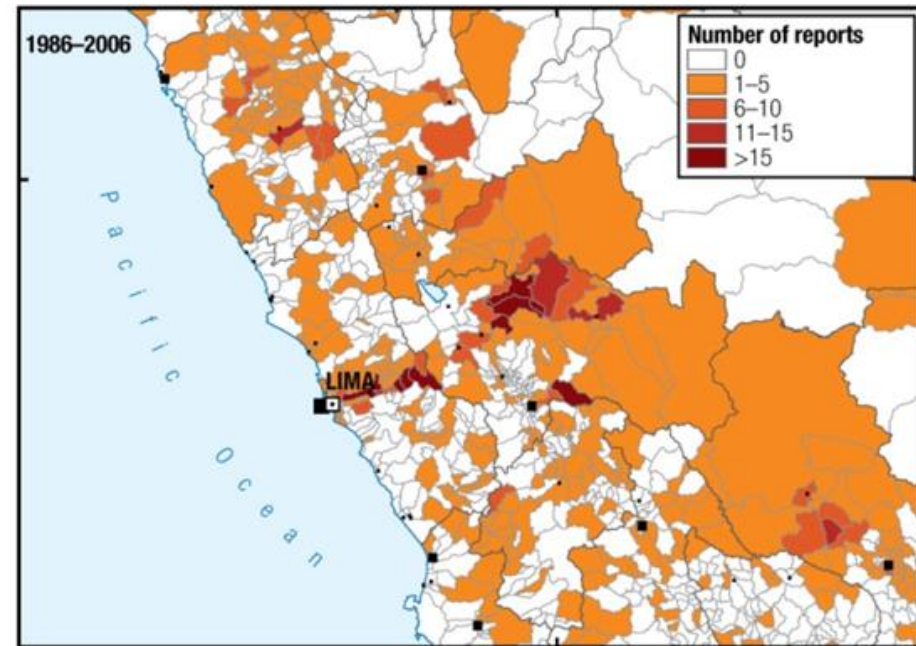
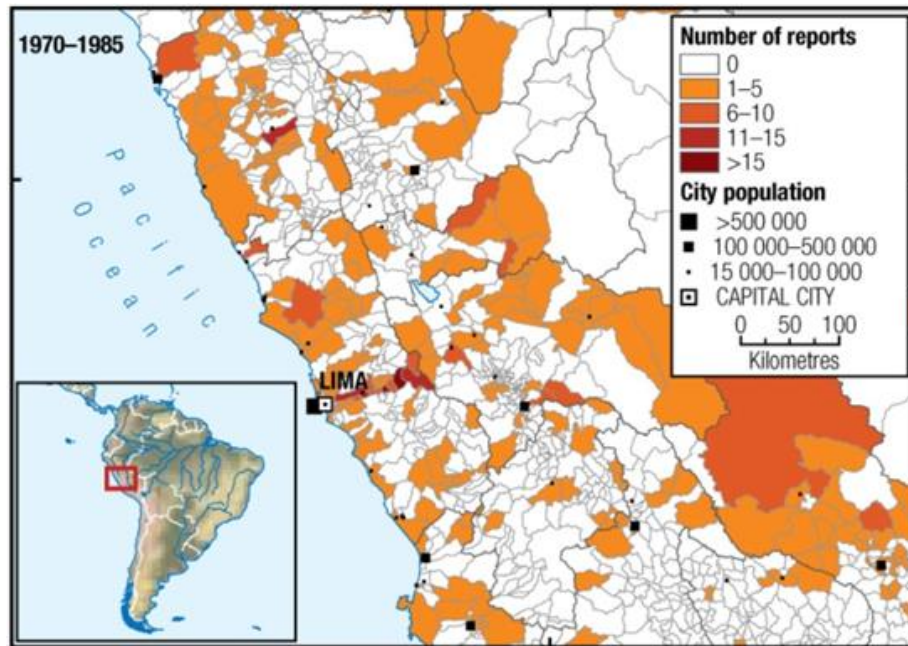
About 1.5 planets are now required to sustain current levels of consumption

