NationalConference

Reflection of Process and Issues:

DRR Governance & Management

ISET-N
Institute for Social and Environmental Transition - Nepal

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A Preview of Publication

Mr. Basanta Raj Gautam

1. CONFERENCE AND THEME PAPERS

ISET Nepal is working for Action Aid in People Led solutions for Better accountability practices (PELSAP) Project on review provisions (transparency and accountability issues in DRR) in practice in prevailing policies, laws etc. The related tasks are aimed to identify gaps in transparency and accountability; to map inter linkages through different level of consultations; and facilitate for policy scoping.

To ensure the stakeholders' involvement at different sector and level in identifying the gaps different consultation events were organized. A national level conference in December 2017 was held where other interrelated policy scoping issues were presented through different theme papers. National policy level government officials, experts, professionals, members from citizens society, media participated in the conference (annex-1).

Altogether 4 theme papers on DRR and management were presented in the conference. The papers were presented in parallel sessions. Session were chaired by prominent professionals and experts in DRR and governance. Also commentators on the theme papers had their critical and as well as suggestive view on the papers. Presented papers were based on themes directly related to Disaster Preparedness and Response in Nepal highlighting several pressing concerns for both government as well as citizen.

2. REVIEW OF THEME PAPERS

2.1 The paper "DRR Concepts and its management in Nepal" presented by Krishna Bahadur Raut, Joint Secretary, and Disaster Management Division Ministry of Home Affairs put forth Nepal's state of exposure to several types of natural as well as human-induced hazards and their causes turning into medium to serious disasters. It focuses on losses of human lives, national economy and livelihood.

The paper reviewing the Gorkha earthquake 2015 analyses the critical issues that poses challenges on DRR management and governance issues. The paper outlines some of the major challenges that Nepal faces as below:

Existing disaster management law and institutional arrangements are responsive only to rescue and relief in a disaster with no risk reduction and mitigation strategies and activities for resilience. Need is pointed out for an appropriate institutional set up for disaster risk management from national to sub-national level in line with new federal system of governance.

Nepal's poorly developed disaster management information system could be better synchronized to national system that could have helped in planning for preparedness.

Highlights the need to strengthen disaster management governance system from central to local levels and initiate activities to better understand the disaster risk so as to contribute for sustainable development goals.

2.2 Mr. Ram Prasad Thapaliya, Joint Secretary, National Reconstructions Authority presented the paper on " Challenges of reconstruction after Gorkha earthquake" and suggested way forward for better governance in DRR management.

The paper outlines the gaps in financing and human resources management, coordination among government agencies involved in implementing the reconstruction and resettlement activities in length.

Political influences at the organization has been one of the main reasons of staff heavy turnover at NRA. The multi-tiered decision making structure as provided in law has caused delays in decisions, and hence on reconstruction. In the absence of elected local bodies momentum to reconstruction has been the challenge.

The paper has suggested some way outs from the situation.

NRA is established by the special Act that provisions coordination and more dependent on other government entities. The first attempt to reform the structural reform is the restructuring and reforming its top heavy leadership.

Selection of the project in the line ministries are time taking activities, hence concerned ministries are be made responsible to recommend the projects for the NRA funding.

2.3 The paper on "Challenges of Urban Disaster Risks Reduction in Nepal" by Mr. Gopi Khanal, Joint Secretary has critically reviewed the key challenges of urban DRR.

Taking enforcement of the building codes for safer housing as the most daunting task for resilient development, the paper sees technical capacity as a cry so far. Equipping the VDCs with necessary technical staffs is critically important to introduce such systems in place. A need to build the capacity of masons, local contractors, and local technical staffs in the areas of building codes from the GoN is pointed out.

The scattered settlements in Nepal have posed several threats to resilient and has suggested that local governments in Nepal have the power to enforce land use plan.

With the expansion of new municipalities, GoN has invested substantial resources to equip municipalities with Fire management equipment. Government needs to build the capacity of municipalities to enforce fire code and to manage fire trucks effectively.

The paper suggests Ministry of Federal Affairs and Local Development to coordinate the stakeholders to implement the strategy in a consistent and coherent manner - road map for community-based resilient urban development in Nepal.

2.4 A theme paper on "Governance Challenges in Disaster Risk Reduction in Nepal" by Basant Raj Gautam outlined the outcomes of a series of studies and discussion done on current status on Disaster Risk Reduction related instrument (transparency and accountability), and gaps in prevailing policies, laws, plans etc. from implementation and compliance perspective.

The paper offers key recommendations on amendments in Laws /Policies and DRR strategies (governance related) as per the scale and type of disaster in the legal provisions. Unifying many prevailing DRR and governance related guidelines will help reduce obligatory burden of the community for the compliances. DRR and management related roles and responsibilities of the concerned agencies including community are to be well defined.

The National Disaster Relief Framework and National Strategy for Disaster Risk Management should be reviewed to adopt all scale of disaster and provisions and measures contributing to transparency and accountability after the relief operations or DRR.

Encouraging academics' involvement in policy formulation through joint consultation forum shall help formulating policies/laws based on outcomes of the study/research.

Preparedness for DRR and its measures including the application transparency tools could be brought through adoption and exercise of established Planning process. Supporting NGOs and agencies should focus to increase meaningful

participation of the targeted communities as well. Also creating data base at VDC on disaster related information help to plan and prioritize the resources.

Increasing community's access to information/communication through real application of already introduced and established transparency tools has seen as possible. The paper suggests further exploring the basic science of environmental hazards before moving on to instruction in safety measures in curriculum in formal education.

3. IN NUTSHELL

- All of the theme papers presented in the conference outlined majorly the need of
- Establishing communities' Right to Information in DRR related management throughout the process;
- Augmenting access to information in a less expensive way;
- Amendment of DRR relate laws /policies to address federal governance and meet the scope of all scale of disaster;
- Citizens' wider participation through communication strategies and outreach;
- Ensuring social inclusion as an agenda in community doing;
- The local government planning process simplification and more participative; and
- Citizen's critical role in maintaining transparency.

Disasters Preparedness and Response in Nepal

Mr. Krishna Bahadur Raut
Joint Secretary, Disaster Management Division
Ministry of Home Affairs

1. BACKGROUND

Nepal is exposed to several types of natural as well as human-induced hazards. Wide varieties of physiographical, geological, ecological and hydro-meteorological factors contribute to the high levels of hazards faced, while socio-economic and demographic factors like unplanned urbanization, slow economic growth, and lack of land use planning together with inadequate preparedness etc. also make the country extremely prone to disasters. Similarly, Nepal's exposure to multi-hazards often turns into medium to serious disasters. The national dataset on disaster events and losses, maintained and updated by Ministry of Home Affairs (MOHA), has recorded more than a dozen types of hazard, namely, avalanche, cold wave, drought, earthquake, epidemic, fire, flood, frost, hailstorm, heat wave, landslide, heavy rain (monsoon), snowstorm, thunder storm and windstorm.

As disasters result from the combination of three key elements: i) natural hazards, including earthquakes, cyclones, excess rainfall, Tsunamis, etc.; ii) exposure (of people and property to these hazards); and iii) vulnerability (of the human and physical capital exposed) due to physical, social, economic, governance, and environmental factors that increase the susceptibility of a community to the impact of a natural hazard (World Bank, 2012). Disasters have growing impact on business, globalised supply chains created new vulnerabilities, business loses its lifeline when disasters damage public infrastructures, small and medium enterprises are particularly at risk, disasters undermine longer-term competitiveness and sustainability, and the disaster phenomena is getting higher concern all over the world (GAR 2013).

Similarly disasters have various kinds of losses. The three dimensions of disaster losses: mortality, national economic losses and livelihood losses, assessed as disaster-induced impoverishment (Tom Mitchell, 2014) has high significance. Considering these factors disaster risk reduction and management has given global, regional and national priority.

Nepal has fragile geology and steep topography making it 20th most disaster prone country in the world. With regard to the relative vulnerability to climate change related hazard, earthquake and flood hazard, Nepal ranks, respectively, in the 4th, 11th and 30th among 198 countries of the world. Nepal faces high magnitudes and intensities of a multitude of natural hazards.

Table 1 reveals more than a dozen of hazards in Nepal, drawn from the active dataset maintained by the MoHA, covering a period of 45 years (1971 to 2015). A total of 22,372 disaster events have been recorded during this period. Hence, annually, Nepal is exposed about 500 events of disaster. The dataset shows that fire is one of the most recurrent hazards in Nepal. Number of fire incidences was recorded 7,187 times, followed by flood (3,720 times), epidemic (3,448 times) and landslide (3,012 times).

Epidemic is critically important in the sense that it is one of the single most killer hazards claiming the lives of more than 16,500 people (41.1 percent of the total disasters-induced deaths) during the period. It is followed by earthquake, landslide and flood. Table 1 also reveals the number of persons injured, number of houses and heritages damaged or destroyed, and the number of families affected due to these disasters. It reveals that the number of persons injured due to disasters is nearly double (a total of 78,387 persons) than the number of death. Further, it is important to note that epidemic and earthquake are the two most important disasters in terms of human injury – that resulted into injury of an absolute large number of people (92 percent of the total).

Table 1: Major disasters in Nepal and the damage and loss, 1971-2015

Disaster type	No. of death	No. of persons missing	No. of persons injured	No. of houses damaged or destroyed	No of affected families	No. of incidents
Epidemic	16,564	-	43,076	-	512,970	3,448
Earthquake	9,771	-	29,142	982,855	890,995	175
Landslide	4,832	165	1,727	32,819	556,774	3,012
Flood	4,344	6	527	215,427	3,702,942	3,720
Fire	1,541	-	1,379	83,527	256,445	7,187
Thunderbolt	1,502	129	2,444	952	6,880	1,505
Cold wave	515	-	83	-	2,393	390
Snow storm	87	7	-	-	-	5
Avalanche	16	3	7	-	-	2
Wind storm	-	-	2	-	-	16
Hailstones	-	-	-	6	2,608	17
Heavy rainfall	-	-	-	4	5	3
Other*	1,092	-	-	15,323	-	2,892
Total	**40,264**	**310**	**78,387**	**1,330,913**	**5,932,012**	**22,372**

Note: The category 'other' represents unidentified events and was recorded till 2013.

In terms of property loss, during the period of last 45 years, a total of 1,330,913 houses, including cattle sheds, are either destroyed or damaged. Of this, 982,855 (or 73.8 percent) houses were destroyed by earthquake alone, followed by flood. Likewise, a total of 5,932,012 families have been affected by these 12 most important disasters, of which flood is attributed to affecting a large number of families (62.4 percent of the total), followed by earthquake, epidemic, and landslide. It is important here to note that while interpreting Table 1 the Gorkha Earthquake 2015 accounts for dramatically changing the disaster profile of the country - as this single event of disaster resulted into larger number of casualties, injuries and destructions.

