

Climate Change and Urban Risk: Challenges and Potentials



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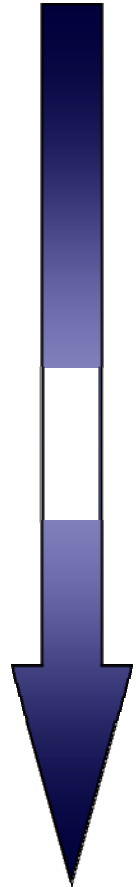
- Climate Change and Urban Risk
 - Background: defining urbanization and its evolving nature
 - Impacts of CC on urban areas
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 - Local Actions: Focusing on vulnerable communities
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Background: Defining Urbanization

- Infrastructure development
 - Industrial development
 - Economic growth
 - Socio-political growth
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- However, with the evolving notion of development, the concept of urbanization is changing...

Background: Changing Concept of “Sustainable Urban Development”

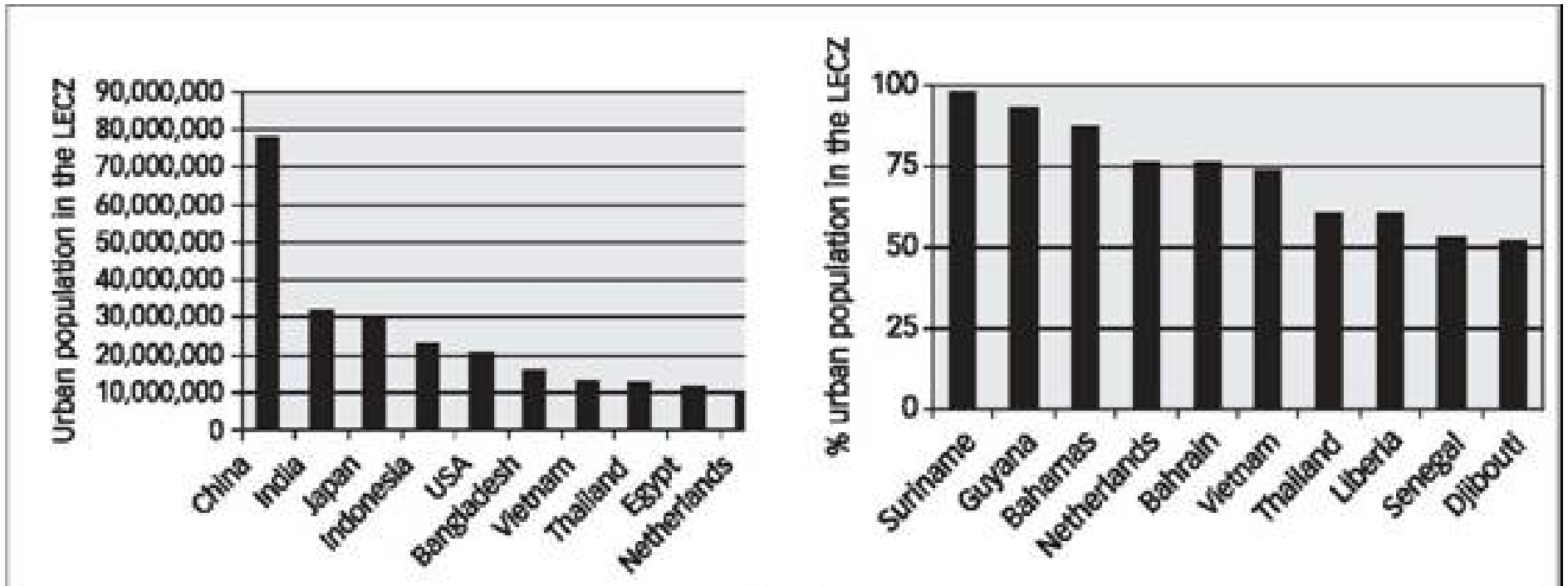
- **1970s:** Urbanization and industrialization
- **1980s:** Sustainable development and urban growth
- **1990s:** Sustainable cities and eco-cities
- **2000s:** Resilient urban growth and urban ecosystem
 - High economic efficiency
 - Social equity in distribution of city development
 - Generation of financial resources
 - Community based approaches



Impacts of CC on Urban Areas (1)

