Urban Regeneration as Post Disaster Rehabilitation / Reconstruction of Historic Core City and Settlements

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ABSTRACT

The impacts of recent earthquake of 25 April 2015 are devastating and widespread in the historic core city and settlements of Kathmandu valley. Because of the historical, archaeological, artistic, cultural and touristic value of core city structures and settlements, a fundamental principle of its reconstruction and redevelopment should be the conservation of its unique character and earthquake risk management. In post earthquake scenario the National Society for Earthquake Technology Nepal (NSET) has been implementing post earthquake damage assessment of these settlements, safe shelter planning and design and earthquake risk reduction initiatives such as Urban Regeneration of Historic core city and settlements. It is a model for sustainable redevelopment of historic urban areas, pilot program in a small block within dense settlement. This is a continuation of feasibility study conducted in 2012-2014 in core city of Kathmandu. This feasibility study is being carried out by NSET as a part of Public Private Partnership for Earthquake Risk Management with core funding from the office of Foreign Disaster Assistance of USAID.

Keywords: Earthquake, Historic core city and settlements, Earthquake Risk Management, Urban Regeneration, Conservation

1 BACKGROUND

On 25th April, 2015, at 11:56 local time, a massive 7.8 magnitude earthquake struck Nepal, with the epicenter in Gorkha District north-west of Kathmandu and south of the China boarder. Dozens of aftershocks followed, including a 6.7 magnitude earthquake on 26th April 2015 at 12:54 local time. The earthquake has been found with a maximum Modified Mercalli Intensity (MMI) of IX (Violent). Epicenter of main shock is approximately 34 km (21 mi) east-southeast of Lamjung, Nepal, and its hypocenter at the depth of approximately 15 km (9.3 mi). It is the most powerful disaster to strike Nepal since the 1934 Nepal-Bihar Earthquake.

The impacts are devastating and widespread. Among the most affected areas are densely populated city core areas, historical settlements of Kathmandu valley and also remote villages perched on hilly areas. As of June 19, the Government reports 1,733 deaths and 13,103 injured people in Kathmandu Valley. Major chunks of this casualty belongs to the earthquake devastated historic core city areas of Kathmandu, Lalitpur and Bhaktapur and traditional settlements like Sankhu, Bungamati, Chapagaon, Khokana, Harishidi, Lubhu, Sunakothi, Tokha, Sitapaila Thankot, etc. Centuries of Kathmandu's architectural heritage was destroyed in 80 seconds Saturday on 25th April, 2015. In Kathmandu Valley only around 73000 buildings are collapsed and 67000 buildings are partially damaged.

The existing urban structure in Kathmandu Valley is characterized by two salient features: existence of old historic parts full of unparalleled artwork and architecture, which are being threatened by haphazard and unplanned modern development in the historic city core and unplanned sprawl development in urban fringe areas and orientation of the urban life towards urban fringes. And if we look at our tightly packed street pattern and tall, slender buildings which are being constructed without following building codes, the potential threat here is massive. Due to the recent big quake of 25 April, 2015 there have been significant loss of lives, buildings and a large part of the city are on the ground in rubble mostly in the historic core city and settlements . The historic core city and settlements, which has an extraordinary culture and extraordinary history, the source of great philosophy, great thought and great architecture is at risk of haphazard demolition, rebuilding and replacement with modern concrete structure. This valley, which is unique, is at risk because we are not planning to protect ourselves, the culture and the buildings. Kathmandu Valley's risk has increased significantly since the recent big quake. It is clear that a large earthquake near the Kathmandu Valley today would cause significantly greater human loss, physical damage, and economic crisis than caused by the recent big quake.

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The main issues of Kathmandu Valley historical core city and settlements are:

- Dense settlement
- Highly vulnerable buildings without or limited possibility of seismic retrofitting
- Poor accessibility, especially for emergency services
- Inadequate Infrastructure and urban service
- Underutilized tourism and economic potentials
- Historic Heritage at high risk due to natural and manmade hazards, and also due to the current trend of building repair & replacement
- Vernacular Architecture is in the verge of disappearance due to the current trend of building demolition & replacement

2 URBAN REGENERATION AS A TOOL FOR POST EARTHQUAKE REHABILITATION AND RECONSTRUCTION

The cities in which we are living need safe housing and a better infrastructure plan altogether; our houses are very vulnerable to fire and earthquake risk, our built heritages are encroached upon and are dilapidated, the roads are very narrow, there is no scope of further improvement at all, and there are cities which are badly managed altogether. Here comes urban regeneration into scene.

More ever, we have to reconstruct the recent earthquake devastated historic settlements and core city areas. The reconstruction activities should include safe housing and a better infrastructure plan altogether. If we don't build back better our houses and settlements as we did in the past, our buildings, settlements and infrastructure will be very vulnerable to fire and earthquake risk. If we don't take care of our built heritages which are damaged, encroached upon and dilapidated, they will be lost forever. In this situation urban regeneration comes into scene.

Urban regeneration is a land redevelopment in moderate to high density urban land use to improve city's infrastructure, to create more economic activities, to transform old earthquake-vulnerable building stock into earthquake-resistant neighborhood, to improved quality of life, to preserve historic & architectural heritages and to ensure social inclusion and cohesion. In many countries it is taken as Pre-disaster shelter planning (Urban Seismic Risk Management) of historic city core as well as post –disaster reconstruction planning.