Land degradation



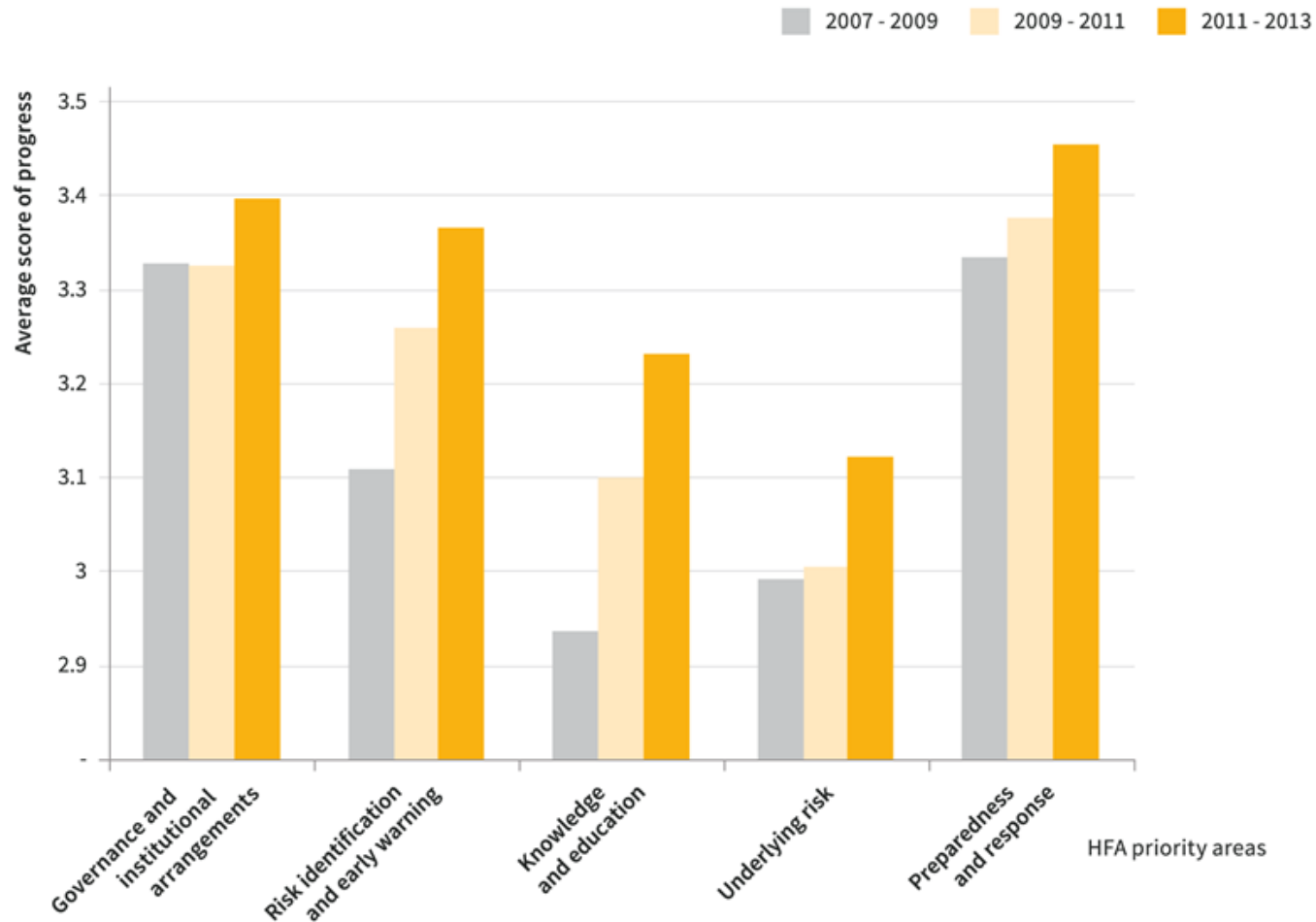
Land-degradation in South and Central America: 2000-2012

Declining ecosystem services



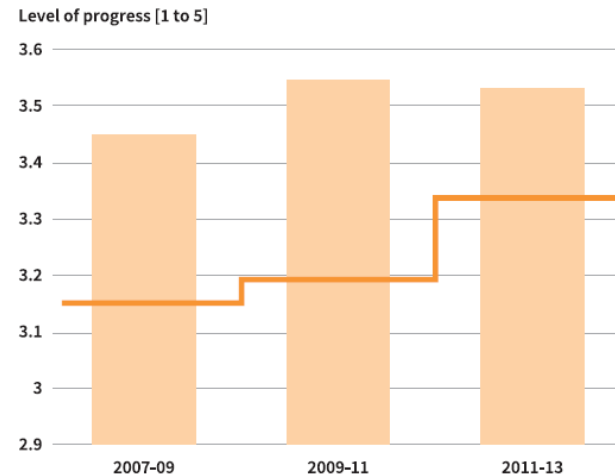
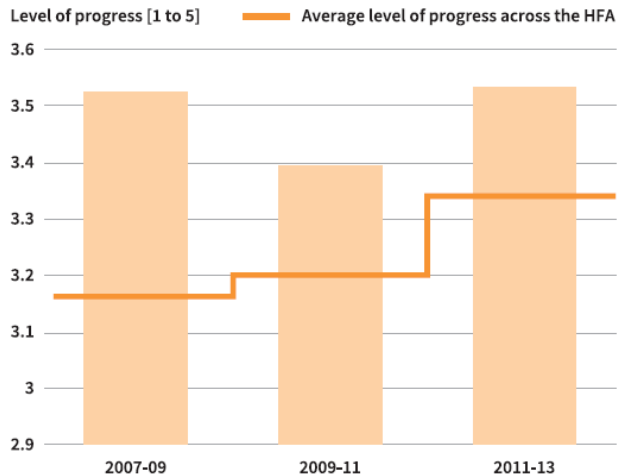
Landslide risk in Peru before and since the mid 1980s