- Impacts on CC can be as broad as impacts on urban ecology, food supply and price (Indirect impact of shifting rainfall pattern)
- Increased number and intensity of extreme weather events such as heavy rainstorms (flooding), cyclones and typhoons: visible disasters
- Increased number of dry days, and having continuous stress on the water system: invisible creeping disaster like urban drought
- Significant impacts in terms of health in urban areas (due to heat waves, vector borne diseases etc.)
- Ultimately leading to impacts on urban and regional economy

Impacts of CC on Urban Areas (2)



- Less than 10 m. above sea level is 2% of world's land, but contains 10% of world population (600 million)
- Continuous migration crates further pressure in the already congested coastal areas

Urban Population and its % in the LECZ (Low Elevation Coastal Zone)

(Source: Haq et al. 2007)

Impacts of CC on Urban Areas (3)

Composite Multi-hazard Risk Adaptation

- Temperature and precipitation variability
- Urban drought
- Flooding and extreme rainfall
- Cyclone and storm surge
- Sea-level rise
- Environmental health risk

Source: Revi 2008

Challenges of CC Impacts on Cities

- The “proof” of CC is difficult to identify and recognize: Recent disasters may be more due to inherent and increasing vulnerability of the urban areas
- Time and space issue of climate modeling
 - Long term prediction versus short term scenario
 - Regional versus local (city based) scenario and its uncertainties

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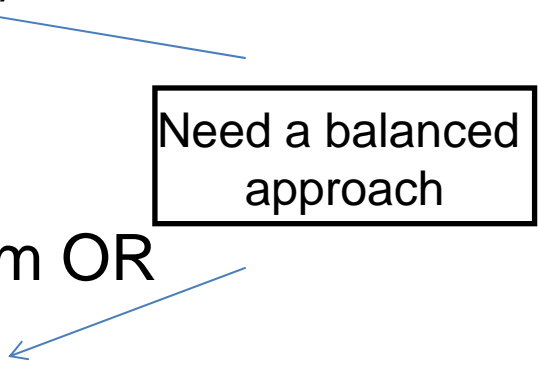
Potentials for Actions

- Local and Regional (global) actions
 - Actions need to be taken at city level (by city authorities, citizen, NGOs, corporate sectors, academic institutions)
 - Actions need to be taken at regional and/or global level (by national governments, international organizations)

Potentials for Local Actions (1)

- Three step risk management process:
 - Assessment: Scenario
 - May not be a precise scenario, but needs to apply precautionary principles
 - Identify vulnerable communities and areas
 - Planning: Action Plan
 - Municipal Adaptation Plan (MAP) AND
 - Municipal Mitigation Plan (MMP)
 - Implementation: Actions
 - Start small and gather momentum OR
 - Start big and scale down

Need a balanced approach

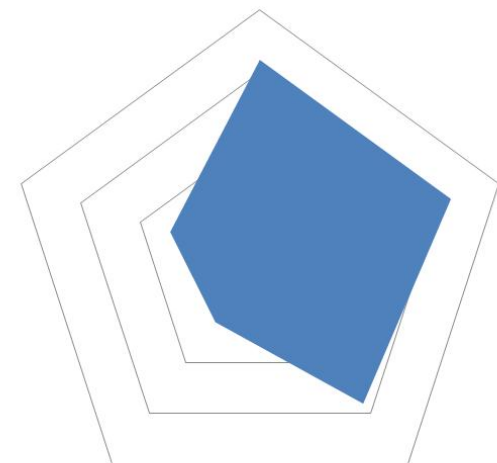
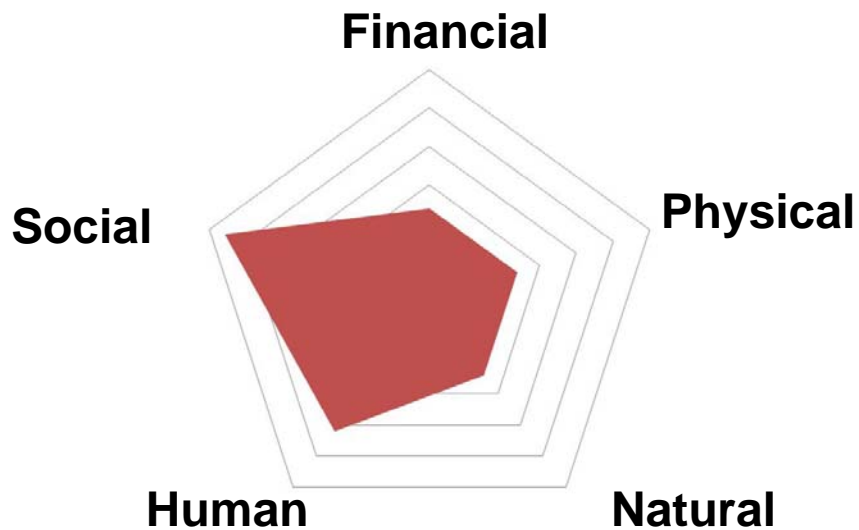