2. GORKHA EARTHQUAKE, 2015 AND NATIONAL RECOVERY INITIATIVES

On Saturday, 25 April 2015, a 7.6 magnitude earthquake struck Barpak in the historic Gorkha district, about 76 km northwest of Kathmandu. Nepal had not faced a natural shock of comparable magnitude for over 80 years. The catastrophic earthquake was followed by more than 450 aftershocks greater than magnitude 4.0 in Richter scale. Four aftershocks were greater than magnitude 6.0, including one measuring 6.8 which struck 17 days after the first big one with the epicenter near Mount Everest.

Almost one-third of the population of Nepal has been impacted by the earthquake. Over a million houses and heritages were destroyed or damaged. Among 75, fourteen districts were declared 'crisis-hit' for the purpose of prioritizing rescue and relief operations and another seventeen districts were declared 'partially affected.' The destruction was widespread covering residential and government buildings, heritage sites, schools and health posts, rural roads, bridges, water supply systems, agricultural land, trekking routes, hydropower plants and sports facilities.

Nepal's National Disaster Response Framework (NDRF) served as a key tool for coordination of earthquake response, facilitating decisions and instructions from the central to districts. The first meeting of the Central Natural Disaster Relief Committee (CNDRC) was held immediately after the earthquake, with the National Emergency Operation Centre (NEOC) providing an initial report to the CNDRC, recommending a focus on Search and Rescue (SAR), and lifesaving actions. Financial resources from the Prime Minister's Disaster Relief Fund were immediately allocated, and the government's cluster mechanism, comprising 11 clusters, was instantly activated.

Government of Nepal immediately made an official request for international assistance within hours of the earthquake. Several meetings with donor communities were convened to seek international assistance for search and rescue and immediate relief operations. With the limited trained human resource

and available equipments, Nepal Army (NA), Nepal Police (NP) and Armed Police Force (APF) carried out effective SAR operations. They were backstopped by dozens of international military SAR teams under the Multi-National Military Coordination Centre.

Figure 1: Existing Coordination Structure during Mega Disaster

Existing Coordination Structure during Mega Disaster
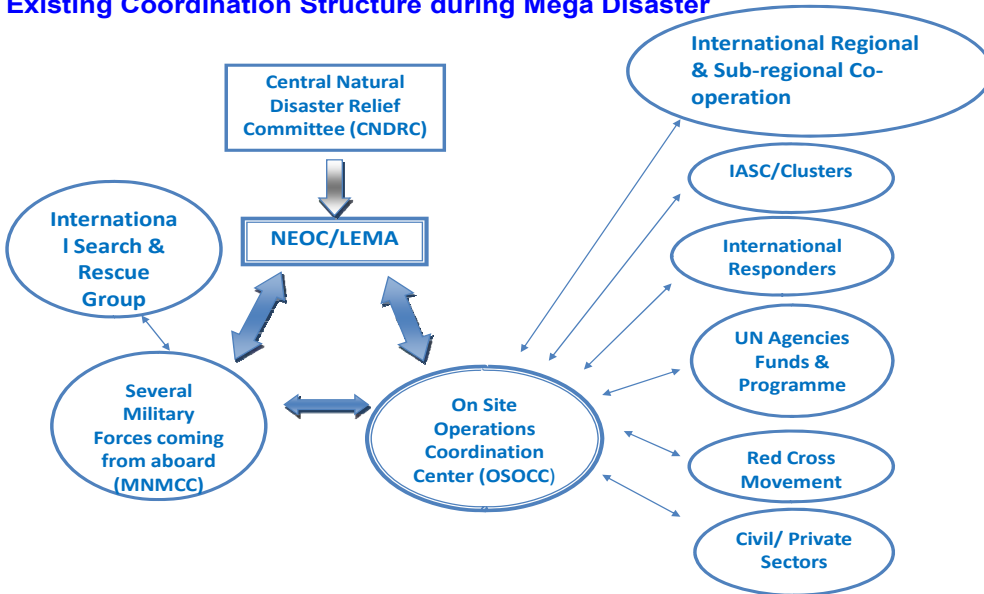
Similarly, the network of NGOs and INGOs based in Nepal swiftly rallied to support community relief efforts. Several national and international volunteer groups (especially of youth and professionals like doctors and engineers) were voluntarily mobilized in treatment of injured, setting up temporary shelters, and supplying foods and non-food items.

Although not a recurrent phenomenon, earthquake is the most tragic seismological hazard resulting into serious humanitarian crises.[1] The Gorkha Earthquake 2015 alone resulted into 8,979 casualties, 22,300 injuries and more than 800,000 houses and heritage sites damaged or destroyed. Almost one-third of the population was impacted by this earthquake. Government of Nepal immediately launched relief and recovery operations amidst overwhelming voluntary supports from communities, academia, media, CBOs, NGOs, INGOs, private sector, bilateral and multi-lateral development partners, and friendly nations. The *Post Disaster Needs Assessment* (PDNA) accomplished within a month of the earthquake not only did an assessment of the damage and loss due to the earthquake, it also outlined a recovery strategy together with an estimation of recovery cost for 23 thematic areas.[2] Table 2 presents the short term and medium term priority areas for a building back better of the earthquake damage, as identified by PDNA.

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[1]   Note that Nepal is considered the 11th most earthquake-prone country in the world (NPC, 2015).
[2]   The PDNA came up with an estimation of US$ 6.7 billion for the rehabilitation and reconstruction costs over a number of years, which the Government later revised the figure to nearly US$ 9.18 billion.

Table 2: Reconstruction priorities after the 2015 earthquake, Nepal

Short-term priorities	Medium to long term priorities
• Reconstruction of damaged DRR assets and improvements on BBB principle • Measures to improve preparedness, response, relief and logistics systems • Measures to strengthen information and communication capacities for relief, response and recovery, and • Measures to enhance multi-hazard risk monitoring, vulnerability assessment, risk information dissemination and awareness.	• Improvements in legal and institutional arrangements • Measures to mainstream DRR into the development sector, particularly housing, private and public infrastructure, social sectors (health and education), and livelihood, and • Measures to improve integration of climate change adaptation and DRR.

Source: PDNA 2015 (NPC 2015)

The PDNA also recommended that the post-earthquake recovery and reconstruction "has to be a multi-pronged effort with a strong orientation toward the poorest and the most vulnerable" with support from the private sector, NGOs, and international development partners.

2.1 National Reconstruction Authority

The National Reconstruction Authority (NRA) is the legally mandated agency for leading and managing the earthquake recovery and reconstruction in Nepal. NRA provides strategic guidance to identify and address to the priorities for recovery and reconstruction, taking into account both urgent needs as well as those of a medium- to long-term nature. NRA has been established in 25 December 2015 (2072) for five years to lead and manage the reconstruction and recovery of the earthquake as per the Reconstruction of the Earthquake Affected Structures Act, 2072.

The NRA's overall goal is to promptly complete the reconstruction works of the structures damaged by the devastating earthquake of 25 April 2015 and subsequent aftershocks, in a sustainable, resilient and planned manner to promote national interest and provide social justice by making resettlement and translocation of the persons and families displaced by the earthquake.

The objectives of the NRA as articulated in the National Reconstruction Policy are:
• To reconstruct, retrofit and restore partially- and completely-damaged residential, community and government buildings and heritage sites, to make them disaster-resistant using local technologies as needed;
• To reconstruct (restore) damaged cities and ancient villages to their original form, while improving the resilience of the structures;
• To build resilience among people and communities at risk in the earthquake-affected districts;

- To develop new opportunities by revitalizing the productive sector for economic opportunities and livelihoods;
- To study and research the science of earthquakes, their impact including damages and effects, and post-earthquake recovery, including reconstruction, resettlement, rehabilitation and disaster risk reduction; and
- To resettle the affected communities by identifying appropriate sites.

The NRA a coordinating and facilitating body formed by the Government of Nepal to manage, oversee, and coordinate the reconstruction work. By law, its functions include assessing the damages caused by the earthquake and its aftershocks, fixing the priorities of reconstruction, preparing policies, plans and programs, and facilitating implementation. It can carry out reconstruction, or ensure that it is done through different agencies, obtain land for reconstruction, and prepare plans for developing integrated settlements for ensuring that reconstruction is carried out in the prescribed manner, in accordance with established safety standards.

The NRA is also responsible for coordinating the work of, and collaborating with, non-governmental organizations, private sector or communities as they relate to reconstruction. It is also empowered to raise financial resources for reconstruction and to make arrangements for effective use. The Authority is responsible of carrying out technical reviews of damaged or unsafe physical structures and order safe demolition, where required. For all practical purposes, it is the one-stop institution to oversee, coordinate, and facilitate Nepal's effort to build back better – that underpins the reconstruction policy.

NRA has formulated a Post Disaster Recovery Framework (PDRF) (2016-2020) on the basis of PDNA. The government has sufficiently allocated the budget for reconstruction and recovery initiatives. Similarly, almost all of the affected families have received the first installment of the grant and recovery activities have been further expedited.

3. POLICY, LEGAL AND INSTITUTIONAL FRAMEWORKS

Nepal enacted Natural Calamity (Relief) Act, the first act of this kind, in1982 and established a network of "disaster relief committees" at various levels (Central, Regional, District and Local Disaster Relief Committee) from central to local levels for effective disaster management focusing primarily on response. Now, considering the importance of disaster risk reduction, the Constitution of Nepal has clearly spelled out disaster management functions to be operated in three levels of government structure.

Moreover, disaster risk reduction began to receive more attention from Government side since the 10th Five Year Plan (2002-2007) and the subsequent periodic plans. Furthermore, in alignment with Nepal's commitment to the HFA, the Government of Nepal approved the National Strategy for Disaster Risk Management in 2009.
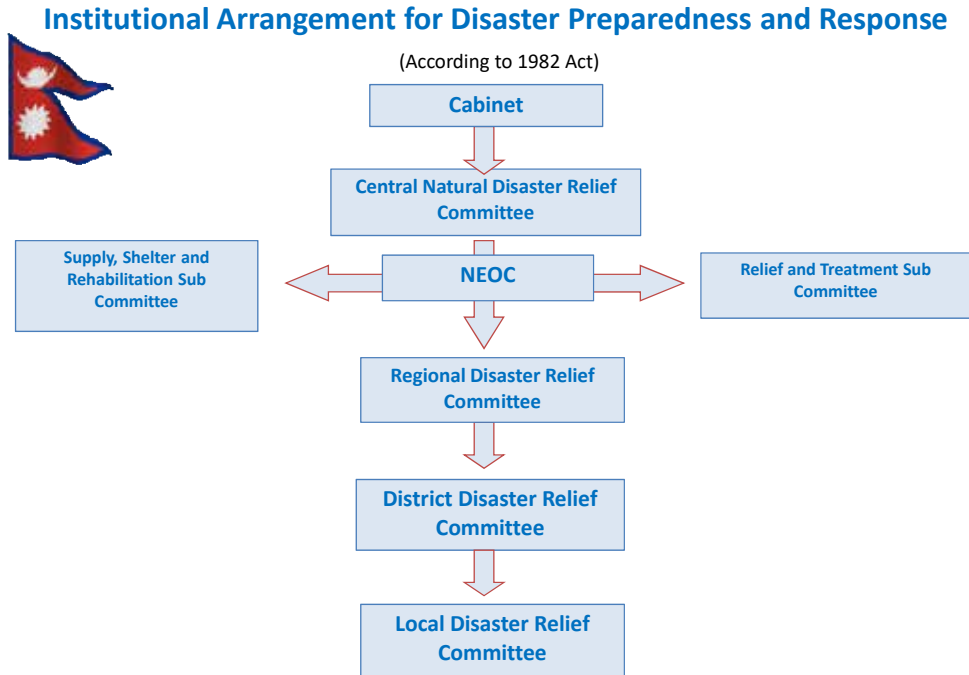
This Strategy outlines 29 priority activities for risk reduction and mitigation. Box 1 presents major policy frameworks on matter of DRM in Nepal.