Risk governance: improvements in disaster management

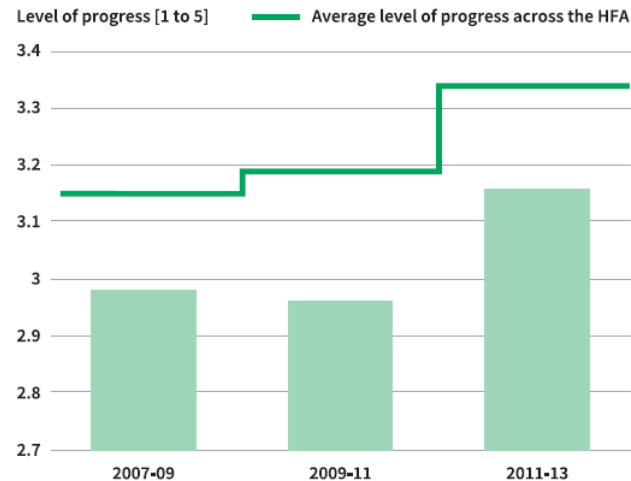
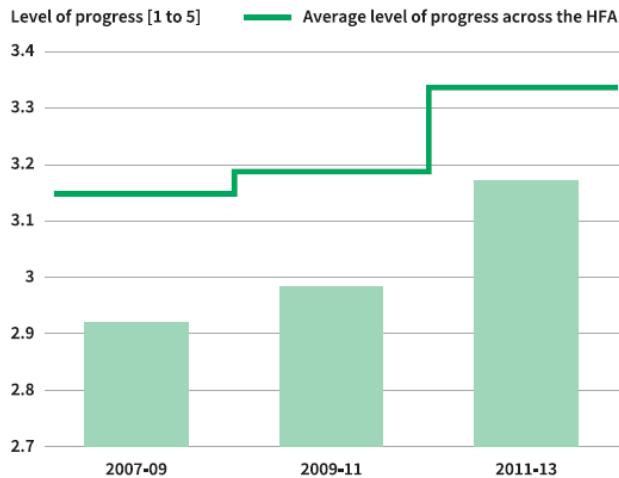


Progress in HFA implementation 2007-2013

Less progress in managing risks



Strong policy, technical and institutional capacities
Disaster preparedness and contingency plans, and mechanisms
training drills

