



United Nations
International Strategy for Disaster Reduction

Current and Future Challenges in the Field of Disaster Risk Reduction

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CERG-C Workshop, Geneva, Switzerland, 4 November 2011

Outline

1. Evidence base for risk reduction

- Current trends
- Assessing global risk – the next generation
- Monitoring progress against Hyogo Framework
- Analyzing and guiding decision making

2. Emerging Challenges

3. Conclusions

Where is the frontline of natural hazard and climate change impacts?

Tuvalu inhabitants run out of water in 'La Nina' related drought



Economic impact of floods in Bangkok will take some time to assess



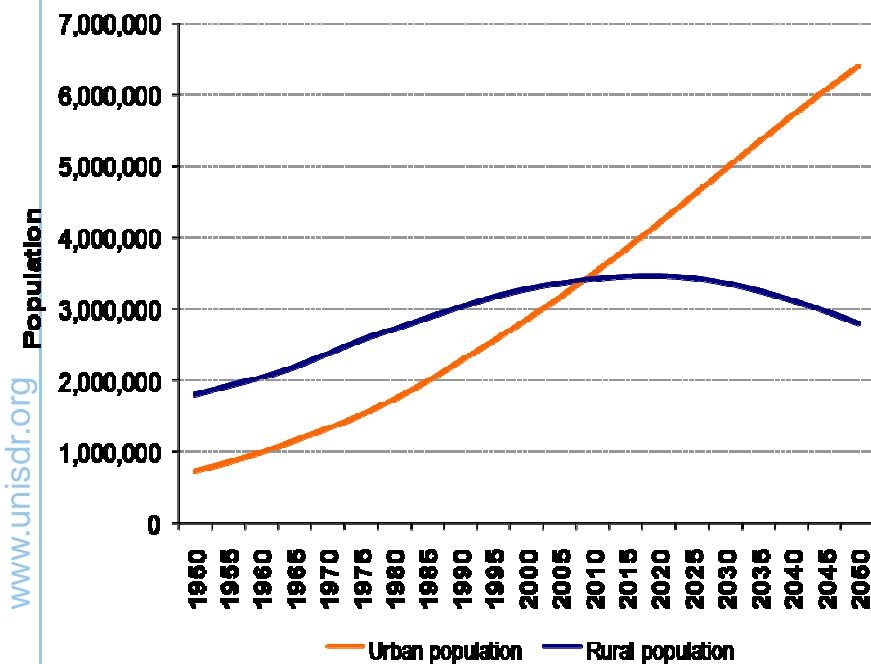
Mayor of St-Gervais, France, takes measures to protect his village against climate change induced glacial lake

Extreme events in Russia affect the world

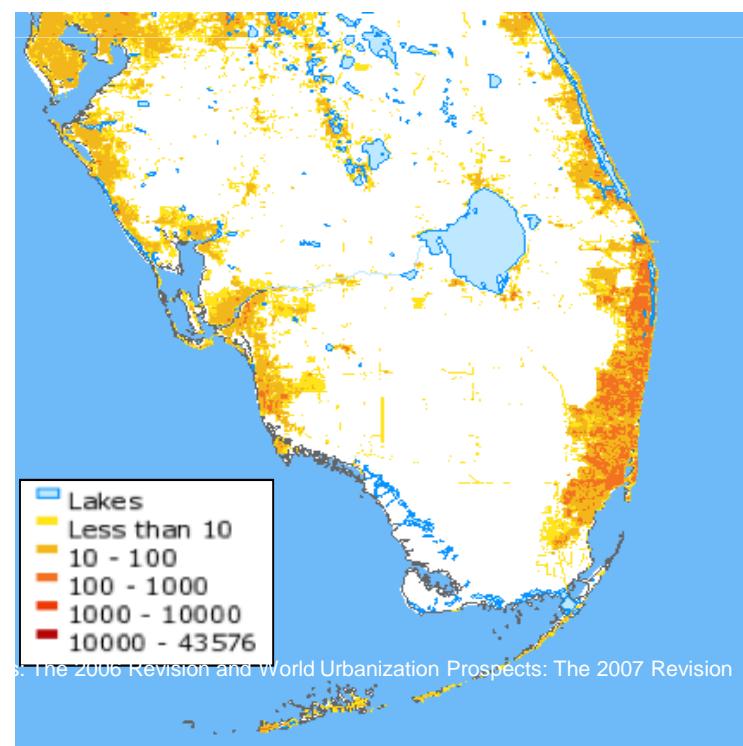
- Summer 2010, record high temperatures hit Moscow
- Average July temperature exceeded 100 degrees Fahrenheit
- With hot dry weather, by early August, 300 new fires were starting each day
- Wheat harvest shrank from 100 million to 60 million tons
- Russia the world's number three wheat exporter, banned grain exports
- Between mid June and mid-August world wheat price climbed 60%