Box 1: Existing Legal and Policy Framework on DRM

- Constitution of Nepal
- Natural Calamity (Relief) Act, 1982
- Local Self Governance Act, 1999
- Government Work Division Regulation
- Prime Minister Natural Disaster Relief Fund Regulation
- Rescue and Relief Standards, 2007
- National Strategy on Disaster Risk Management, 2009
- National Disaster Response Framework, 2013
- Guidance Note on Disaster Preparedness and Response Planning, 2011
- National Strategic Action Plan for Search and Rescue, 2014
- District Disaster Preparedness and Response Plans
- National Land Use Policy, 2069
- Local Disaster Risk Management Planning Guidelines (Local Disaster Risk Management Plans and Community Disaster Risk Management Plans)
- Standard Operating Procedure for National Emergency Operation Centre
- Common Assessment Guidelines,
- Sector Specific Policies and Plans
- Disaster Relief Funds at Central, Districts and Local level
- Dead Body Management Guidelines
- Wildfire Management Strategy, 2067
- Fire brigade Operation and Management Working Procedure, 2067
- Guidelines on Emergency Preparedness and Disaster Management for Hospitals, 2002
- Hospital Preparedness for Emergency Plan (HOPE)

Recently, Government of Nepal has also initiated a process to enact a new comprehensive and forward looking Disaster Management Act for an effective DRM effort which would prioritize DRM across different levels of government, with a proposed Disaster Management Council chaired by the Prime Minister. Under it, there would be a National Disaster Management Centre as a dedicated institution. After the endorsement of the Disaster Management legislation, it is hoped that, a National Council for Disaster Management chaired by the Prime Minister will be fully functional.

Figure 2: Existing Institutional Arrangement for Disaster Preparedness and Response

Institutional Arrangement for Disaster Preparedness and Response

(According to 1982 Act)

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                          Cabinet
                             │
                             ▼
              Central Natural Disaster Relief
                       Committee
                             │
                             ▼
  Supply, Shelter and    ◄── NEOC ──►   Relief and Treatment Sub
   Rehabilitation Sub                        Committee
      Committee              │
                             ▼
               Regional Disaster Relief
                      Committee
                             │
                             ▼
                District Disaster Relief
                      Committee
                             │
                             ▼
                 Local Disaster Relief
                      Committee
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Furthermore, there is a high level Climate Change Council under the chairmanship of the Prime Minister already in place. The establishment and institutionalization of an authentic and open DRM System, GIS based Disaster Information Management System will be strengthened. Collected information through this system will inform decision-making for risk reduction and preparedness in a more effective manner.

Figure 3: Existing Emergency Response Mechanism

Emergency Response Mechanism

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UN Resident /        ◄── International Appeal ──  GON Declares Disaster
Humanitarian Coordinator                              (area, time)
      │                                                    ▲
      ▼                                                    │
UNDAC / USAR                                        CNDRC meeting held
   Teams                                                   ▲
      ▲                                                    │
      ▼     ◄──►  Government Line  ◄──►                     │
 Clusters          Agencies                         MoHA, / NEOC
 Activated                                                 ▲
                                                           │
 INGOs & others                                    Situation Analysis
                                                      (CDO, DDRC)
              Disaster        ◄──►                  (Search, Rescue,
                                                    Immediate Relief)
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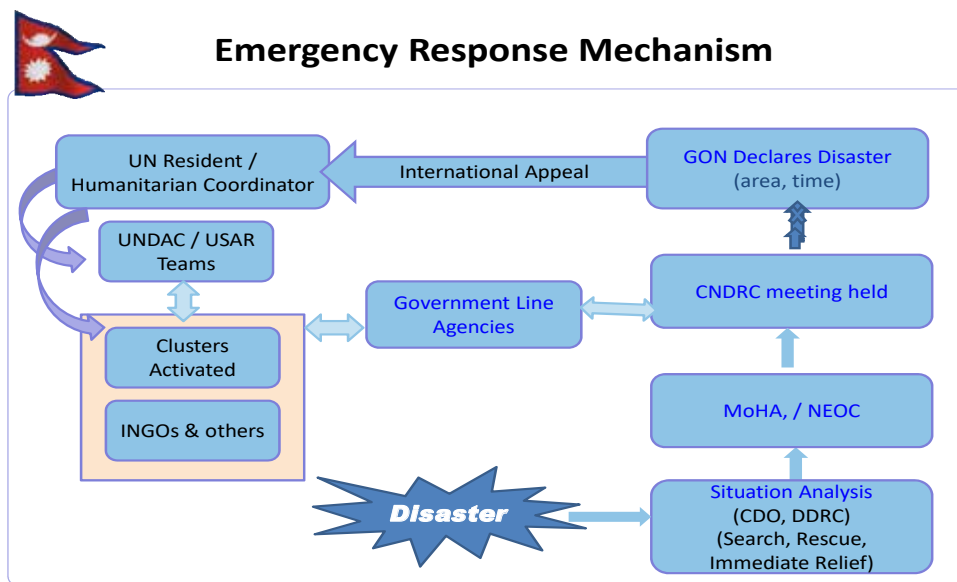
Finally, in order to strengthen cross-sectoral planning and coordination in the field DRR, DRR and CRM focal points have been established in key ministries and agencies. These focal points work in a harmonized manner to ensure that risk reduction is mainstreamed within their respective ministries.

4. GLOBAL COMMITMENTS

Government of Nepal has been participating in all world conferences on disaster management (Yokohama, 1994; Hyogo 2005; and Sendai 2015), global platforms which occurs in two year intervals from 2007 onwards, and in the Ministerial Conferences on Disaster Risk Reduction in Asia. Moreover, Nepal is one of the signatories to these world conferences and has expressed commitment to fulfill its obligations and priority action within the given time frame.

Yokohama, Japan (1994): The first world conference on disaster management was held in Yokohama, Japan in 1994 where Nepal participated and presented a national action plan on disaster management. Government of Nepal had prepared "National Action Plan on Disaster Management in 1996" incorporating all disaster management cycle and the Yokohama Strategy.

Hyogo, Japan (2005 - 2015): The second world conference on disaster reduction was held in Kobe, Hyogo, Japan in 2005 and Nepal participated and endorsed the goals and priorities for action between 2005 and 2015. Integration of DRR into sustainable development, develop and strengthen institutions to build resilience to hazards and emergency preparedness, response and recovery programs were the major goals of HFA.

Sendai, Japan (2015 - 2030): The Sendai Framework for Disaster Risk Reduction (SFDRR) 2015-2030 was adopted in Sendai, Japan, on March 18, 2015. The expected outcome of SFDRR is the substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries.

Similarly the goal of SFDRR is to *"prevent new and reduce existing disaster risk through the implementation of integrated and inclusive economic, structural, legal, social, health, cultural, educational, environmental, technological, political and institutional measures that prevent and reduce hazard exposure and vulnerability to disaster, increase preparedness for response and recovery, and thus strengthen resilience."* Likewise the global targets of SFDRR are given in table 3 as follows.

Table 3: Seven Global Targets of SFDRR

Target 1	*Substantially reduce global disaster mortality by 2030, aiming to lower average per 100,000 global mortality between 2020-2030 compared to 2005-2015,*
Target 2	*Substantially reduce the number of affected people globally by 2030, aiming to lower the average global figure per 100,000 between 2020-2030 compared to 2005-2015,*
Target 3	*Reduce direct disaster economic loss in relation to global gross domestic product (GDP) by 2030,*
Target 4	*Substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, including through developing their resilience by 2030,*
Target 5	*Substantially increase the number of countries with national and local disaster risk reduction strategies by 2020,*
Target 6	*Substantially enhance international cooperation to developing countries through adequate and sustainable support to complement their national actions for implementation of this framework by 2030,*
Target 7	*Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to people by 2030.*

The SFDRR has four priorities as given below in the box 2 and is expected that these priorities for action will be achieved by all nations globally by 2030.

Box 2: Four priority areas of SFDRR

Priority 1: Understanding disaster risk;
Priority 2: Strengthening disaster risk governance to manage disaster risk;
Priority 3: Investing in disaster risk reduction for resilience; and
Priority 4: Enhancing disaster preparedness for effective response and to "Build Back Better" in recovery, rehabilitation and reconstruction.

Nepal being an UN member state and signatory to the global and regional commitments is entitled to fulfill its obligations related to disaster management. Nepal is trying its best with its limited trained human resources and financial resources to achieve all the priorities for action by 2030. However, Nepal needs further technical support and guidance from development partners and friendly nations.

5. ACHIEVEMENTS/PROGRESS

Nepal has achieved notable progress in Disaster Risk Management (DRM)/Climate Risk Management (CRM) during the last few decades. A number of legal, institutional and policy frameworks are already in place. The New Constitution of Nepal has made provisions of disaster management in different levels of governments (Concurrent functions of Federal and Province, Concurrent functions of Federal, Province and Local, and exclusive function of Local Government). With the provision of Natural Calamity (Relief) Act, 1982, there are CNDRC, RNDRCs and DDRCs have been established and properly function in disaster preparedness and response adopting various policies, guidelines and standard operating procedures. Similarly, The Prime Minister's Natural Disaster Relief Fund, and other operational level funds have been created.

All concerned government agencies have assigned one senior officer as the Disaster and Climate Change Focal Person, hence there is a good pool of human resources dedicated to DRM/CRM front and sharing and exchange of ideas has become much effective. Similarly, Government has given priority to streamline DRR into development planning process. In addition, community based disaster management activities in different disaster prone communities have been initiated and have proved to be instrumental for raising awareness and revitalizing self-help spirit at community level.

Government of Nepal has prepared and implemented a fifteen-year Sustainable Development Agenda of Nepal (2005-2030). Similarly, Government has incorporated disaster management subjects in school curricula since the mid 90s. Likewise, several academic and educational institutions have started various programs on disaster management. Now, majority of the schools have the school safety programs and School Disaster Management Plan in place. Similarly, hospital preparedness programs are also being implemented by the Government of Nepal in public and private sector.