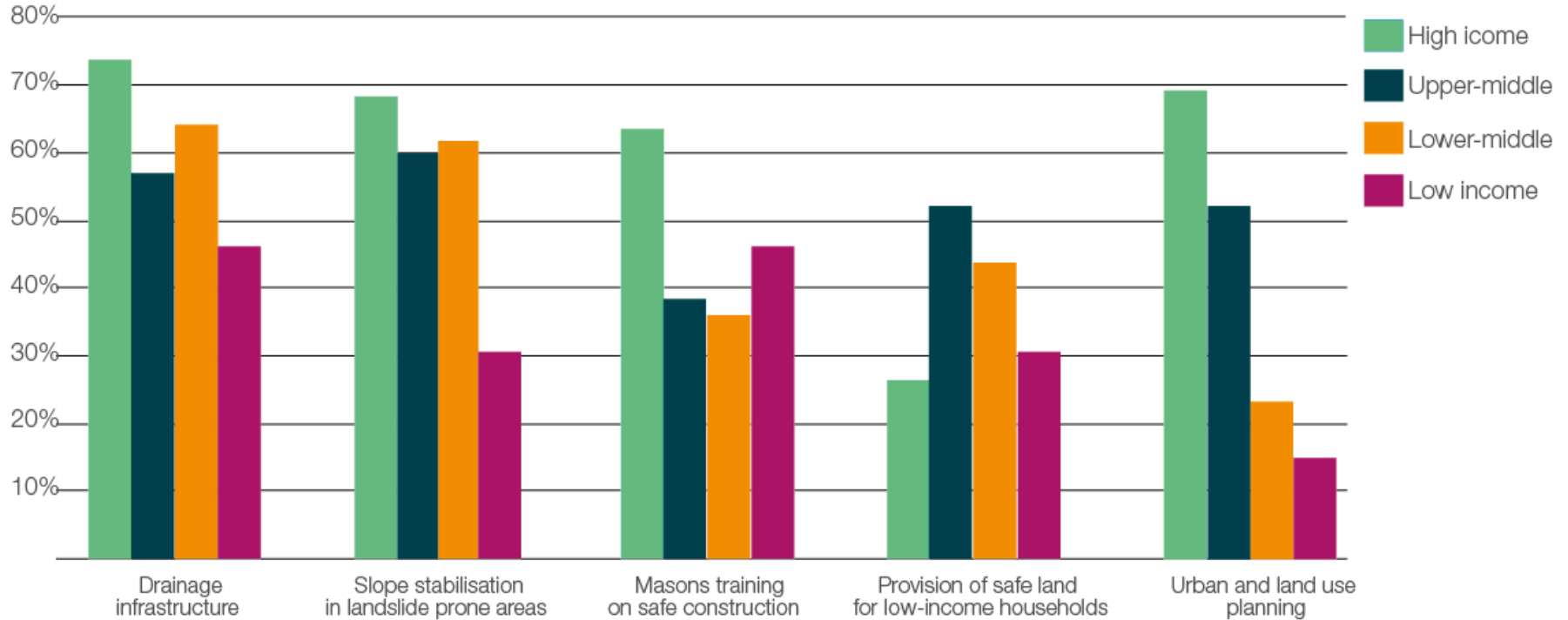


Managing risk in urban environments

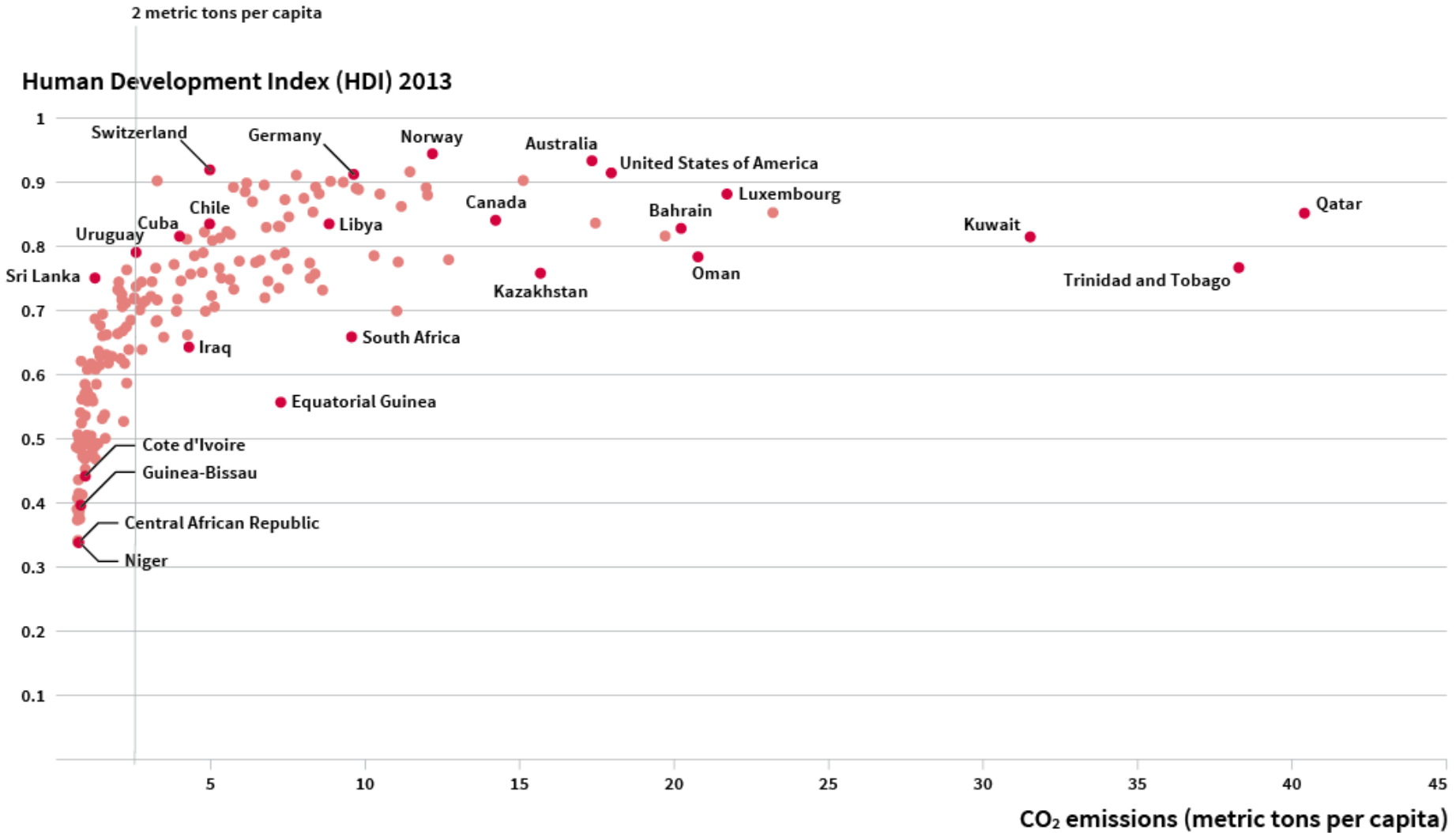
Assessing disaster risk impacts of major development projects