Increased exposure of people and economic activities to weather-related hazards

Urban settlements are home to more than 50% of the world's population

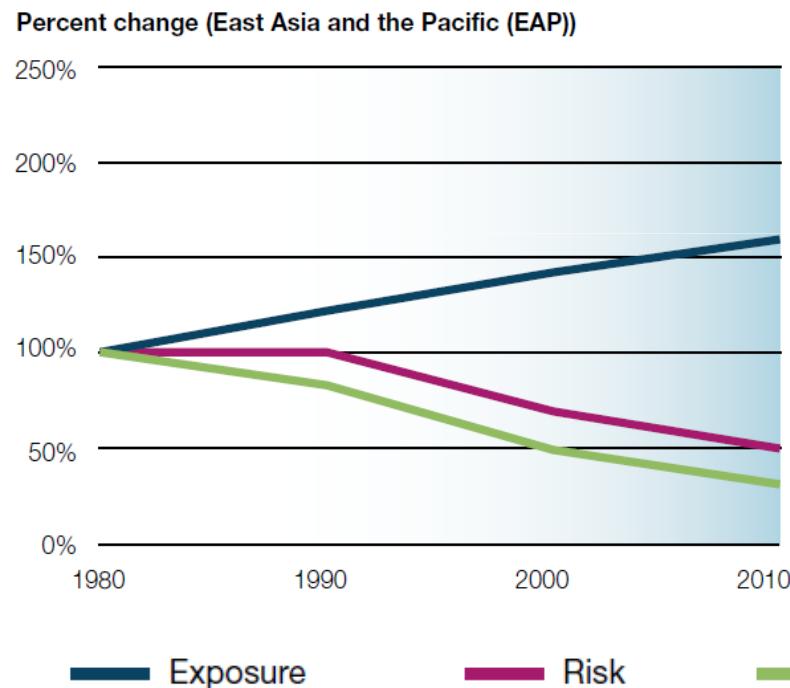


Population exposed to tropical cyclones, Southern Florida

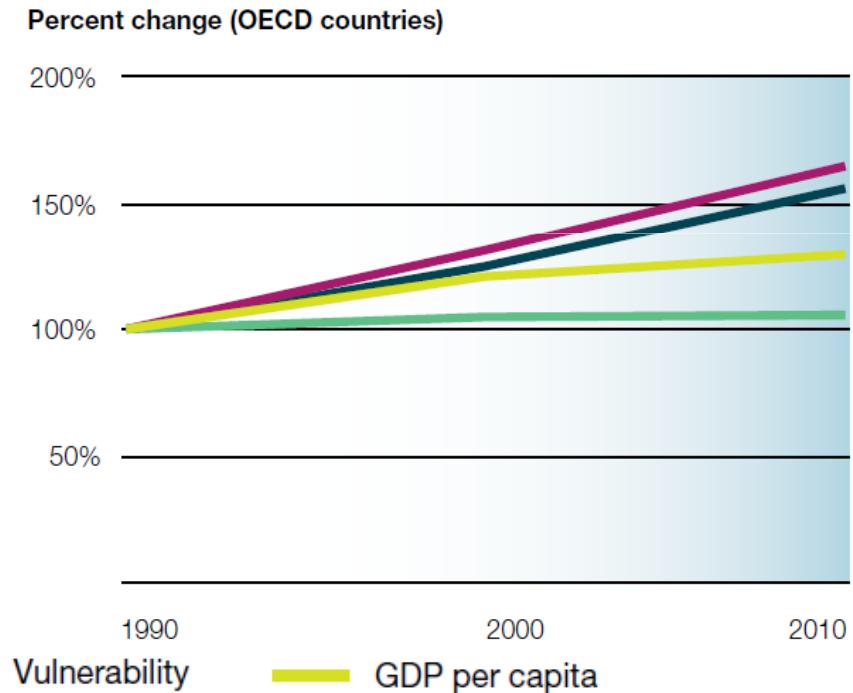


Falling mortality – rising economic loss risk

Flood mortality risk



Flood economic loss risk



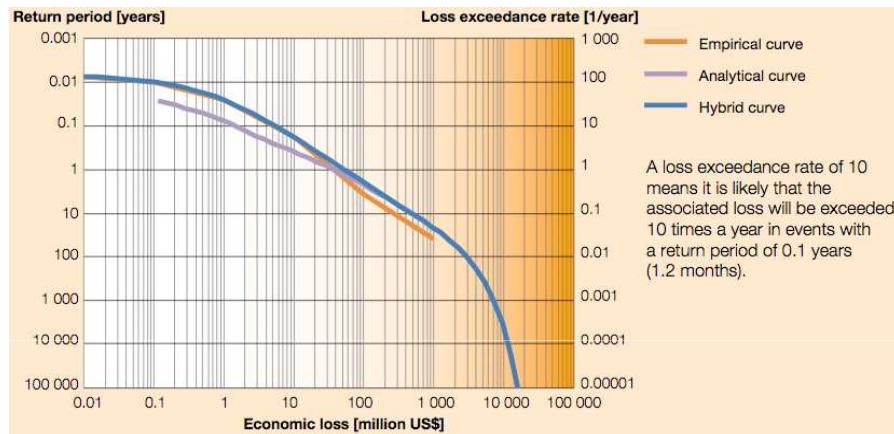
Global risk analysis – the next generation

...one of the important component of ISDR work. Currently focused on intensive mortality and economical risk from natural hazards world-wide.