National Emergency Operational Centre (NEOC) has been established and operationalized at national level and functioning smoothly. Likewise, there are more than four dozen Emergency Operation Centers (EOCs) at regional and district level. The NEOC and EOCs are functioning for collecting and coordinating disaster related information, response, immediate relief and humanitarian assistance. Similarly, basic level Early Warning System has been established in the five major river basins and linking with EOCs and communities.

83 open space spots have been identified within Kathmandu Valley for shelter in the event of major disasters and in few open spaces infrastructure development is under construction. Efforts are being made to ensure supply of safe drinking water, emergency kits, and shelter with warehouse capacity. Similarly, implementation of Nepal Building Code (NBC) has been made mandatory in all municipalities. Likewise, mason trainings on safe building construction practices as per the NBC are being organized by both government and no-government organizations.

Moreover, the establishment and institutionalization of an authentic and open DRM System, GIS based Disaster Information Management System (DIMS) have been initiated. The DRR portal has been operational for collection, analysis and dissemination of information. Furthermore, cluster approach has been institutionalized for effective implementation and better coordination in disaster risk management. There are 11 clusters in operation (namely, food security, health, nutrition, water and sanitation, education, protection, emergency shelter, logistics, emergency communication, and early recovery).

The Government has already initiated a process to operationalize the medium and light Search And Rescue (SAR) teams as well. Moreover, Get Airport Ready (GAR) is another significant activity, Nepal has initiated. Establishment of the Humanitarian Staging Area is one of the major activities under GAR initiative in Nepal. The establishment of the disaster preparedness networking was another milestone to foster coordination among disaster management related government and non-government agencies and serve as a bridge between them.

6. PROBLEMS AND CHALLENGES

Since the New Constitution was declared in September 2015, Nepal is passing through a transition of state restructuring from a unitary/centralized system of governance to a federal/decentralized one for which promulgation of new legislations form the core priorities of the government. The existing Natural Calamity (Relief) Act, 1982 which is predominantly response focused, needs substantive reform to suit to the new political context and realities and address the challenges of building resilience to disasters. In this context, the major challenges that Nepal faces are as follows:

1. Nepal's existing disaster management law and institutional arrangement within the law is response centric giving more attention to providing rescue and relief in the aftermath of a disaster. It does not clearly mention the disaster risk reduction and mitigation which is important for building resilience. With the current legal and institutional framework for disaster management in Nepal, the goal of building resilience may not be realized, and a need for a comprehensive disaster management legislation that encompasses the entire cycle of disaster management with appropriate institutional set up in the context of New Constitution of Nepal and SFDRR.
2. Despite on-going efforts on mainstreaming Disaster Risk Reduction into development planning, the process has faced several setbacks and challenges in lack of adequate technical skills and willingness for shift to a new way of development planning. Further, disjoint remains in approaches for integrating disaster risk reduction and climate adaptation into national planning.
3. As evident by Gorkha Earthquake of 2015, Nepal's capability to respond to

mega disaster is highly constrained by lack of high-tech equipments and capacities to run effective SAR and mobilizing medium and light SAR teams. It lacks capacities in mobilizing international humanitarian support at the time of mega disasters.

4. Nepal is still not capable of fully utilizing available expertise, experiences, research, and human resources available within the region to support its on-going efforts towards building a resilient nation.

5. Nepal can benefit from cross learning between the countries in the area of disaster information system management and information sharing, hazard and risk mapping and developing capacities for disaster informed planning. Therefore, trans-boundary cooperation should be established and strengthened which is still lacking in this region.

6. Nepal's disaster management information system is poorly developed. Disaster information so far remains scattered and not fully synchronized to national system, which constrain making timely analysis of loss and damage, and building scenarios for future impacts that could have helped in better planning for preparedness and response.

7. RECOMMENDATIONS

Despite of several challenges faced by the country, Nepal is striving hard to reduce disaster risk and improve its response mechanism. Based on the progress made over the years since the commencement of the IDNDR and HFA, and lessons learnt from past efforts of responding to disasters, Nepal is planning to formulate disaster risk management policy and strategic plan of action, amend existing legal framework that fully support engaging in reducing the disaster risks and preparing for effective response and recovery as guided by New Constitution and Sendai Framework on Disaster Risk Reduction.

1. Disaster Risk Reduction and Management Policy and Strategic Plan of Action in line with Sendai Framework on DRR are being worked out through a widely consultative process to realize the vision of making Nepal a disaster resilient nation. Nepal should strengthen disaster management governance system from central to local levels and initiate activities to better understand the disaster risk so as to contribute for sustainable development goals.

2. A risk management approach of development planning should be pursued at all levels and across the sectors to integrate principles and practice of Disaster Risk Reduction and Climate Change Adaptation into planning and budgeting followed by regular monitoring and evaluations.

3. With a priority to engage whole of the government into risk reduction agenda and learning from experiences of other countries, a new institutional set up for disaster risk management from national to sub-national level in line with new federal system of governance, should be worked out.

4. To achieve the goal of resilient Nepal, emphasis should be given on fostering partnership with non-state actors, private sector and international agencies

for resource mobilization and effective disaster risk reduction, preparedness and response.

5. Learning from Gorkha Earthquake of 2015, disaster preparedness for response and recovery activities should be strengthened at all levels through provisions of adequate logistics, capacities, guidelines and SOP, and establishment of medium and light SAR teams.

6. A network of emergency operation center and early warning system should be further developed and strengthened to support emergency response planning and coordination of humanitarian actions linked to recovery work that directly result into saving lives and building livelihoods.

7. A national level disaster management information system should be established by the government to produce authentic statistics on disaster loss and damage, analysis and trend, and report on anticipated disaster in order to guide priority setting for disaster management planning at national and sub-national levels and support in decision making.

8. Government should initiate a massive program on community based disaster management activities in all disaster prone areas (both urban and rural) of the country based on the experiences from 2015 earthquakes and ensure developing a mechanism to mobilize youth volunteers and self-help groups in a massive scale at the time of disasters.

9. Government is committed to develop a mechanism for cross-learning between countries about knowledge, research and experience relevant to disaster risk management and enhance trans-boundary cooperation creating platforms for disaster information sharing between Nepal and neighboring countries.

Provision and Programme: National Reconstruction Authority

Mr. Ram Prasad Thapaliya
Joint Secretary
National Reconstruction Authority

1. BACKGROUND

The earthquake of 25 April 2015 and aftershocks thereafter caused the loss of close to about 9000 lives, and damaged (fully or partially) over 800,000 houses. The earthquake had also injured over 22,000 people. The government has assessed the reconstruction and resettlement to cost about Rs. 900 billion (US$9 billion)[1]. The destruction was widespread covering residential and government buildings, heritage sites, schools and health posts, rural roads, bridges, water supply systems, agricultural land, trekking routes, hydropower plants and sports facilities. The earthquake had damaged nearly 7000 schools and that caused classes to be temporarily suspended for about a month.[2]

The Government declared 14 out of Nepal 31 districts as crisis-hit and another 17 as badly affected. It was the worst calamity faced by the country in over 80 years. And no wonder it undermined the hard-earned development achievements, including the results of its poverty reduction efforts and steps it had begun towards attaining the Millennium Development Goals (MDGs).

1.1 Relief and rescue

The Ministry of Home Affairs (MoHA) led the relief and rescue effort coordinated by the Central Disaster Relief Committee. It had mobilized the District Disaster Relief Committees (DDRCs) to coordinate the relief and rescue effort. The Government of Nepal (GoN) had mobilized 22,500 civil servants, 65069 soldiers from the Nepal Army, 41,766 police, and 24,775 Armed Police personnel and 4000 health workers for the Search and Rescue Efforts.[3] The relief and rescue efforts had brought all Nepalis across the political spectrum and the class-caste divides together to support and help each other to recover from the massive losses that were caused. This effort was supported by about 134 international search & rescue teams from 34 countries, similarly over 60 countries and different

[1] http://nra.gov.np/uploads/docs/ctQFbclKaF161229054220.pdf (viewed on 15.01.2017)
[2] Government of Nepal, NPC. (2015) Post Disaster Needs Assessment: Executive Summary. pp. 5 Downloaded from: http://icnr2015.mof.gov.np/uploaded//PDNA_Executive_Summary_new.pdf
[3] http://icnr2015.mof.gov.np/category/earthquake_2015/response

United Nations and other international agencies provided the emergency relief and humanitarian assistance during the period.[4]

During this period Government officials and local political representatives visited the villages and prepared lists of families affected by the earthquake, and also provided them immediate relief support. As initial efforts to identity the victims that would need support for reconstruction the Government also issued color-coded cards identifying the extent of damage suffered. Thereafter the Government carried out a rapid Post Disaster Needs Assessment in collaboration with Nepal-based international donors and development organizations to estimate the reconstruction needs that was presented in the International Conference on Nepal's Reconstruction (ICNR) on 25 June 2015.

1.2 International Conference of Nepal's Reconstruction

The main purpose of the International Conference on Nepal's Reconstruction (ICNR) was to appraise and inform donors about the damages caused by the earthquake and to mobilize international support for reconstruction. The Government also enacted an ordinance on the formation of the NRA and appointed the Vice Chairman of the National Planning Commission also as the CEO of the authority.

The ICNR had the following objectives:

- "Appraise friendly countries and development partners of the socio-economic situation in Nepal in the aftermath of the massive earthquake and share international best practices and experiences on institutional arrangements that lead to effective, transparent and accountable execution of reconstruction programs.
- "Disseminate the findings of the Post Disaster Needs Assessment (PDNA).
- "Update the Government's policies and institutional mechanism for post earthquake reconstruction and new construction
- "Seek technical and financial support for reconstruction and rally the support and solidarity of all friends and partners for a resilient recovery of Nepal and its people."[5]

1.3 Promulgation of the Constitution

The Parliament promulgated the Constitution in September 2015. The debates on the constitution and promulgation were met with protests by different groups seeking greater representation in the process, and also for pressing specific demands for inclusion. The failure of parliament in accommodating all the demands led to widespread protests along Nepal's southern borders with India resulting in disruption of supplies of petroleum products and other supplies for

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[4]   Government of Nepal, NPC. (2015) Post Disaster Needs Assessment: Executive Summary. pp. 5-6

[5]   http://icnr2015.mof.gov.np/page/about_conference (viewed on: 15-01-2017)

almost six months. While the reduced supplies and acute fuel shortages brought hardships to all citizens it also severely affected the ability of the GoN and other development partners to provide support to over half million families that had lost their homes in the April-May earthquakes. Furthermore, it is believed that the earthquake brought all main political parties together in the Constitutional Assembly for the promulgation of the Constitution of Nepal 2015, shortening the transitions and expedite the reconstruction, recovery and rehabilitations for the earthquake victims.

