



Build Back Better in Urban Resilience

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Nepal Earthquake 2015

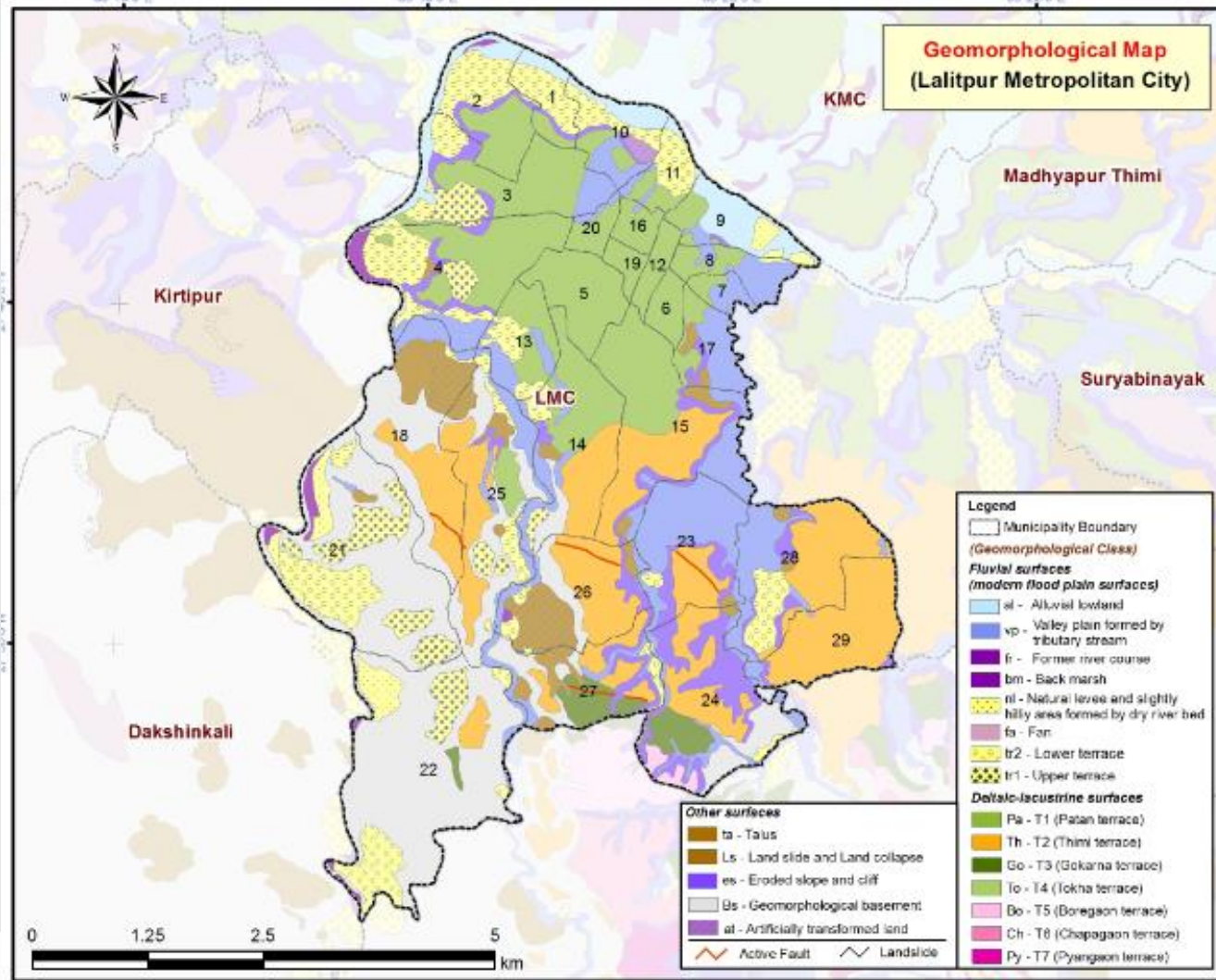


Lalitpur Metropolitan City (LMC)