Low investment in risk reduction

Percentage of countries

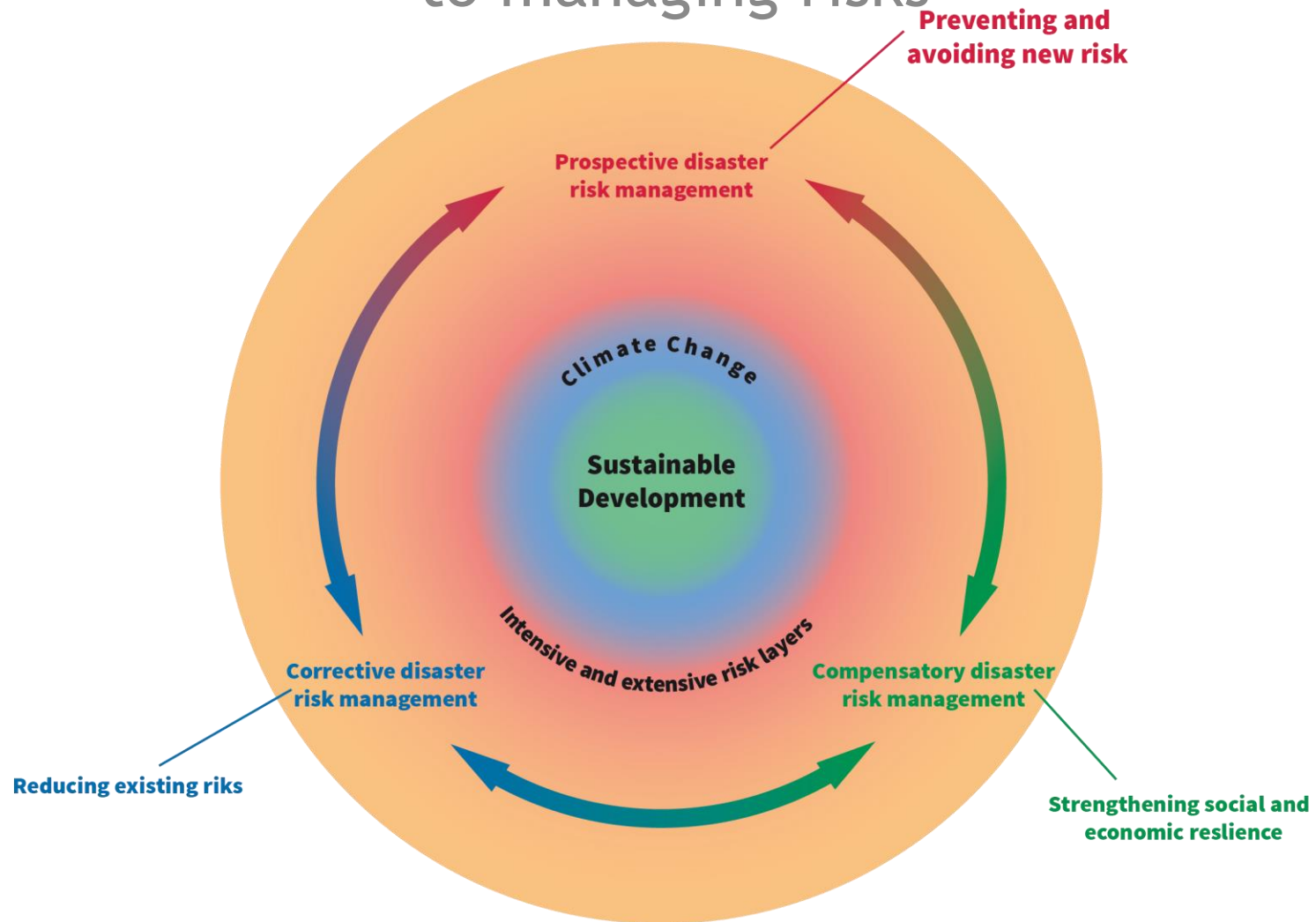


Developing sustainably is possible



The non-linear relationship between energy consumption and human development

The Sendai Framework: from managing disasters to managing risks

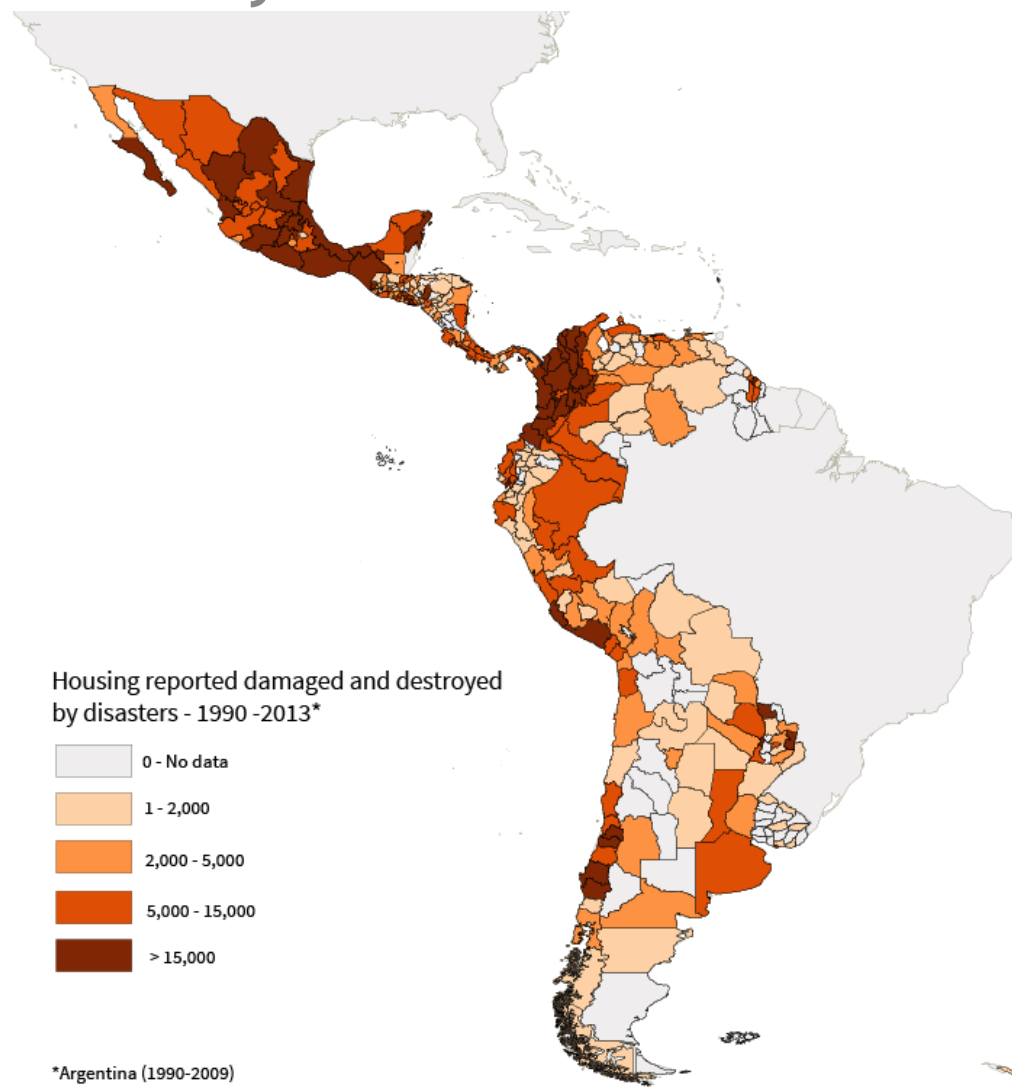


Managing risks aligns the disaster risk reduction, climate change action and sustainable development agendas