2. NATIONAL RECONSTRUCTION AUTHORITY

A change in government leadership in early October 2015, continued protests in the plains districts, and the delay in obtaining parliamentary approval for the ordinance on the formation of the NRA caused the ordinance to lapse. This ended the tenure of the CEO of the NRA. The Authority was formed again after parliament enacted the new reconstruction act in December. The government appointed the CEO on 25 December. The Government approved the Reconstruction Policy in 2016, and several guidelines for distributing housing grants after which the NRA began enrolling people for the grants. The first enrollments began in March 2016 and by December 2016, the government had distributed the first tranche of three-phased support to more than 450,000 household in 14 districts that had been declared crisis-hit after the earthquake.

Another change in government leadership took place in August 2016 and on 11 January 2016 the Government replaced Sushil Gyewali, Chief Executive Officer of the NRA since December 2015, and appointed Dr. Govinda Pokhrel, former Vice Chairperson of NPC, to lead the reconstruction effort. Without considering the competency, capacity, role and responsibility of the executive members (four executive members represented in the executive committees from different political parties). The Reconstruction Act created envisages the NRA to be a coordinating body to lead and oversee reconstruction for a period of five years.[6]

2.1 Policy and decision-making structures

The NRA is composed of several policy and decision-making structures that are briefly discussed below.[7]

National Advisory Council: A Reconstruction Advisory Council chaired by the Prime Minister and comprising of a broad membership including the leader of the Main Opposition Party or his/her representative, heads of political parties, former prime ministers, 14 members of Parliament nominated by the Council

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[6] The government that had appointed Mr. Gyewali had been replaced by a new coalition government headed by Pushpa Kamal Dahal as prime minister in early August 2016. Newspapers had begun to speculate about a chan ge in leadership at NRA after the new government took office.

[7] The contents in this section has been adapted from An Act made for Reconstruction of Earthquake Affected Structures (available at: http://nra.gov.np/uploads/docs/KLLxUdXGrx160424102850.pdf: and other policy documents that are available at the NRA Web site (nra.gov.np)

to represent the districts that suffered damages in the earthquakes, senior government officials, heads of security agencies, among others, as members. The Advisory Council meets at least once every six months and provides overall guidance to the NRA.

Steering Committee: The NRA Steering Committee is chaired by the Prime Minister and includes the leader of the Main Opposition Party in Parliament or his/ her representative, and has a similar but smaller representation as the Advisory Council. The Steering Committee meets as required to approve policies, budget and guidelines recommended by the NRA Executive Committee.

Executive Committee: The NRA has a seven-person Executive Committee headed by the Chief

Executive Officer and includes four expert members and a secretary from the Office of the Prime Minister and Council of Ministers. The Secretary at the NRA is member-secretary of the Executive Committee. The NRA has a central secretariat in Singhadurbar, Kathmandu, and had six regional offices that are now being replaced by district offices to severely affected 14 districts.

The NRA draws on human resources from sources within and outside the government. It reviews and recommends financial support to other ministries and departments of government undertaking recovery and reconstruction activities, approves reconstruction related projects of international non-governmental organizations, and coordinates with international donor partners to ensure efficient and effective mobilization and use of external resources. It also provides overall strategic guidance to identify and address to the priorities for recovery and reconstruction, taking into account both urgent needs, as well as those of a medium- to long-term nature. Actual reconstruction work is carried out through existing GoN institutions and mechanisms through special Project Implementation Units (PIU) in the center and the districts. There are four Central Project Implementation Units overseeing grant distribution at the Ministry of Federal Affairs and Local Development (MoFALD), Ministry of Education (MoE), Ministry of Culture, Tourism and Civil Aviation (MoTCA), and the Ministry of Urban Development (MoUD).

The CI-PIU at the MoUD leads the reconstruction of individual households, government buildings, urban and rural settlements, and health infrastructures. Similarly, that for rebuilding damaged heritage sites is based at the MoCTCA; that for rebuilding damaged school buildings at the MoE and the CL-PIU for building damaged infrastructures of local government bodies is based at the Ministry of Federal Affairs and Local Development (MoFALD). The MoFALD also distributes grants for building houses to eligible families and the CL-PIU at the Ministry of Urban Development provides technical support for the purpose. Furthermore, in other ministries the planning division of the concerned ministries included in the PDRF are responsible for the NRA activities.

There are 14 District Coordination Secretariat led by Under- Secretary level staff to backup the District Coordination Committee headed by Members of Parliament who take turns to chair the committee. The District Administration Officer (DAO/CDO) and the Local Development Officer (LDO) are also members of this committee whose main responsibility is to monitor and supervise reconstruction work and also make recommendations to higher authority.

2.2 Vision and objectives

Vision: The vision for reconstruction of the NRA is the 'establishment of well-planned, resilient settlements and a prosperous society.'

The objectives of the NRA are elaborated in the Reconstruction Policy 2015. Accordingly, its objectives are to support (1) reconstruction, retrofitting and restoring residential, community and government buildings, and heritage sites, to make them disaster-resistant, (2) To rebuild damaged cities and ancient villages to their original form, while improving the resilience of the structures, (3) To build resilience among people and communities at risk in the earthquake-affected districts, (4) To build resilience among people and communities at risk in the earthquake-affected districts, (5) To develop new opportunities by revitalizing the productive sector for economic opportunities and livelihoods, (6) to generate knowledge on earthquakes and their impacts, and post-earthquake recovery, including reconstruction, resettlement, rehabilitation and disaster risk reduction; and (7) To resettle the affected communities by identifying appropriate sites.[8]

2.3 Post Disaster Recovery Framework (PDRF)

In May 2016 the NRA prepared a Post Disaster Reconstruction Framework (PDRF) that is an attempt to translate the policy goals into five strategic objectives. These strategic objectives are:

1. Safe structures: Restore and improve disaster resilient housing, government buildings and cultural heritage, in rural areas and cities
2. Social cohesion: Strengthen the capacity of people and communities to reduce their risk and vulnerability, and to enhance social cohesion
3. Access to services: Restore and improve access to services, and improve environmental resilience
4. Livelihood support: Develop and restore economic opportunities and livelihoods and reestablish productive sectors
5. Capacity building: Strengthen capacity and effectiveness of the state to respond to the people's needs and to effectively recover from future disasters.[9]

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8   GoN. NRA (May 2016). Nepal Earthquake 2016: Post Disaster Recovery Framework 2016-2020. pp 5
9   For details see: GoN. NRA (May 2016). Nepal Earthquake 2016: Post Disaster Recovery Framework 2016-2020.

3. NRA ACHIEVEMENTS (DECEMBER 2016)

It December 2016, there were 15 policies, guidelines, frameworks and strategies guiding the activities reconstruction activities. These included the (1) policy on reconstruction and resettlement, (2) regulations on reconstruction and resentment, (3) guidelines on private housing grants, (4) guidelines on environmental impact assessment, (5) guidelines on obtaining land, (6) guidelines on public procurement, (7) guidelines on mobilizing non-governmental organizations, (8) the Post Disaster Recovery Framework, (9) guidelines on handling grievances, (10) guidelines on training, (11) guidelines on the operation of the Reconstruction Fund, (12)   guidelines of community reconstruction committees, (13) guidelines on technical inspections of private homes, (14) training strategy, and (15) school reconstruction guidelines. These documents specify the process and standards for operation.

In December 2016 NRA had completed household surveys (required for qualifying for housing grants) of 715, 319 households in 11 districts that were most affected by the earthquake and 108,806 households in the three districts in Kathmandu Valley. It had listed 531,964 households as eligible for grants in the districts, and another 94,072 eligible households in Kathmandu Valley. It had completed housing grant agreements with 476,103 households in the districts and 66,074 households in Kathmandu Valley. The total number of households that had obtained the first tranche of the housing grant was 452,490.[10]

The NRA's operations include providing budget authorizations (spending authority) to different ministries engaged in reconstruction work, in addition to continuously reviewing and updating policies to facilitate reconstruction and resettlement. The next step would be complete compiling lists of households eligible for receiving housing grants in the 17 districts that had been partially affected by the earthquake and also making provisions to provide retrofitting support to qualifying households. Donor coordination and fund raising for reconstruction remains an on going activity because of the gap that exists between resources that are available (committed and received) and that needed to bridge the gap arising from the government's decision to raise the housing grants from Rs. 200,000 to Rs. 300,000. The following table describes about the works of NRA accomplishment in one year of its establishment.

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[10]   For details see: http://nra.gov.np/uploads/docs/ctQFbclKaF161229054220.pdf (viewed on 16-1-2017)

Progress Report of National Reconstruction Authority

| Private Housing			
	Outside Kathmandu Valley (11 districts)	In Kathmandu Valley	
Household Survey	715,319	108,806	
Eligible beneficiary	531,964	94,072	
Housing grant agreements accomplished	476,103	66,074	
First tranche of instalment	452,490		
Reconstruction of Private Houses	Under construction	Constructed houses	Integrated settlement
	17,099	41,311	1
Semi-permanent houses (temporary settlement)	Ministry of Urban Development	Nepal Army	
	50	36	
Endangered settlement	Research completed	Proposed for resettlement	Under study
	117	56	358
Public Building Reconstruction			
Health Institution	Constructed in pre-fabricated design	Under construction in pre-fabricated design	
	200	169	
Educational Institution	Reconstructed	Reconstruction process	
	200	1200	
Government buildings	Constructed in pre-fabricated design	Under construction in pre-fabricated design	
	32	228	
Heritage Sites	Completed Construction	Under construction	
	15	69	
Budget			
Fiscal year 2072/73	NRs. 22.47 billion	(Includes the amount that is not freezed)	
Fiscal year 2073/74	NRs. 138 billion		
Expendixture in first quarter of FY 2073/74	NRs. 21 billion		
International Budgetry support in Reconstruction	Support pledged in ICNR	Actual pledged amount (apart from regular budget)	MOU signed with international community
	NRs 410 billion	NRs. 343 billion	NRs 278 billion
Infrastructure Reconstruction			
Drinking Water Facility	Project completed	Projected commenced	
	297	961	
Road	Local Road under construction		
	313 Km		
Grievance Addressal	Grievance registered	Received at NRA office	Redressed (As of 12th January, 2017)
	202,170	107,000	76,079
Human Resource	Involved in reconstruction	Mason trained	
	3,453	19,000	

3.1 Donor coordination

Towards donor coordination and fundraising NRA has formed the Development Assistance Coordination and Facilitation Committee (DACFC) as envisaged in the NRA Act that held its first meeting on 28 October and reviewed the structure and membership of the consultation platform. This committee meets once every two months. This committee has representation from the Government of India and China, the World Bank, Asian Development Bank, the International Development Partners Group (IDPG), Association of International NGOs, NGO Federation, Federation of Nepalese Chamber of Commerce and Industry, and invitees from other government agencies such as the Ministry of Finance, National Planning Commission and Financial Comptroller General's Office (FCGO).