Next iteration aims to address the following questions:

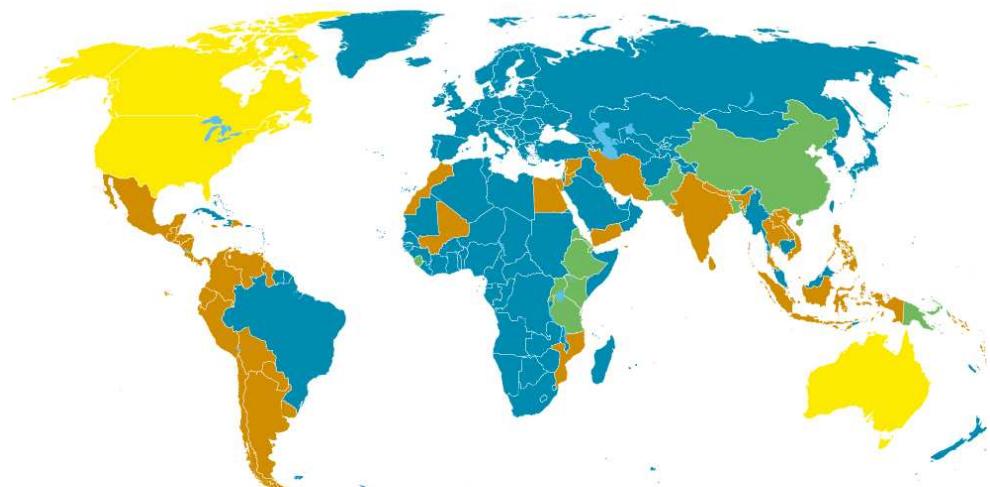
- More comprehensive coverage of natural hazards, in particular drought.
- Enhanced identification of risk/vulnerability drivers
- Probabilistic modeling – in particular for intensive risk
- Aggregating national disaster losses data in regional models
- Scenario development – weighting different response measures

Global risk analysis – the next generation



Developing more
probabilistic approaches
with hybrid risk curves
e.g. Colombia

Countries that currently maintain disaster loss databases (as of October 2011)



Progress reported against the Hyogo Framework by 133 countries

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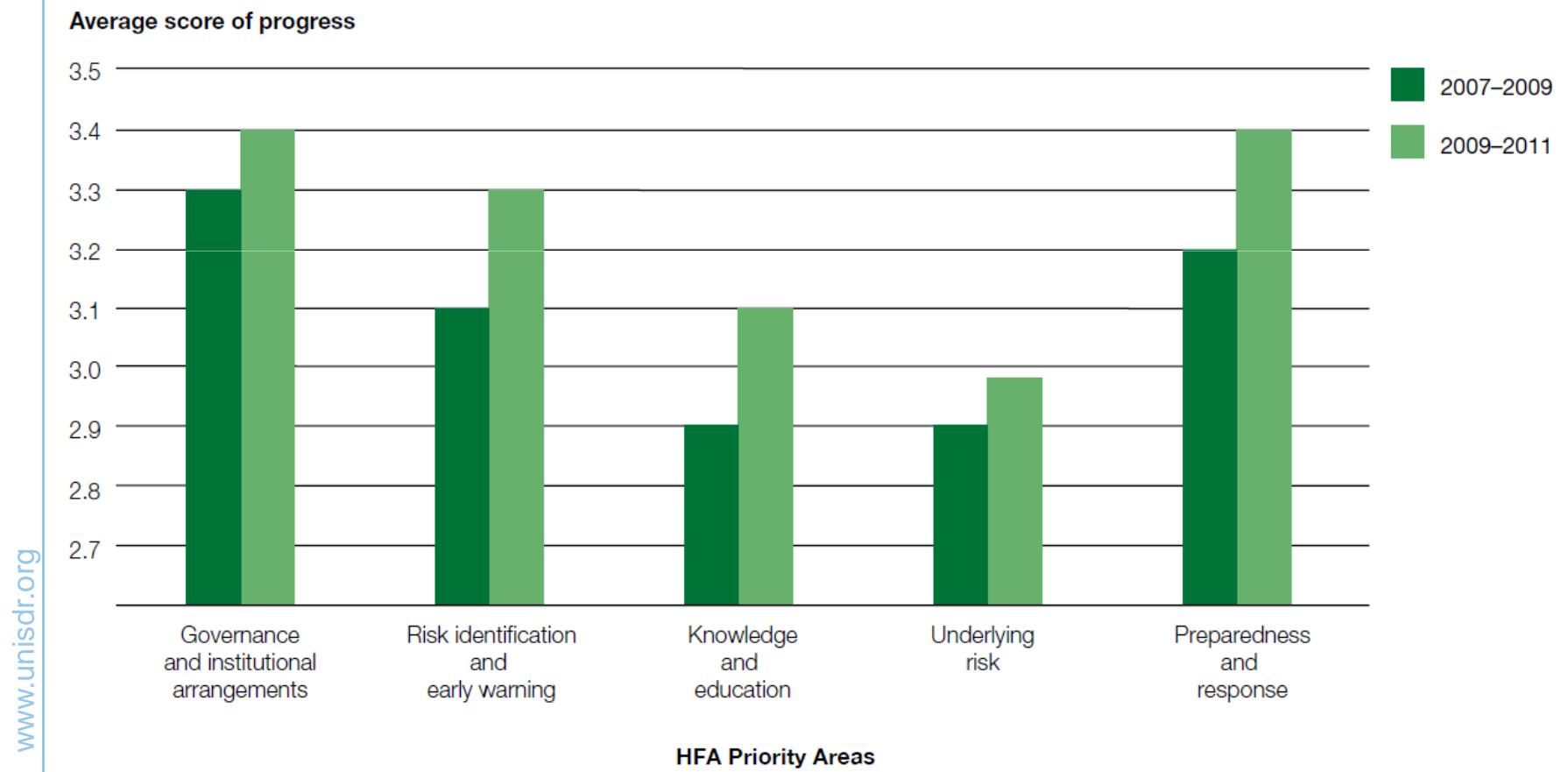
HFA progress reports assess national strategic priorities in the implementation of disaster risk reduction actions and establishes baselines on levels of progress achieved in implementing the HFA's five priorities for action.