Sendai Framework: Seven Global Targets



Systematically account for disaster losses



Disaggregated impact of disasters on housing in Latin America 1990-2013

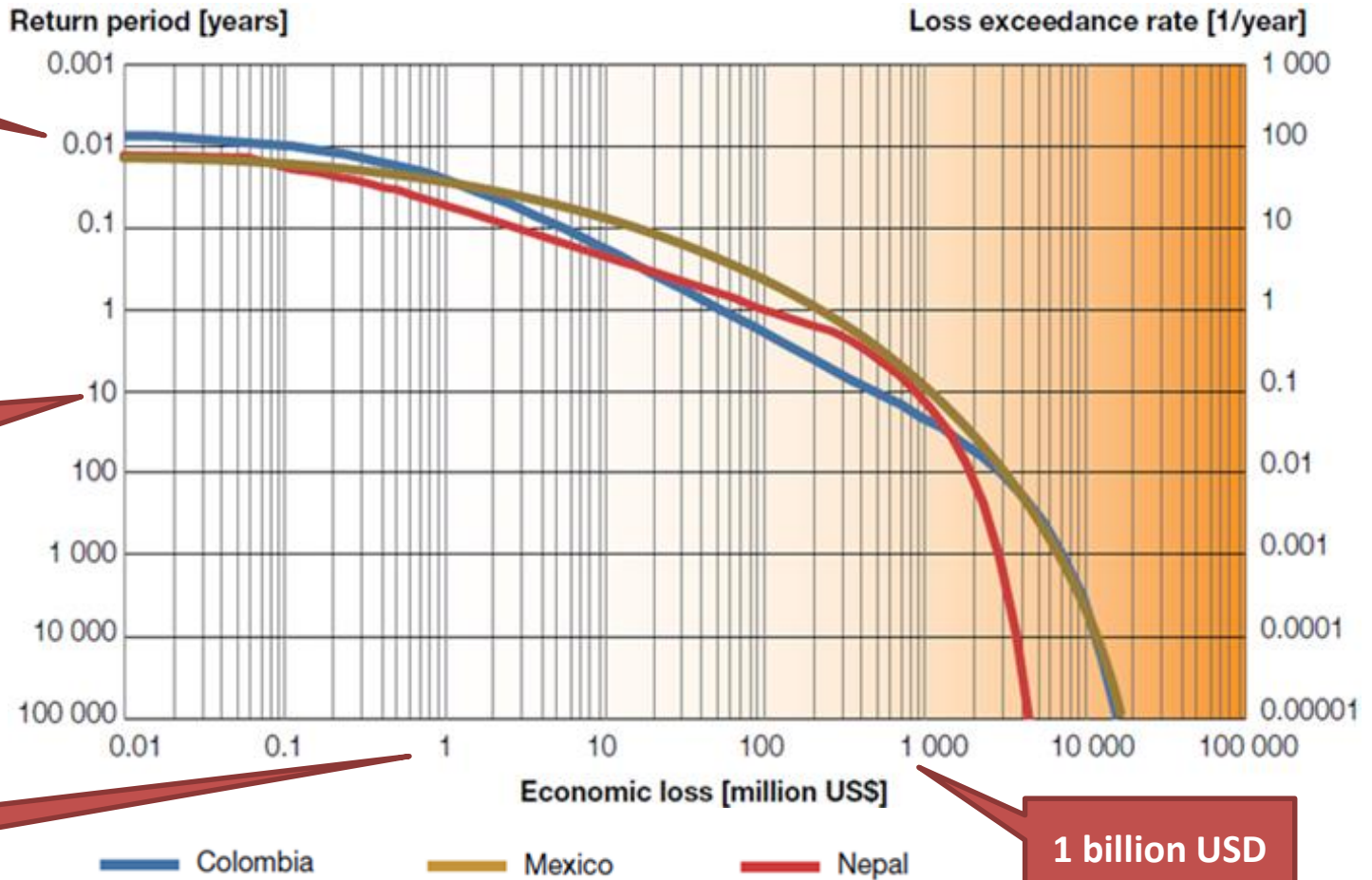
Reveal risk

Frequency 10 times per year

