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Rethinking disaster risk management

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Overview

- Background
- Disaster risk management measures
  - Adaptive measures
  - Risk transfer approaches
  - New technologies/approaches
- Biological hazards
- Concluding remarks

Background

- **335 major disasters in 2009:**
  - **Floods (54%) and storms (25%) were the most common**
  - **111 economies were directly affected**
    - **18 of these represented 79%, 95% and 87% of the total reported deaths, victims and economic damages**
    - **8 out of these 18 economies were in Asia**
  - **11 000 deaths**
  - **119 million people adversely affected**
  - **US $40 billion in economic damages**

Future risks

- Rise in the frequency and intensity of extreme weather events expected due to climate change
- 50 million people at risk in 2080 due to storm surges and landfall typhoons:
  - 50% of global population will live within 100km of coast in 2030 compared 23% in 2005
  - 10 million people experienced coastal flooding in 2005
  - Rise in urbanization and population densities will add to the risks
- Changing social vulnerabilities are as important as changing physical hazards

Adaptive risk management measures

- **Foster the synergies between climate change adaptation and disaster risk reduction:**
  - **Climate change: natural disaster 'threat multiplier'**
  - **Need policy innovation to incorporate disaster risk reduction into climate change adaptation planning**
  - **E.g.: drought tolerant crop varieties, improvements to water storage**
- **Better NRM governance can reduce disaster risks**
  - **Make the links between NRM and disaster management explicit**
  - **E.g.: better management of floodplains and forests; establishment of mangrove plantations in Indonesia after 2004 Tsunami**
- **Enhance socio-economic resilience through:**
  - **Better institutions, governance and management frameworks**
  - **Improved communication and awareness of disasters and adaptive responses**

Risk transfer approaches

- Catastrophic insurance coverage:
  - 30% in high income economies
  - 3% in middle income economies
  - 1% in low income economies
- Index-based insurance can safeguard poor farmers
  - Tying pre-disaster support to affordable loss prevention
  - Pilot tested in Asia, Africa and Latin America
  - Partly subsidized by international donors at this stage
  - Phase out subsidies as recipient economies develop
- Donor community can provide back up capital to:
  - Reduce risks to private and public insurance providers
  - Encourage public-private risk transfer programs
- Effective complementary tools to other relevant disaster risk reduction measures

New technologies/approaches

- **Application of GIS technologies:**
  - **To analyse data/information from climate models to assess disaster risks**
    - **Such analysis can inform the design of key infrastructure; help insurers assign a price to low-probability risks with high loss potential**
- **Need to make early warning systems more user friendly:**
  - **Focus on the needs of target audience/communities**
- **More attention on post-disaster issues**
  - **Reforms to legislation, organisations and policy**
    - **E.g.: Establishment of new laws, warning systems in Indonesia after the 2004 tsunami**
- **Need reliable estimates of disaster risks to encourage private sector to invest in risk-transfer tools:**
  - **Need reliable and transparent data/information collection and verification with strong public good characteristics**

Biological hazards

- Recent past: Avian influenza and H1N1
- Growing concern about emerging infectious diseases (EIDs)
  - Population density: key predictor of EIDs
  - Most human pathogens circulate in animals
  - EID ‘hotspots’: lower latitude poor developing economies
  - Significant potential burden to human health and global economy
- There is a growing need for:
  - Continuing ‘smart surveillance’ of EID ‘hotspots’
  - Targeted surveillance of at-risk groups to help identify early case clusters
  - Better understanding the links between EID events and climate change
  - Improving regional epidemiological and environmental information, diagnostic networking, trend analysis and intervention against EIDs

Concluding remarks

- **Population growth, rapid urbanisation, poor NRM and climate change driven pressures could increase natural disaster vulnerabilities.**

- **‘Business-as-usual ‘ approach to donor assistance is less likely to help meet post-disaster needs.**

- **Greater emphasis on risk-transferring and risk pooling, and public-private partnerships is needed to manage natural disaster risks.**

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Thank you

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