The purpose of urban regeneration is to take into consideration the complexity of urban dynamics. It is applied through horizontal approaches which comprise several fundamental rules:

- It is location-specific, as it dispenses with the difficulties specific to all urban factors. But it aims at reducing disparities, within the global vision of a more homogeneous social environment.
- It covers different time frames, as it responds to the social needs at present, and then those of long-term sustainability, aimed at predicting the future change. It likewise includes the lessons of the past, since in most Kathmandu Valley cities today; consensus is mostly in favor of the preservation of urban heritage following a period of destruction to cater to modernization, in the 1970s onwards.
- It is multidimensional, as it is used by many different public and individual stakeholders. Urban regeneration must serve to overcome contradictions, through negotiation, and priority of the targets. Priorities depend on the alignment between national policies and local schemes.
- Urban regeneration strategies are implemented in one sector and cause positive effects elsewhere.

2.1 Objective

Priority objectives of urban regeneration should be:

- Economics: to attract investors, create employment, renew the urban economy
- Social: to enlarge the supply of safe urban housing and develop local infrastructure.
- Environmental: to improve living conditions, combat pollution, while taking into accounts the values and preferences of society and each social group
- Cultural: to enhance the architectural heritage of historic urban areas and urban tourism,

Urban regeneration has been examined and enforced in the most advanced and developing countries and may be the solution to the burning issues like post earthquake damage assessment and the reconstruction of earthquake devastated historic core city and settlements. The analysis and assessment of the problems faced by these core city and settlements before and after the quake highlight the ways and means favorable to the generalized implementation of urban regeneration in our urban development system, while respecting historical and institutional characteristics, as considerably as the uniqueness of each case and locality.

2.2 Trends

Cities are potential engines of economic growth, as well as celebrations of collective human hope, imagination and efforts. While cities in the developed world are readjusting to post-industrial economies and shrinking populations at this time in history, cities in the developing world like Nepalese cities are swelling with rural-urban migrations, slum and squatter areas alongside rising prosperity.

At either end of the spectrum, there is pressure for cities to engage in the global economy just as new information and communication technologies make it increasingly easy to do so. Cities now compete for financial investments, multinational companies and talented human resources, all of which that are becoming increasingly mobile across the global stage. Urban regeneration and economic development, those related to urban environmental sustainability and social inclusion are the longest lasting in their impact.

2.3 People's Perception

It is too early to reckon that regeneration is possible in Nepal. Before the earthquake of 25 April 2015, the government and local authorities as well as the people living in the historical urban areas do not seem too bothered about it. The attitude to shout around for change prevails only after a disaster and not before it. Until then everyone seems to enjoy and carry on at the expense of social, cultural or environmental resources and most

importantly safety & wellbeing of the entire community. But after the recent devastating earthquake peoples, community, local authority and concerned government agencies have shown interest in urban regeneration. Local communities of Khokana of Karya Vinayak municipality, Panga of Kirtipur municipality and Dambu chowk, Kilagal,of KMC have requested NSET to provide technical assistance on urban regeneration. Ministry of Urban Development (MOUD), Kathmandu Valley Development Authority (KVDA) have declared urban regeneration programs in their recently announced post earthquake rehabilitation and reconstruction plan. Thus, until we change we can't see any change.

2.4 Lesson learned from past studies

Nothing is impossible, even it is be read as "I'm-possible", but yes it would require brain storming and fore thought with meticulous planning, keeping in view the changing socio-economic developments and future requirements of at least next 50 years. At this juncture it will be better to share the lessons learned by NSET while carrying out feasibility study of urban regeneration of a part of the Kathmandu Core City. They are:

2.4.1 Lesson 1

One has to identify the historic urban areas and settlements and have strong proposal of regeneration keeping in the mind without a loss of any ones interest. For this to happen we need to have a Community Habitat Forum or Community discussion Forum. Local Authorities as a Local Planning and Development Authority should plan to establish such forum. Community Habitats Forum is a public awareness platform in partnership with core city community leaders, local municipal authority, Kathmandu Valley Development Authority (KVDA), Department of Urban Development and Building Construction (DUDBC), Department of Archaeology (DOA), Academia, Civil Societies and designed as a collaborative network of multidisciplinary thinkers and change-makers to push for innovation in shaping and saving the historical settlements of Kathmandu Valley. The forum aims to mobilize action through intelligent discourse, impactful research and result-driven advocacy.

2.4.2 Lesson 2

The City government (Municipal Board) should pass a resolution declaring Core City areas and historic settlements as historic conservation areas under the provisions of special purpose zones and should be delineated in land use map of municipalities. They should establish a Neighborhood Management Program as part of City Core Management (CCM) in historic settlements with special problems of safety and development requirements. Specific tasks characterizing the neighborhood management program are:

- Networking and coordination between various interest groups in the area;
- Motivation and organization of residents, to make them more actively involved;

- Initiation of projects aiming at the social, environmental, economic and cultural stabilization of the neighborhood;
- Monitoring and evaluation of these different projects

2.4.3 Lesson 3

International experiences of urban regeneration plan implementation demonstrate that a clear understanding of institutional responsibilities along with supportive legal provisions is crucial for the effective implementation of urban regeneration activities.

3. WAY FORWARD

Because of the historical, archaeological, artistic, cultural and touristic value of structures and settlements within the preserved historic area, a fundamental principle of its regeneration and redevelopment will be the preservation of its unique character in terms of style, scale, building materials and activities. Considering the potential seismic risk another important aspects are to ensure the earthquake safety of all manmade structure and to stabilize economy of the settlements. Based on the lessons learned from domestic experience and international practices on reconstruction and rehabilitation, Government of Nepal, specifically High Powered Nepal Reconstruction Authority, National Planning Commission, Ministry of Urban Development, Ministry of Federal Affairs and Local Development, Department of Urban Development and Building Construction, Department of Archaeology, Kathmandu Valley Development Authority and municipalities should have policy, plans and programs on urban regeneration as a tool for post earthquake rehabilitation and reconstruction of these historic urban core areas and settlements.

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