3.2 Institutional reforms

Alongside reconstruction and resettlement initiatives the NRA has also undertaken institutional reforms. It was originally envisaged to have a staff body of 208 personnel, including regional offices headed by Joint Secretaries. It has not decided to have district offices and a staff body of 140. The new institutional arrangements have also clarified the roles and responsibilities of executive committee members and heads of divisions.[11]

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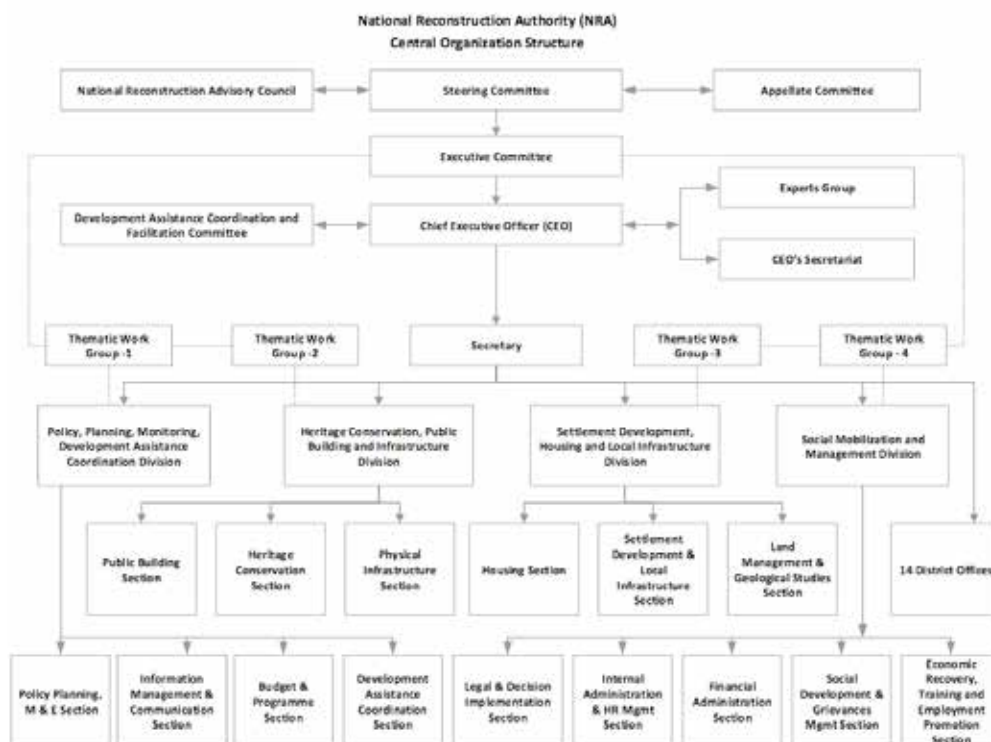
[11]   NRA Rebuilding Nepal Newsletter, Oct 2016- Jan 2017

4. EMERGING ISSUES

After its one-year completion new emerging issues are in place. Some of them are as follows:

4.1 Mobilization of Reconstruction Funds: As per the Reconstruction Act there is the provision of Reconstruction Fund for the flexible spending. Reconstruction Fund can obtain the fund from various sources. Last year it got NRs. 28 billion from its un-spending budget.

NRA Executive Committee recommended its plans and activities utilizing the reconstruction fund to the Steering Committee headed by the Prime Minister. The Steering Committee decided the proposal as requested. After the approval of the plan of actions NRA asked for the release of the budget to the Ministry of Finance mentioning the decision of the Steering Committee. The Ministry of Finance did not respond to the request for the period of one month and gave the decision to utilize all the funds only in housing grant, which undermines the decisions taken by the Steering Committee. This resulted to affect most of the action plans passed by the Steering Committee.

4.2 Flexibility in identifying the beneficiaries: On September 26 the NRA Steering Committee decided to expand the housing grants to include three categories (1) new constructions, (2) repair and maintenance (and retrofitting), (3) houses built already but those that have met building standards. It also increased the volume of the grant from Rs. 200,000- Rs.300,000 to be provided in three tranches. Those eligible for retrofitting and repair and maintenance will receive Rs.100,000 in two tranches.

4.3 Time Flexibility: Until today there is no time limits for the grant agreement as well as the grievance registrations. This will affect the housing construction on time.

4.4 Reconstruction Act gave legality, legitimacy but no ownership. NRA with the consultation of the concerned stakeholders formulated more than 16 directives, guidelines to expedite the reconstruction activities. It is done as per the mandate of the Act but most of the guidelines are still waiting for the proper implementation through the concerned stakeholders.

4.5 Funding gap: The increasement of the housing grant have increased the budget and the overall reconstruction cost from NRs 838 billion that was in the PDRF to NRs. 918 billion, leaving a financing gap of almost Rs. 600 billion. (USD6 billion). The costs could increase further following the completion of assessments and surveys of remaining 17 districts and 358 settlements and 56 settlements have been recommended for resettlement to Ministry of Urban Development.

4.1 Challenges

In addition to bridging the financing gap other challenges facing the NRA include human resources management, and coordination among government agencies involved in implementing the reconstruction and resettlement activities. NRA was short-staffed from the very beginning as government employees shunned postings there and even those that have served there have moved out at every opportunity that came their way. The NRA has had two secretaries since its formation and the many joint secretaries posted there have moved on to other postings. The mobilization of engineers to support housing construction in the villages has also been a major challenge because even though the government hired 2600 engineers through the MoUD, keeping them in the villages has remained a challenge particularly because of delays in incentivizing their work. Lack for adequate incentives for undertaking reconstruction related activities that is different from regular government jobs is also a reason that has caused most government staffs to avoid NRA postings.

The other reason why staff retention at NRA is the political influences at the organization – both formal through the established policy and decision-making structures and informal influences through the Executive Members to exert on the organization. The multi-tiered decision making structure as provided in law has caused delays in decisions, and hence on reconstruction, and the absence of elected local bodies has meant little or no grassroots pressure on the top political leadership to expedite decision making and reconstruction activities. The top-heavy structure and the reduced roles of the DAO/CDO and the LDOs in the districts and absence of local bodies have made it very difficult to give direction and momentum to reconstruction.

5. WAY FORWARD

NRA is established by the special Act to fill the gap of the fully autonomous agency for only five years with the sunset law. If we go through the Reconstruction Act it is fully empowered and established as the 'super ministry' to coordinate all the reconstruction, rehabilitation and livelihood activities through the government ministries or itself. From the very beginning it chose the first option to getting things done through other government entities. The first attempt to the change the structures is incomplete. While doing the structural reform its top heavy leadership mechanism need to be reconsidered.

There are no roles and functions of the Executive Members in the Act so their presence in day to day implementations the roles that they have been doing now needs to be emphasized in policy making and monitoring.

Budget authorization to the CLPIU chief as a departmental head is the news experience in Nepal, it is believed that the short cut route though the CLPIU

chief is not as good as expected in the front of coordination. So, it is suggested that the authorization need to go through the Secretary, making him the Chief accounting officer.

Selection of the project in the line ministries are time taking activities, concerned ministries are fully responsible to recommend the projects for the NRA funding. NRA is waiting project list from the ministries to release the money but it is not happening as expectation of the NRA.

Field level activities are very crucial to NRA for the delivery of its decisions to make it fully functional District Coordination Secretariat must be led by the Chief District Officer rather than the Member of the Parliament in the Act.

Challenges of Urban Ddisaster Risks Reduction in Nepal

Mr. Gopi Krishna Khanal
Joint Secretary, MoFALD

ABSTRACT

This descriptive paper discusses about the challenges and prospects of resilient urban development in Nepal. Nepal is one the of the most disaster prone countries in the world. Given the level of urbanization and suburbanization and level of disaster related incidences occurring in the country, Nepal's development must follow the path of resilient urban development. The current initiatives taken by government are encouraging but not sufficient. A resilient urban development strategy is necessary to guide such course of development. Resilient urban development, however, is not without cost. Government needs to research for a sustainable financing blending private and public financing to meet the expenditure for resilient urban development. A multi-prong approach is required to meet such investment. Public investment alone is not sufficient to address these issues.

Key Words: *Municipal Finance Urban Development, Resilience*

INTRODUCTION

In recent years, the level of urbanization is increasing in Nepal though the country is one of the least urbanized countries of Asia (Ministry of Urban Development, 2015). Currently, 43.5 percent of the population resides in designated 217 municipalities. Since Declaration of municipalities is the political process, there is an intellectual debate about the true urban characteristics of all these municipalities. With the pace of urbanization, there is growing needs of investment that foster resilience in every aspect of urban development.

Urbanization has become the global phenomenon as many countries across the world have become more urbanized than before. At present 54 % of world population lives in urban area. Cities are accountable for 80 % of global GDP (UNHCR, 2016). In Asia, about 53 of the population lives in urban areas. With the urbanization, the world is facing several development challenges ranging from

pollution to urban poverty. For instance, in 2014, 30 % of urban population of developing countries resided in slum. But urban areas are accountable for 70 % of global carbon emission.

Like elsewhere Nepal's journey to urbanization and sub-urbanization remains challenging in Nepal. One of the big challenges is to institutionalize the resilient urban development through resilient urban committees. Urban poverty has been the biggest threat to resilient urban development. As per the 2010/011 Nepal Living Standard Survey, about 15 % of urban population is living below poverty line. There are high differences among the cities on urban poverty. Urban areas face tremendous challenges to manage informal settlement and to control encroachment of public land due to squatter settlement. It is estimated that squatters consist of 10 % of urban population in Nepal (MoUD, 2015). Riverside squatters have posed serious problems on managing the open space in Kathmandu Valley.

Related to informal settlement, another major issue of resilient urban committees is to manage and increase the open space in urban areas. Due to encroachment of public land and due to distribution of public land to informal settlers with political motivation, open space has been squeezed substantially in recent years. The proportion of open space is only 0 .48 % in Kathmandu and 0.06 % in Lalitpur (MoUD, 2015).

URBAN FINANCING IN NEPAL

Urban financing is all about the revenue and expenditure decisions in urban areas. Municipalities, the designated urban areas in Nepal, meet their capital expenditures from block grant, conditional grant, local borrowing, project financing, public private partnership, community participation, occasional off budget provided by government, private financing, donor fund, and local own source revenues. Municipal finance in Nepal is both subject to vertical and horizontal fiscal gaps. Most of the municipalities in Nepal depend on fiscal transfers to meet capital expenditures resulting in higher level of vertical fiscal imbalance.