Time-frame Country

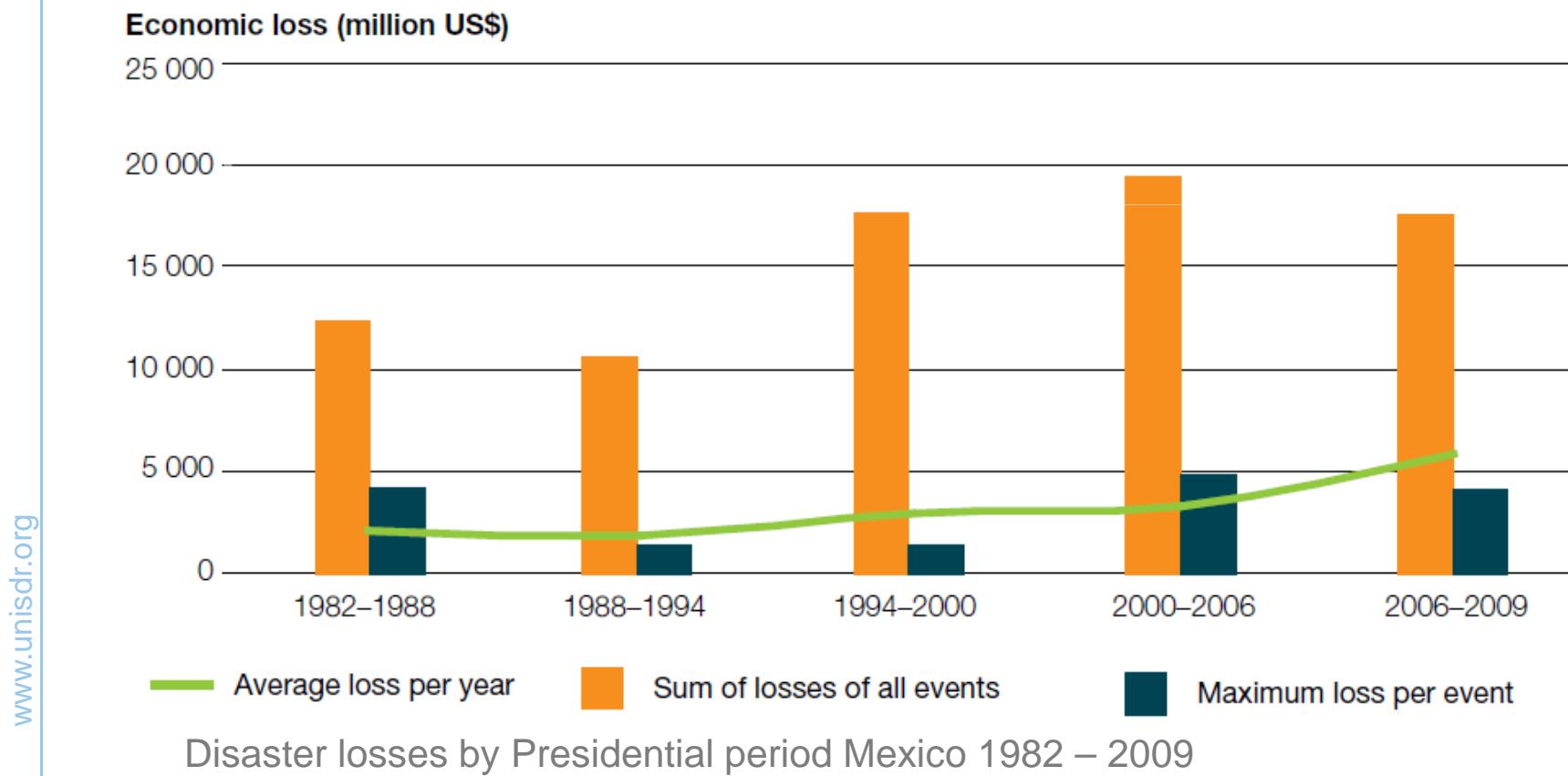
Total number of documents: 218

Title	Source	Publication Date
Algeria: National progress report on the implementation of the Hyogo Framework for Action (2007-2009)	Min de l'Intérieur et des Collectivités Locales, Algeria - gov	2009
Switzerland: National progress report on the implementation of the Hyogo Framework for Action (2007-2009)	PLANAT, FOEN	2009
Sweden: National progress report on the implementation of the Hyogo Framework for Action (2007-2009)	SRSA, Sweden - gov	2009
Germany: National progress report on the implementation of the Hyogo Framework for Action (2007-2009)	DKKV	2009
Czech Republic: National progress report on the implementation of the Hyogo Framework for Action (2007-2009)	CNC-NDR, Czech Republic - gov	2009