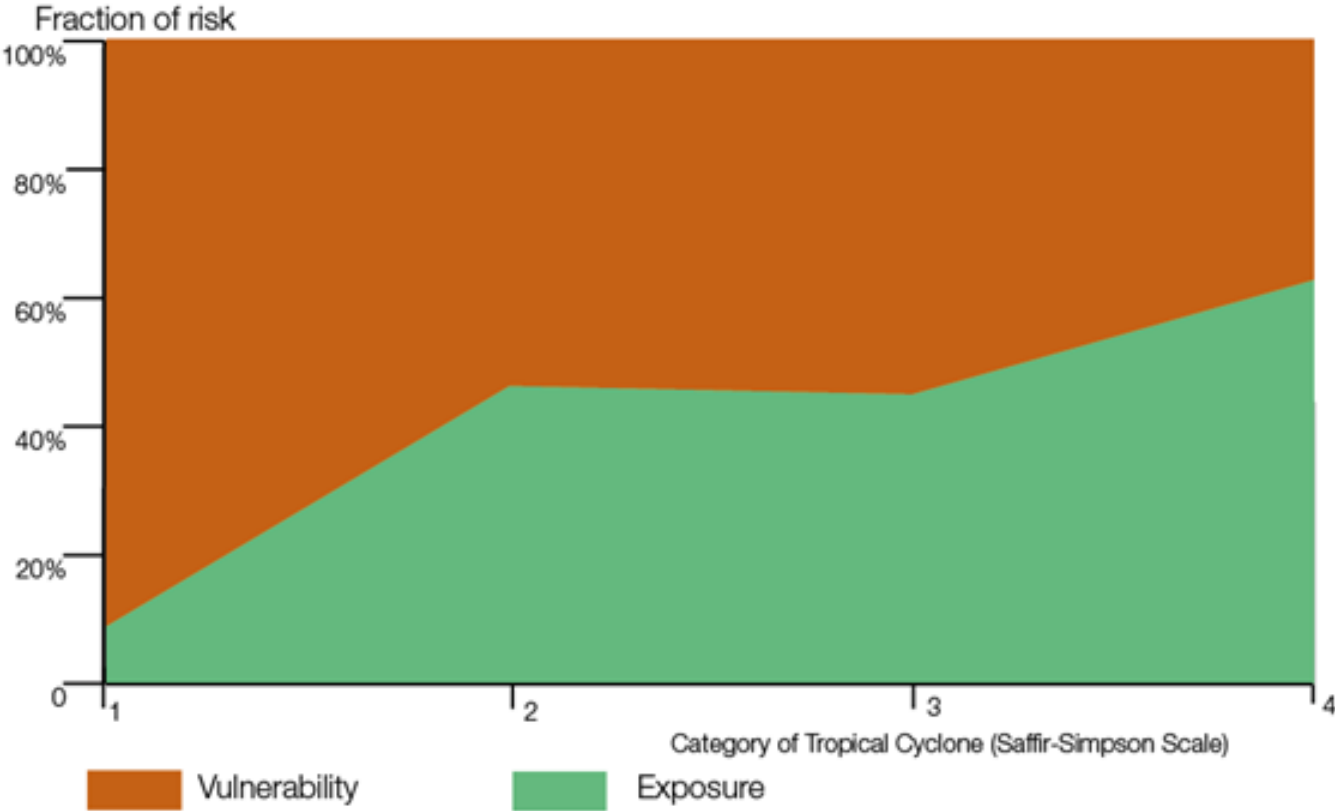
Frequency 1 time every 10 years

1 million USD

1 billion USD



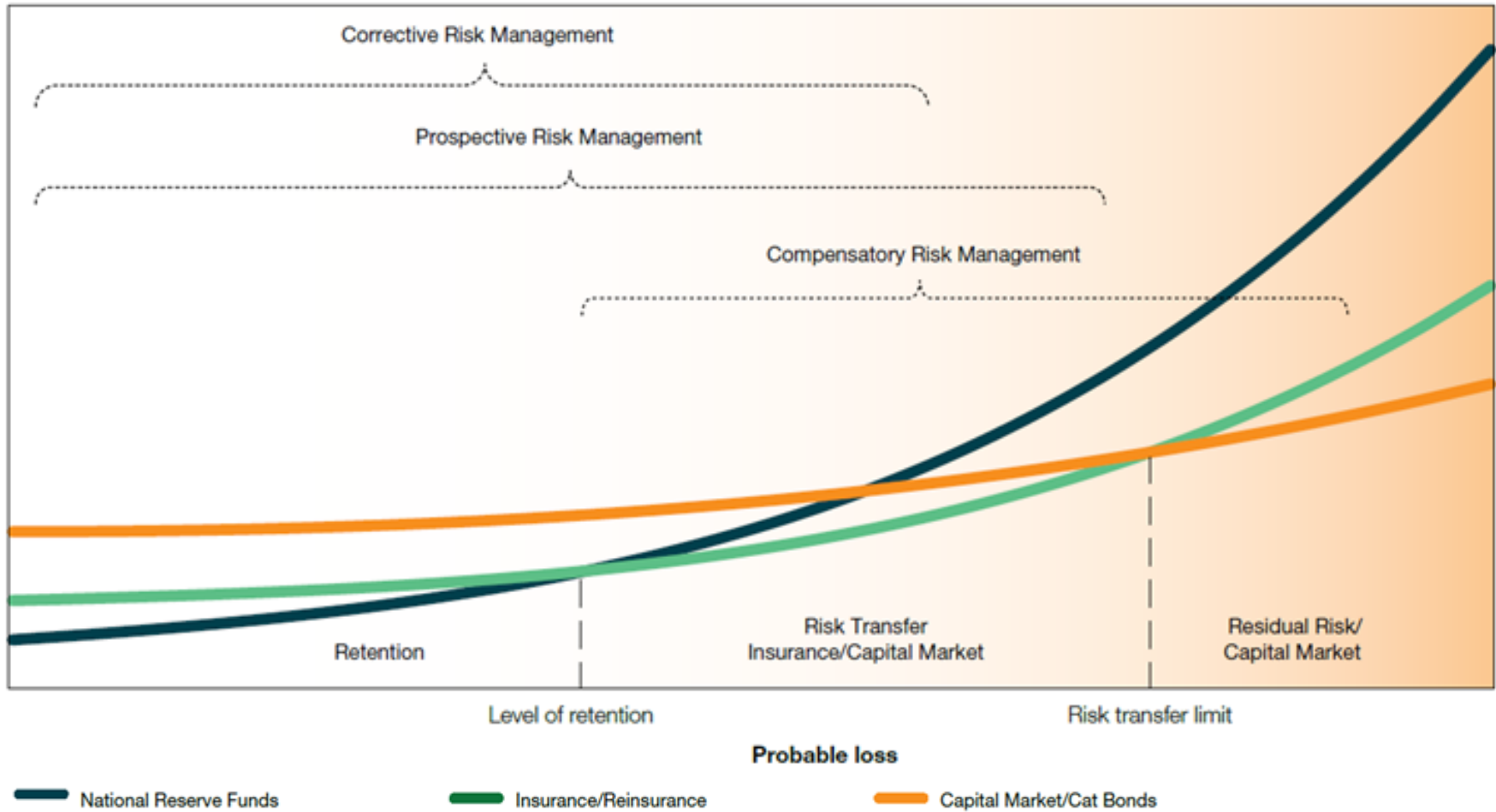
Identify risk strata



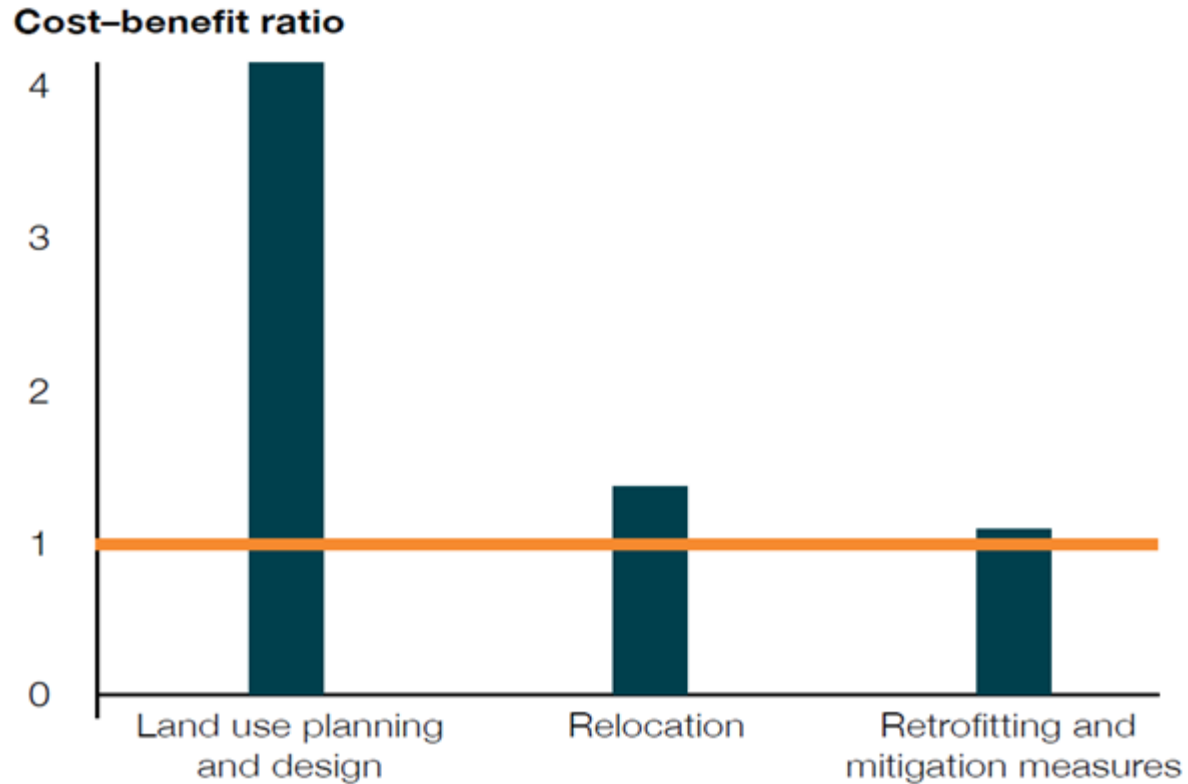
Contribution of cyclone severity, exposure and vulnerability parameters to tropical cyclone risk

Transfer catastrophic risk

Cost of the instrument



Avoid the construction of new risks



Thank you



GAR

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