148,197 Sq. Km
27 m Population
70,256 Household
284,922 Population
138,998 Female
145,924 Male

Hazards

- Fire
- Earthquakes
- Road Accidents
- Flood



Effects of Earthquakes in LMC

Loss	LMC
Collapsed Buildings	4199
Non Functional Buildings	3274
Partially Damaged Functional	2818
Minor Damages	3788
Damage to Heritage Monuments	195
Casualties	66
Injuries	218
Directly Affected Population	75621

Effects of Earthquakes in LMC (cont.)

- 12 health facilities destroyed
- 149 schools completely destroyed
- Patan Durbar Square- (UNESCO world heritage site)-historical monuments destroyed/weakened
- Damage to intangible heritage i.e. culture, values and tradition
- Subsequent effect on tourism industry



Innovative approaches by learning from past experience and initiatives

- Post Disaster Needs Assessment by National Planning Commission (NPC) and subsequent Post Disaster Recovery Framework prepared
- 55 standards developed as building codes/guidelines by Nepal Reconstruction Authority (NRA, NSET)



Innovative Approaches (Contd.)

- Mason training in safer practices complying with government building codes, disaster and climate risk reduction, quality control
- Owner driven reconstruction approach (installment payment contingent with compliance to building standards)
- Increasing women's role in engineering and construction

Innovative Approaches (Contd.)

- Reuse/salvage and recycling of debris
- Preservation of culture, tradition and architecture to continue promotion of tourism
- Retrofitting to make existing houses, cultural heritage buildings more earthquake resilient
- Strengthen household Disaster Risk Reduction (DRR) capacity and government response to DRR

Innovative Approaches (Contd.)

- Cash for work initiatives
- Providing businesses with the tools to develop earthquake preparedness plans-possibility to develop a national forum for engagement of different businesses and the Government
- Business continuity planning restoring livelihoods and market functions through collaborative approach-leveraging capability and capacity of stakeholders (government, private sector and civil society-PPP)



Lesson Learnt

- Working in close coordination with National Federation of the Disabled for Access audits and recommendations
- Joint monitoring of reconstruction work for Gender Equality & Social Inclusion (GESI) - chance to promote more equal power relations and attitudes
- School Disaster preparedness and Management capacity should be increased
- Documentation of good practices, lessons learnt
- Reconstruction as healing



DRR Plans

Immediate ongoing Activities:

- Disaster Management parks
- Awareness programs
- Emergency tools/equipment storage
- Retrofitting training
- Earthquake resistance ward offices
- Safety of construction workers
- Community Based Disaster Risk Reduction and management plan

DRR Plans

Mid Term Activities:

- Earthquake resistance ward offices
- Community Buildings
- Declaration of DM parks and/or open spaces for shelter in each ward

Future DRR Plans Cont.

Long Term DRR Plans :

- Retrofitting of buildings
- Metropolitan emergency operation center
- Modern Fire Brigade center
- Building permit bylaws/regulations strengthened
- Disaster waste treatment measures
- Promotion of land use restriction
- Support for the recovery and reconstruction of tourism
- Traffic/ transportation and lifeline management

Financial Assistance

- Kathmandu Valley Preservation Trust
- Department of Archaeology
- Nepali Business sector (over \$3 million to the Disaster Relief Fund)
- German Embassy
- the Netherlands
- the British Embassy
- Government of Sri Lanka
- Government of India
- Government of China
- Asian Development Bank (ADB)
- Japanese International Cooperation Agency (JICA)
- The South Asia Institute of Heidelberg University
- And many more.....





Challenges

- Older, historical homes built before the Building Code existed
- Intricate historical designs difficult to copy and recreate
- Nepal construction materials industry: 35-40% market growth in the next 5 years but needs regulating
- Funding still required



Thank you