Mixed progress towards achieving the HFA



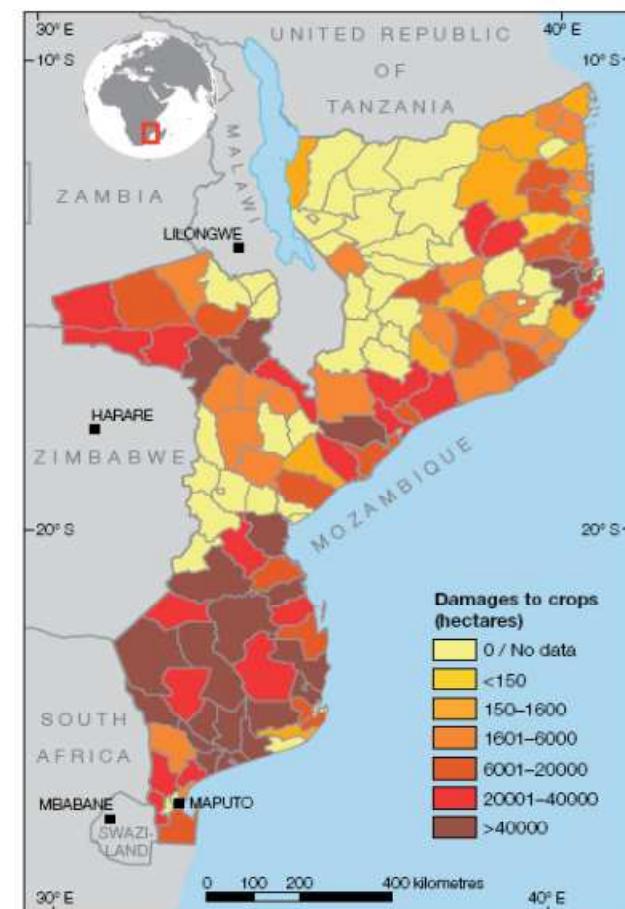
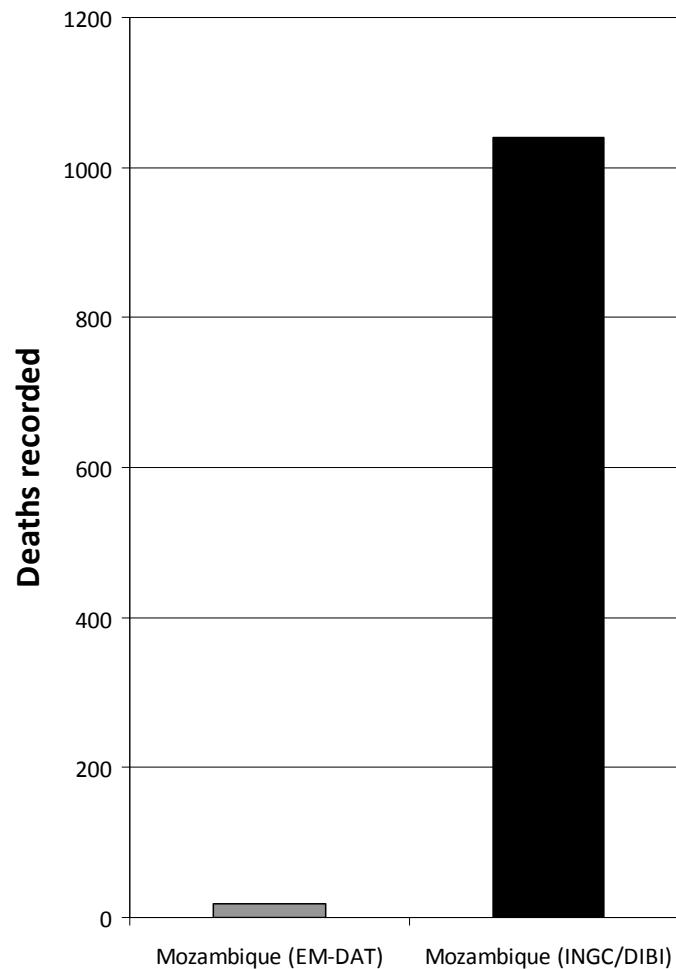
Growing losses – insignificant investment in disaster risk management



