

DISASTER RISK REDUCTION THROUGH URBAN PLANNING

ASHWANI LUTHRA

Head

Guru Ramdas School of Planning
Guru Nanak Dev University, Amritsar

2nd India Disaster Management Congress, 2-4 November 2009, Org. by TCPO, New Delhi,
Theme: Issues in Urban Risk Management

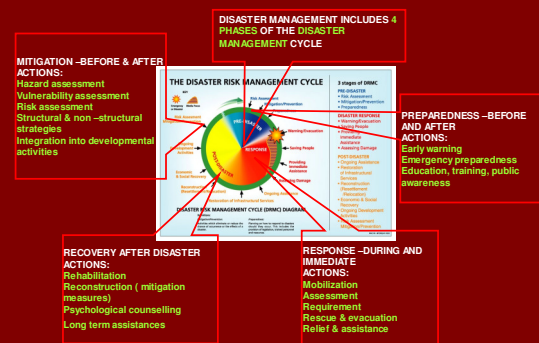
INTRODUCTION

- Disasters, natural or man-made, are considered to be the worst hazards causing widespread disruption of normalcy of the society, due to destruction of its properties, social & economic infrastructure and human lives.
- Disaster Risk Reduction (DRR) is a term used for techniques focus on preventing or minimizing the effects of disasters.
- Among all the impacts, earthquakes lead to destruction on a massive scale.
- 56% of global land is vulnerable to earthquakes.
- Urgency for planning and development strategies for DRR for human settlements, especially cities like Delhi.

Disaster Risk Reduction.....

- 'Disaster' is a crisis situation causing wide spread damage which far exceeds our ability to recover.
- Disaster Management Phases
 - ✓ Disaster phase
 - ✓ Response phase
 - ✓ Recovery/ Rehabilitation phase
 - ✓ Risk Reduction/ Mitigation phase
- population returns to pre-disaster standards of living.
- recognizes the need for certain measures which may be needed to reduce the extent or impact of damage during the next similar disaster.
- ✓ The impact of damage can be reduced by predicting the possibility of its occurrence, time, place and severity by adopting planning, technological and scientific measures.

Disaster Risk Management Cycle



Recent Popular Earthquakes in India

Place	Date	Intensity (Richter Scale)
• Uttarkashi	October 1991	7.0
• Latur	September 1993	6.3
• Chamoli	March 1993	6.8
• Jabalpur	May 1997	6.0
• Bhuj	Jan 2001	7.7
• Delhi	Expected	> 6

(Most recent being on 21st September 2009)

Issues

- Multiplicity of agencies dealing with disasters - land use, roads, traffic, infrastructure, facility centres, etc.
- Lack of co-ordination between agencies.
- Deficient/ scattered database required to reduce the risk of disaster - land use, roads, traffic, infrastructure, facility centres.
- Lack of digital data (monitor/appraise/manage), which becomes the base for quick decisions for risk reduction under disaster.
- Independent database available with different agencies - not in the format required for disaster management.
- The data may not be readily available.

- Work on preparation of DMP has been carried out in bigger cities, less or nothing about smaller settlements.
- Multi-hazard vulnerability & their risk reduction plans are missing.
- Difficult to access the affected areas in the absence of detailed map resource with location of all the structures.
- Only money and funds not sufficient for DRR.

Suggestions

- Creation of integrated digital data base by involving each agency concerning disaster management - geo-referenced digital data
- Micro-zonation and vulnerability assessment essential for Disaster Management Plans
- Prepare Disaster Management Plan and integrate it with Master Plan
- Prepare Accessibility Plan and integrate it with
 - Existing traffic pattern
 - Existing land use
 - Existing road network and bridges
 - Location of facilities and services - schools, hospitals, fire/police/ electricity sub-stations, etc.
 - Seismic zones
 - Subsoil geo-technical information

- Prepare Relief and Rehabilitation Plan
- Carry out redevelopment/ urban renewal projects in the existing developed areas to facilitate relief operations during disaster - widening of roads, installation of fire fighting equipments, etc.
- Leave bigger open spaces in the Master Plans and neighbourhoods for rehabilitation
- Check haphazard and unplanned development - mixing of land uses in narrow streets increases vulnerability.
- Amend building bye-laws and zoning regulations
- Follow best practices in DRR - California, New York City DMP (earthquake disaster being the focus).

- Ensure adequate safety measures in tall structures.
- Integrated team of Planners, Architects, Engineers, Scientists, technocrats, administration and Politicians.
- Public-Private Partnership Model in Disaster Management.
- Make the system more accountable in terms of planning, development, funding and financing.
- Sensitize the builders.
- Awareness - role of NGOs.

- Urgency of DMP in Cities having rich heritage of historical, archeological & architectural structures.
- Urgency in cities having headquarters of polity, industrial, scientific, educational and financial institutions.
- Most Essential Maps -
 - Land Use
 - Road Network
 - Utility Networks
 - Facility Distribution
 - Disaster Management