Potentials for Local Actions (2)

CDRI (Climate and Disaster Resilience Index)

- Start with the most vulnerable areas in the city: Informal Settlements
- Climate and Disaster Resilience Index

Resilience Analysis based
On capital mapping



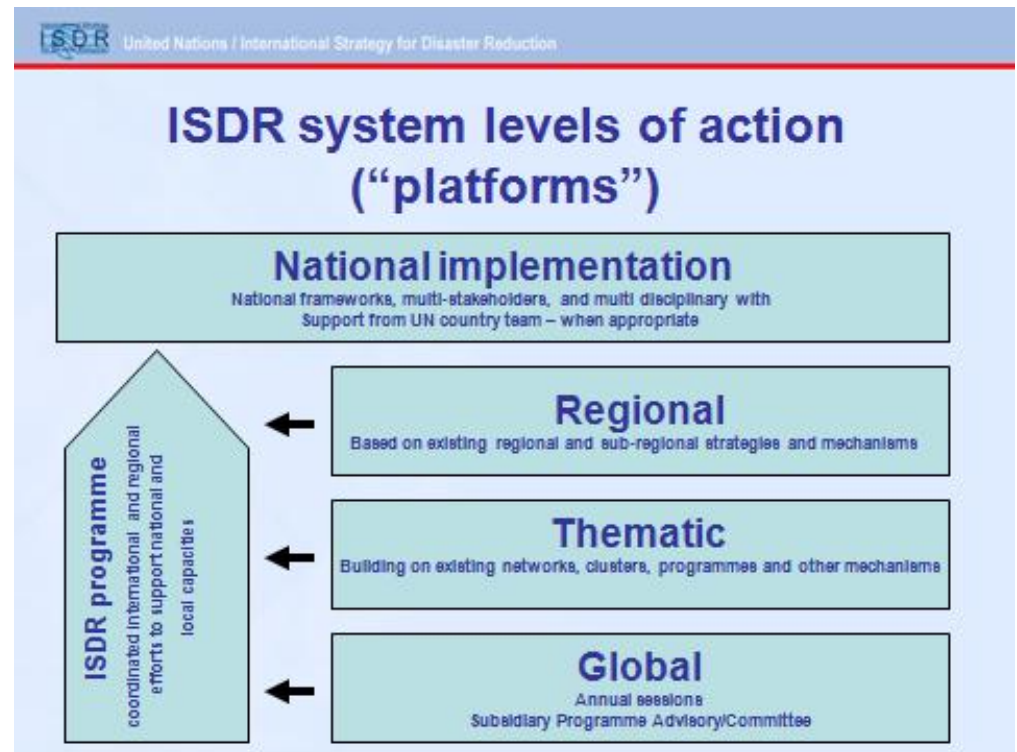
Potentials for Regional/Global Actions (1)

- Newly formed **Asia Regional Task Force (RTF) On Urban Risk Reduction**

- UN/ISDR Hyogo Office together with close partners took an initiative to develop the Asia Regional Task Force on URR as a thematic group on urban risk reduction within the ISDR system in Asia to facilitate and accelerate efforts and actions for urban risk reduction in this context

- **Part of ISDR Thematic Platform Concept**

- A multi-stakeholder partnership mechanism through which ISDR partner organizations collaborate on specific themes, typically of a technical nature relevant to the reduction of disaster risk and the Hyogo Framework for Action (HFA) implementation



Potentials for Regional/Global Actions (2)

- Goals of the RTF
 - To enhance decisive actions to reduce risk and increase community resilience in the urban areas in the Asia region
- Objectives of the RTF
 - To act as an advocacy vehicle to major urban policy bodies
 - To provide a platform for collective information and knowledge development sharing
 - To facilitate interactions and cooperation among related organizations and stakeholders
- Three Specific activities
 - Policy and Advocacy
 - Knowledge Management
 - Promoting Synergies and Cooperation

Potentials for Regional/Global Actions (3)