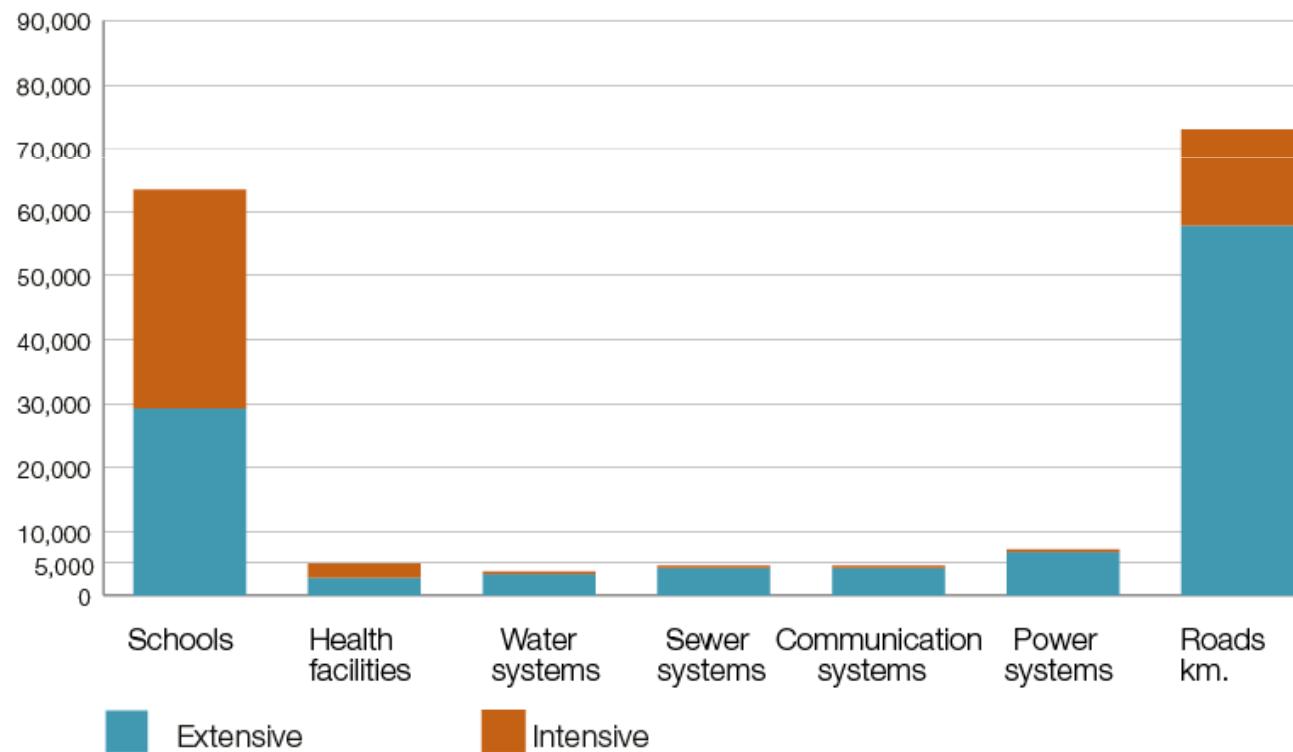
2. CHALLENGES



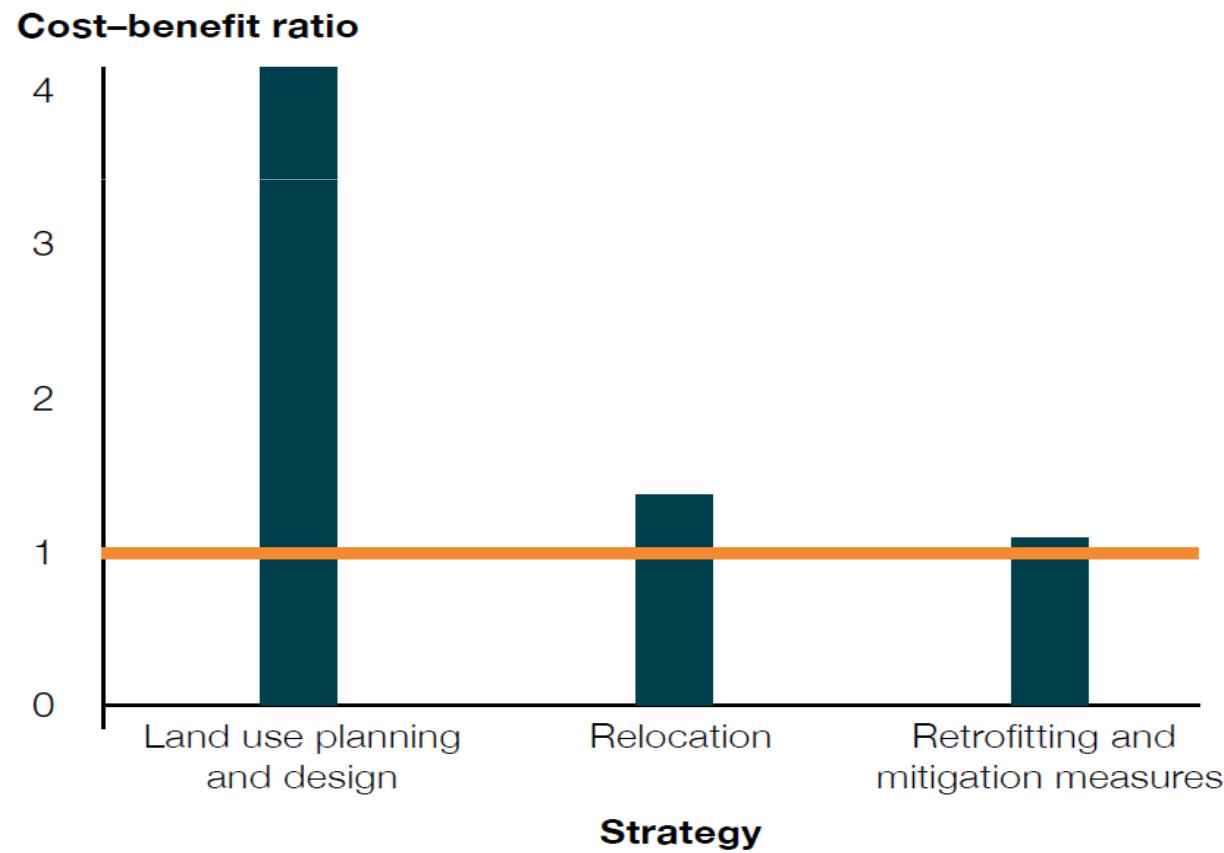
Better understanding of the risk – in particular drought impacts and climate change