Vertical fiscal imbalance has been the critical issues of municipal finance globally as the fiscal transfers are the dominant features of intergovernmental fiscal system across the world (Shah, 2007). One of the measures of municipal fiscal capacity is the ability of municipalities to raise revenues from own-source revenues (Muwonge and Ebel, 2014). Municipal own-source revenues account for only one percent of national revenue in Nepal (Local Bodies Fiscal Commission Secretariat , 2015). Municipalities in Nepal also meet their capital expenditures from local borrowing. Though they have limited borrowing options, they can borrow from Town Development Fund. Unlike in developed countries, Nepali municipalities do not have access to capital and financial market due to hard budget constraints. As soft budget constraints may invite macro economic risks, many countries in

developing worked has put several restrictions on local borrowing under hard budget constraints (Vigneault, 2007). The current constitution of Nepal has granted the borrowing powers to rural and urban municipalities as per provincial and federal laws (Government of Nepal, 2072).

Table 1

Structure of Municipal Own Source Revenues (In Rs 000)

Tax	Amount	%	Amount	%
	FY 2070/071		FY 2071/072	
IPT	212873	5.63	283615	6.8
Business tax	193182	5.11	130684	3.1
House and Land tax	716663	18.95	610411	14.7
User Fees	1263164	33.39	1507991	36.2
Revenue Sharing	271392	7.17	517502	12.4
Other	1125276	29.75	1114864	26.8
Total	3782550	100	4165067	100

Source: Local Bodies Fiscal Commission Secretariat, 2015

Unlike in other developing countries, Nepali municipalities have not ben able to mobilize private financing for development. Some municipalities have initiated public private partnership but they have not been fully realised. There is a challenge to build corporate governance within the private sectors on the one hand and some sort of bureaucratic and political resistance on the other. The current local guidelines on public private partnership provide limited options with rigid rules for public private partnership.

Table 2

High and low-income municipalities in Nepal (in Rs 000)

Municipalities	Amount	Municipalities	Amount
Kathmandu	1099879	Khadwari	7920
Bhaktapur	341578	Gaur	9138
Pokhara	310556	Kamalamai	9528
Biratnagar	206087	Siraha	10607
Lalitpur	178499	Bidur	10962
Bharatpur	147143	Bhimeshor	11202
Birgunj	145566	Malangwa	11352
Butwal	139762	Dhankuta	12008
Hetauda	121120	Amargadi	12306
Bhairhawa	105992	Narayan	12663

Source: Local Bodies Fiscal Commission Secretariat, 2015

The key resources for municipalities to meet their capital expenditures are the project financing and regular conditional grant from centre. For example, the Integrated Urban Development Project (IUDP) funded by Asian Development Bank, provides substantial financing in Dharan, Janakpur, Sidharthanagar, and Nepalgunj municipalities. Ministry of Federal Affairs and Local Development provides regular conditional grants to all 217 municipalities for a rang of infrastructure services. From FY 2016/17, Government of Nepal has allocated 10 million to each municipality for blacktopped road with disaster mitigation. Other important resources for urban development are the user contribution (Ministry of Federal; Affairs and Local Development [MoFALD], 2013). In solar street light municipalities were able to generate about 15 % cash contribution for a 1 billion street light programme for fiscal year 2015/016. In many infrastructure projects, people contribution been fixed at 20 percent in total project cost (MoFALD, 2013).

National Urban Development Strategy has estimated that there is an investment requirement of NRs 372 billion for urban development in old 58 municipalities. This is just the basic investment need for these municipalities. For FY 2015/016, municipalities receive around NRs 20.07 billion for infrastructure, which was equivalent to 1 % of GDP. This amount is significantly lower in comparison to the contribution of urban areas in national GDP.

PILLARS OF RESILIENT URBAN COMMITTEES

The term "resilience" emerged in ecology in 1970 and C. S Holling is given credit to promote and define its concept (Holling, 1973). He defined this terminology as "a measure of the persistence of systems and their ability to absorb change and disturbance and still maintain the same relationship between population or state variable" (p. 14). Resilience is the capacity to change for maintaining the same identity (Folke et al., 2010). For Walker & Salt (2006), resilience is the ability of the system to absorb disturbances and still retain its basic functions and structures. Folke (2006) has categorized the resilience into engineering resilience, ecological, and socio-economic resilience. Resilience is related to sustainable development- the development that meets the needs of present without compromising the needs of future generation. Resiliency, adaptability, and transformability are the related to each other. Resilience is the capacity of socio-economic system to change and adapt while remaining within the critical thresholds. Adaptability is the internal process that provides stability. Adaptability is the part of resilience. Transformability is the capacity to cross the existing boundary into the new landscapes for beneficial change.

Ministry of Federal Affairs and Local Development has prioritized the areas of urban development towards building the resilient urban committees. The first pillar of resilient urban development is the planned cities. A planned city h makes investment as per the letter and spirit of comprehensive town development plan that consists of risk-sensitive land use plan, environment management plan,

socio-economic development plan, infrastructures development plan, street mapping, house numbering, city centre plan, municipal transport master plan, city renovation plan, and so on. The Ministry is supporting to preparing the plan on the one hand financing to implement these plan. Ministry of Urban Development is also supporting to implement the concept of planned cities through a variety of infrastructure related projects.

Ministry of Federal Affairs and Local Development is working with different partners in the areas of community –based management. The Ministry and the partners have set the nine minimum characteristics of disaster-resilient committees in Nepal. These characteristics provide the broader guideline to work for disaster management in Nepal.

1. Organizational base at Village Development Committee (VDC) / ward and community level
2. Access to Disaster Risk Reduction (DRR) information
3. Multi-hazard risk and capacity assessments
4. Community preparedness / response teams
5. Disaster Risk Reduction / Management plan at Village Development Committee / municipality level
6. Disaster Risk Reduction (DRR) Funds
7. Access to community-managed resources
8. Local level risk / vulnerability reduction measures
9. Community based early warning systems

Green city is another campaign promoted by government. Government of Nepal is implementing environment friendly local governance framework in 54 municipalities of 12 districts. As of December 2016, 10 municipal wards and 2 wards of VDCs have been declared as environment-friendly wards. Many municipalities have been preparing to declare their wards as the environment friendly wards. Similarly, 18527 households have been declared as environment friendly household by fulfilling 16 basic household level environment indicators in the areas of drinking water, sanitation, urban greenery, household sanitation, and solid waste management. Some municipalities have substantially mobilized the Tole Lane Organizations for greening their cities. Bharatpur, Narayan, Chitrawan, Dharan and Byas municipalities are the movers and fasters in building green city. District Development Committees Chitwan has declared its office as environment friendly office by fulfilling all the indicators related to environment friendly office. Some municipalities have promoted the rainwater collection system in their areas. Environment Friendly

Table 3

Urban DRR in Environment Friendly Local Governance Framework

Basic Level EFLG Indicators	Advanced Level EFLG Indicators
A 24-hour operating fire brigade provisioned within the municipality. Local Disaster Management Committee formed at the municipal level Disaster Management Fund established at the municipal level At least one human resource capable of imparting training on the disaster management provisioned within the municipal area, Disaster areas, risk conditions and measures of risk mitigation included in the Periodic Plan and approved by the Municipal Council.	Compliance to the National Building Code while constructing buildings in municipal area decided by the municipal council 2. National Building Code implemented while constructing buildings Building construction criteria made and implemented National Building Code embedded in the local Map-passing criteria Government/public building map provisioned to be passed only if it is disable-friendly Public awareness programme related to earthquake risk reduction organized

Source: Environment Friendly Local Governance Framework, 2013

Safe city campaign across the country has helped municipalities to build the technical capacity of municipalities and to enforce national building codes. Government of Nepal has introduced building bylaws applicable to all municipalities making city safe and planned. There are minimum standards for rights of way, set back from road, height of the building, light system of the building and many others. The municipal road should have at least 6-meter width even in mountain areas. The ratio of land to building size should not exceed the threshold of 1.75. There are standards for housing and land development.
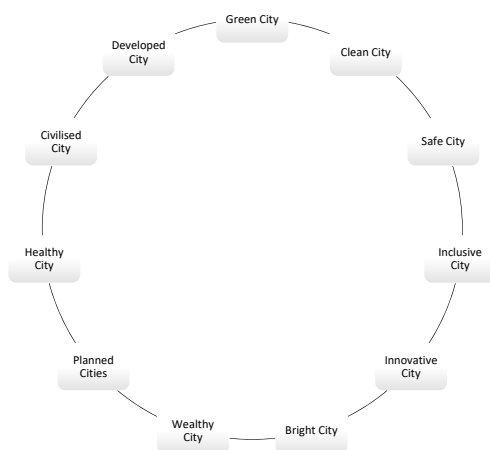
Figure 1: Pillars of Resilient Urban Development

Given the economic roles of municipalities, Government of Nepal is going to pilot the local economic development in 10 municipalities. The purpose of this new programme is to create jobs by establishing the entrepreneurial societies across the country. Local economic development consists of enterprise development programme, public private partnership, public private dialogue, and livelihood improvement programme. The goal of livelihood improvement programme is to support the municipalities in reducing urban poverty. The focus will be on targeted and disadvantaged groups. Enterprise development programme will help youth to start new enterprises that will provide jobs for them and for societies as well. The scheme of public private dialogue is aimed at creating a platform for private and public sectors in municipal areas that will create an enabling environment for investment in municipalities. Private and public sector will work together to create jobs of people. They will also establish necessary systems, mechanisms, and institutions to attract the potential investors in their area. In public private partnership, private sectors and public sectors will share the resources for new business that will help to achieve the economic growth.

Inclusive city is another dimension of resilient urban development. GoN has rolled out child friendly local governance framework to make city child friendly. Sunwal municipality has become the first child friendly municipality in Nepal by fulfilling required indicators for child friendly local governance. GoN is promoting gender equality and social inclusion in all municipalities. Local bodies in Nepal need to allocate at least 10 percent budget for children, 10 per cent for women, and 15 percent for socio-economically depraved groups. This provision has provided an open access to disadvantaged groups that benefit them. It has hoped to empower the   hundreds of thousands women and children across the country. The ward citizen forums (WCFs) and citizens awareness centres (CACs) have ensured the space for these groups to participate in local governance (MoFALD, 2014). An inclusive city respects human rights, fosters dignity and supports people to avoid absolute deprivation. It also builds an agency within the vulnerable to fight against the deprivation, destitution, and discrimination. A thriving city must be civilised and must be inclusive.

Making city bright is another dimension of resilient urban development. GoN is investing millions of rupees for solar streetlight to make city bright with solar light. Participatory solar street light programme has mobilized the people's participation and municipal finance in installing the solar streetlight across the country. Light in the city is one of the indicators of good city. There are direct linkages between city prosperity and city light as city light extends business and makes city prosperous. City light is good for productive movement and it provides safety to citizens mainly to women children. It also reduces the street crimes.

