URBAN RESILIENCE AND DISASTER RISK REDUCTION

Cities are prone to multiple natural hazards

- Urban population in India grew - from 285 million in 2001 to 377 million in 2011, likely to touch 533 million by 2025.
- 70% of the urban population resides in Class 1 (more than 100,000 population) cities.
- Hydro-meteorological hazards cause maximum impact - large number of deaths, and other damages that affect the functioning in a major way
- Climate variability and impact of climate change, result in increased frequency and intensity of extreme weather events.
- Most of the cities face urban flooding almost on a regular basis and a number of coastal cities are hit by cyclonic storms.

RAPIDLY CHANGING INFRASTRUCTURE

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URBAN AREAS - DIVERSITY OF STAKEHOLDERS

- Government agencies
- Businesses
- Institutions - Education, Research, etc
- NGOs
- Cultural/ religious organizations
- Residents Welfare Associations
- Migrants
- Refugees
- Citizens' advocacy groups
- Opinion leaders
- Special interest groups

In the name of efficiency, fragile systems are taking over community bonding

CHANGES IN DEFINITION OF COMMUNITY

From residential communities such as :

- Residential Welfare Associations
- Resettlement colonies
- Slums and JJ Clusters
- Urban Villages

To communities based on services & issues

- Education, workspace etc..
- Maintenance of services
- Safety and security
- Recreation
- Culture

New communities are created - practically overnight!

CHALLENGES

- Multiplicity of administrative institutions: varied command, control and co-ordination structures
- Lack of clarity of roles and responsibilities of agencies, departments, etc., unlike rural areas
- Highly vulnerable urban housing and public infrastructure
- Unplanned growth: inaccessibility of areas for response, lack of organized preparedness efforts
- Inadequate attention to mitigation and prevention of disasters (urgent need to assess safety of lifeline structures and essential installations, etc.)
- Waste management

High concentration of people, lack of enforcement of building codes, unsafe structures, and lack of economic and social equity make cities unequipped to deal with disasters

RESILIENCE

- Resist
- Absorb
- Accommodate
- Timely Recovery
- Preservation & Restoration of basic structures and functions

A resilient city can adapt to a variety of changing conditions, withstand shocks and provide essential services to the residents

BUILDING RESILIENCE

- Assess risks, including that are likely to be influenced by Changes in Climate
- Create awareness about it and develop capacities to deal with it at all levels.
- Strengthening of Early Warning Systems
- Develop multi-hazard city DM and sectoral Plans – response, preparedness, mitigation (existing and new)
- Sustainable use and management of ecosystem

BUILDING RESILIENCE

- Develop specialized teams to undertake variety of response functions – training/funds/ equipment
- Ensure safe and secure critical facilities/ infrastructure
- Ensure development is risk informed and sensitive – mainstreaming/ training/funds
- Use/develop knowledge platforms and networks
- Enhance Private sector Participation

GOVERNANACE

- Planning for a new city will require consideration of issues related to Urban Migration - large scale infusion of diverse population
- Given the demand for better quality of life, new cities will soon get swamped by migrants-Smart cities
- It requires systems for social infrastructure for migrant worker hostels, women's hostels, elderly, disaster management, monitoring energy consumption, etc
- In the absence of preparedness, one can expect social problems leading to loss of economic productivity.
- We would need different administrative structure that would bring in additional regulatory frameworks, principles of city planning that are unique to India

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RESILIENCE INDICATORS

1. Physical / Infrastructural
2. Institutional / Procedural
3. Social
4. Economic; and
5. Environmental / Ecological

LEVELS OF RESILIENCE

0. Non-Availability or Partial Availability: facility does not exist partially exists.
1. Availability: facility exists.
2. Equitable Access: facility exists and is accessible to all households during “normal times”.
3. Adequacy: facility exists, accessible during normal times, in adequate quantity and quality.
4. Sustainability: facility exists, accessible during normal times, of adequate quantity and quality, structurally safe and sustainable after any disaster, and
5. Multi-hazard Resilience: facility exists, accessible during normal times, of adequate quantity and quality, structurally safe to withstand all kinds of hazards and is sustainable after any disaster.

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Control mass urban migration to manage cities

- Singapore was built by labour from Malaysia, Indonesia and Bangladesh. After the construction the labour went back – outcome a clean, manageable city.
- When cities in China were being built, the labour came from the hinterland and once the cities got built, the labour had to leave the city and only certified residents have access to the city facilities.

THANK YOU