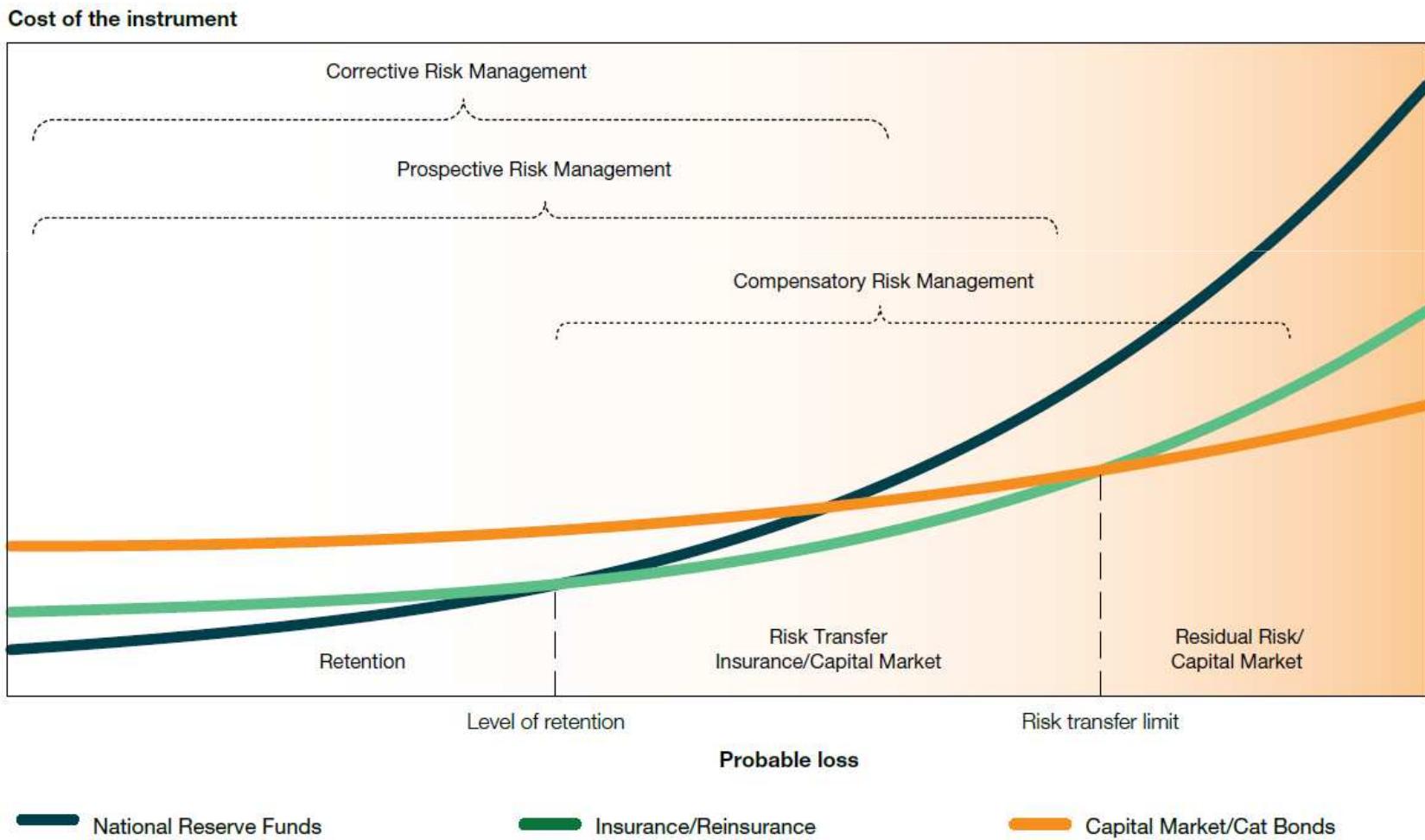
Addressing existing risk - built up over time through public and private investments - and avoiding new risk



Assisting authorities identify most effective measures to reduce risk



Including tools to assist authorities select preventive, offsetting or response approaches



Addressing complexity of solutions

city drainage map

analysing hourly rainfall intensity

construct dams, dykes and seawalls

environmental protection

community education and resilience

multi-stakeholder process

green infrastructure on roofs, streets and sidewalks

law on the conservation of natural drainage

monitoring and warning systems

comprehensive resource management and
development programme

land-use planning

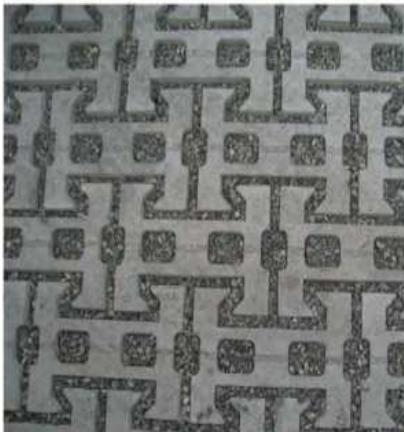
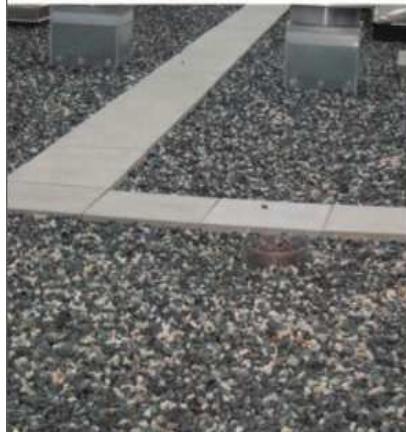
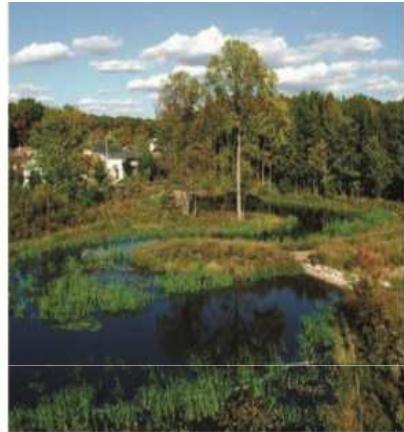
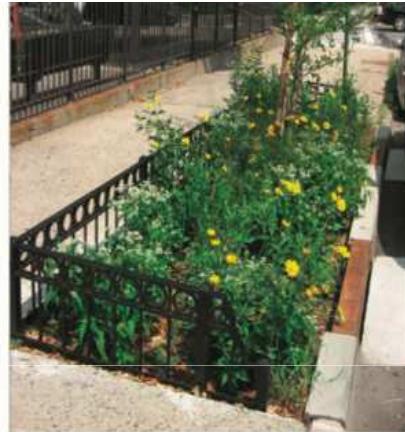
assessing the risks

regulations for urban infrastructure projects

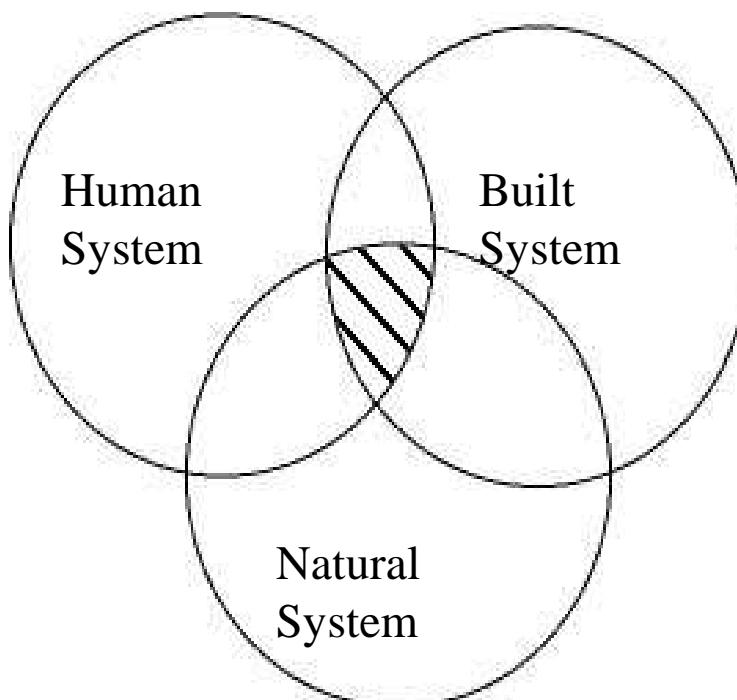
social protection for affected families

assess hazards and vulnerability

Learning to design with nature...



Developing more comprehensive, integrated approaches....



Cost of “flood proofing”
UK coastal cities up to
2080

- Engineering- based structural approach to achieve the indicative standard of defence in the 2080s is ~ £52 billion
- Structural defences as part of an integrated portfolio of structural and non-structural measures is ~ £22 billion

C. Thorne (2005)

3. Conclusions



- **Common tools** (or specific guidance) are needed:
 - for risk assessments so that we would eventually arrive at a common definition of disaster and risk;
 - for integration of climate change adaptation and disaster risk reduction; and
 - for ensuring effective vertical synergies between national and local levels;
- **Development of standards** for disaster risk reduction, as consistent with a call for stronger accountability measures and in line with the definition of targets for disaster risk reduction;
- A review and expansion on the current UNISDR publication on **terminology** – also in light of recent IPCC/SREX findings;

- **More integrated approach**, at the country as well as global level, encompassing and connecting different actors;
- Work with governments to ensure more emphasis on **local level implementation of the HFA** – building on current 'Safer Cities Campaign'; and
- **Analytical tools to trace back and unpack the actual causes of a disaster** to support future evidence-based decision making as well as increasing accountability for responsible policy making in disaster risk reduction.

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