Clean city movement in Nepal has the mixed results. It has become successful in cities like Bharatpur, Hetauda, Byas, Dharan, Bokhara and many others. There is a challenge to do so Kathmandu valley. The scope of Solid Management and

Technical Centre is limited to technical assistance to municipalities. There is a weak enforcement of Solid Waste Management Act in Nepal due to absence of elected bodies. In recent years, there is growing trend of involvement of Tole Lance Organization in clean city movement. The Investment Promotion Board is examining an investment proposal on waste to energy. Despite huge potentials of energy from organic wastages, Nepal has not been able to utilize this resource. Some municipalities such Dhading and Dhulikhel have been able to generate own-source revenue from solid waste management. Many municipalities have not a dedicated landfill site to manage solid waste. Besides solid waste, municipalities are facing tremendous challenges to reduce the air pupation. Kathmandu valley has become one of most polluted cities in South Asia. In crowded cities, noise pollution has also become the daunting challenges. In cities noise level goes beyond the thresholds set by World Health Organization.

Modern city must be innovative and adaptive. In recent years, some municipalities have demonstrated innovation in service delivery and in the administration of municipal offices. Use of Information and communication technology has been common in many municipalities. Hetauda municipality has started the electronic token system in service delivery. Kirtipur muni capacity has initiated the e-building permission system for building permission. Nijgad has piloted the street mapping system in municipal area.

KEY CHALLENGES OF URBAN DISASTER RISK REDUCTION

The most daunting task ahead for resilient development is to enforce the building codes for safer housing. On 25 April 2015, the Gorkha earthquake of Mw 7.8 occurred at the boundary of Indian plate and Eurasian plate. In this devastating earthquake 8790 people were killed, 22300 people were injured, approximately 500,000 buildings are destroyed, and around 250,000 buildings were partially damaged. Many people died because of unsafe house. In the aftermath of disaster, GoN introduced new building bylaws for local bodies. Due to technical support and continuous follow-up from centre, municipalities, to a large extent, have been implementing it. However, DDCs could not enforce it in VDCs. Though the Government has decided to introduce the building codes and building bylaw in VDCs, these bodies do not technical capacity to do so. Equipping the VDCs with necessary technical staffs is critically important to introduce such systems in place. GoN needs to build the capacity of masons, local contractors, and local technical staffs in the areas of building codes.

The scattered settlements in Nepal have posed several threats to resilient development. Haphazard construction of buildings without soil test has created several obstacles for urban areas. GoN needs to invest for integrated settlement development, house pooling, and land pooling. For these new schemes, local governments should immediately initiate preparing the risk-sensitive land use

plan. Local governments in Nepal have the power to enforce land use plan. However, they have taken such bold steps due to absence of elected councils.

Fire management is another challenge in Nepal. With the expansion of new municipalities, GoN has invested substantial resources to equip municipalities with fire tricks. However, many municipalities still do not have fire trucks. Government needs to build the capacity of municipalities to enforce fire code and to manage fire trucks effectively. Existing fire trucks do not have capacity to control fire incidence in high-rise buildings. The staffs are not well trained and the fire units are subject poor logistics.

Ministry of Federal Affairs and Local Development is preparing national strategy for urban resilient committees. The primary aim of this strategy is to institutionalise the resilient urban development in Nepal. MoFALD will coordinate the stakeholders to implement this strategy in a consistent and coherent manner. This will be road map for community-based resilient urban development in Nepal. Mobilizing necessary resources for this forthcoming strategy will be a challenging task.

CONCLUSION

Nepal is disaster-prone country in much respect. Given the growing trend of urbanization undergoing in the country, the future of Nepal will be largely shaped by level of urban prosperity which will ultimately depends how Nepal can institutionalise the resilient urban development across the country. Building urban resilient committees demands huge investment. Mobilizing sustainable urban finance will be daunting task in the future. Given the huge level of vertical fiscal imbalance among the municipalities, GoN needs to focus on making fiscal transfers more productive on the one hand and increase the capacity of municipalities in generating own-source revenue on the other. The cities must be green, clean, rich, safe, bright, inclusive, planned, and innovative for resilient urban development.

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Governance Challenges in Disaster Risk Reduction in Nepal[1]

Mr. Basant Raj Gautam
Development Consultant

Paper outline

This social research paper is the outcomes of a series of studies and discussion done on current status on Disaster Risk Reduction related instrument (transparency and accountability), and gaps in prevailing policies, laws, plans etc. from implementation and compliance perspective. The paper offers key recommendations.

1 OVERVIEW

1.1 DRR and Governance in Nepal

Nepal Constitution aspires to attain sustainable peace, good governance, development and prosperity through the federal, democratic, republican, system of governance. The constitution has envisaged three levels of government: federal, provincial and local, and has defined their powers and authorities (Constitution of Nepal. Article- 56, 57). This is unique opportunity for Nepal to ushering into democratic governance - transforming the existing institutions in service-oriented administration. Nepal Constitution has ensured prosperity through system of democratic governance, the equal participation in the state structures on the principle of proportional inclusion and 'right to information'. The federal constitution has envisaged the local government structures that are going through a major restructuring. Local and other provincial as well as parliament elections are expected to be held accordingly.

The April 2015 Nepal earthquake killed nearly 9,000 people and injured more than 22,000. The number of totally damaged houses was more than Six hundred thousand and at least 498,852 private houses and 2,656 government buildings were destroyed. The productive sector occurred US$ 172 bill. Of losses that included agriculture sector losses of US$ 28.3 bill.[2] The devastating Gorkha earthquake reminded Nepalese and the rest of world about the risks and urgency adopting appropriate DRR measures to reduce the damages through timely and

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1   Paper presented in the National Conference on "Just and Democratic Governance in Disaster Risk Reduction" on December 20, 2016 in Kathmandu.
2   Nepal Earthquake 2015, Post Disaster Needs Assessment Vol. A: Key Findings, Government of Nepal, national Planning Commission

effective preparations. Nepal's lessons from disaster management suggests on the requirements of effective disaster response, risk reduction and management.

Nepal has been passing through limited transparency at the government levels. 'Limited transparency and accountability undermines governmental capacity for service delivery and hampers the implementation of important reforms. Issues of exclusion are especially significant at the district and village levels, with vulnerable groups poorly represented in decision making bodies, prejudiced in their ability to access services and unable to voice their concerns.' [3]

Nepal law on good governance (Good Governance (Management and Operation) Act, 2008 has recognized transparency, objectivity, accountability and honesty as essential basis for administering the administrative functions among others. [4]

While various policies on DRR and management are in place, important issues like 'mainstreaming DRR into the development process' and 'engaging community members in designing the mitigation measures' remain unaddressed.

In above backdrop, ISET Nepal is working for Action Aid in People Led solutions for Better accountability practices (PELSAP) Project [5] to bring out suggestions and recommendations in related acts, policies and plans relevant to DRR and management.

1.2 Methods

The review adopted two pronged approach. One, the knowledge generation for the concept underlying in the People Led solutions for Better accountability practices (PELSAP) Project analyses. Two, stakeholders' involvement at different sector and level in identifying the gaps.

First approach involved
• Study/ review of the provisions and practices in prevailing policies, laws etc., and
• identification of the gaps.

Second approach involved the interaction of different stakeholders through
• field visits and case studies,
• the district level project team (Rasuwa, Sindhupalchok, Dolkaha and Kavrepalanchok districts) discussion,
• academia level roundtable discussion,
• central level government and non-government officials interaction.

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3   World Bank. http://documents.worldbank.org/curated/en/801101468059705690/Accountability-social-accountability-and-PRAN-Program-for-Accountability-in-Nepal
4   http://www.lawcommission.gov.np
5   People Led solutions for Better accountability practices (PELSAP), Lead Agency: Action Aid Nepal. Donor: Governance Facility, National level Partner: ISET Nepal.

For the review purpose more than 20 Acts and about a dozen Frameworks/ Guidelines related to DRR and management were reviewed.

1.3 Accountability in the context of DRR

DRR aims to reduce the damage caused by natural hazards like earthquakes, floods, droughts, lightning and cyclones, through an ethic of prevention. It is:
- to mainstream and integrate disaster risk reduction into national and local frameworks of laws and policies;
- to encourage and ensure levels of compliance building codes, environmental and resource management and health and safety standards; and
- to maintain government coordination.

Accountability simply defined is the obligation of an individual or organization to account for its activities, accept responsibility for them, and to disclose the results in a transparent manner.

Nepal's local bodies' project cycle system is not directly linked to both the demand and supply side of local governance. The citizens need to be empowered engaging them actively with local governments and increasing their capacity to manage resources in an inclusive and equitable manner. Therefore, strengthening institutional framework for all level is required. Such strength represents the means by which the sustainability of community structures such as Ward Citizen Forums, Community Awareness Centres. This further provides a strong foundation for harmonizing, coordinating and steering the development efforts of government, local government, non-government and private sectors at the local level.

The elections as per the provisions of the LSGA were not held due to the prolonged political transition and it further contributed to a democratic vacuum at the VDC/Municipal/DDC level. In the absence of local elected representatives, the government has been unable to spend huge allocation of resources for local bodies. Whatever is used has been not in an accountable and transparent manner. The communities do not see and feel the presence of the government by their side. The complexity has further been aggravating the non-compliance. 'In Nepal, the paradox of an apparent democracy lacking in governance is plain enough. The country has plenty of laws but very little rule of law.' [6]

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[6]   Devendra Raj Panday, Improving Transparency and Governance in Nepal, Corruption, Governance and International Cooperation, Essays and Impressions on Nepal an South Asia

2. GAPS

2.1 Gaps in the prevailing laws, Strategies/Frameworks

Natural Calamity (Relief) Act, 1982

Natural Calamity Relief Act is the major guiding law for disaster management in Nepal. MoHA is working as a nodal agency of disaster risk management, both at national and international level.

The Act promulgated long time back has main focus on rescue and response. The obligation of the state and the affected/victims are not neatly drawn resulting in chaotic and ad hoc style of responding measures. Affected remain uninformed on 'who gets what' until the deteriorating and uncontrollable situation. Basics such as 'where to contact', 'what to expect' and 'what not to do' are not available.

As the roles and responsibilities of the agencies during an emergency, including the humanitarian agencies, is not defined, involvement of the agencies and their support package remain unclear for days. The standard general relief supports from agencies frequently overlap creating confusion and making coordination critical.

The entire Act, the Regulation, the Bylaws and the Operating procedures are designed on assumption of local government in place and their representatives accountable, where as in the absence of local government representatives these units are being run by the government officials not directly accountable to the people.

For the sake of transparency the provision on the maintenance of account of the materials or goods and cash obtained and expended in accordance with the prevailing law and publicizing the statement of such income and expenditure is the mostly messed up area.

Important and sensitive agenda to adopt and implement national and local disaster risk reduction strategies and plans has not been a part of the act neither it has technical competent provisions on building codes, environmental and resource management and health and safety standards.

Local Self-Governance Act, 1999/LSGR

The Act on local self-governance with due emphasis to the inter-relationship between development process, environment and disaster has mandated VDC/ Municipalities and the DDC to carry out the necessary to manage disaster and emphasizes a number of risk reduction measures to be designed and implemented at the local level.

The District Preparedness and Response Plan present in all districts have played an important role in increasing the level of awareness and planning for disaster response and preparedness at the district level.

What is missing is a District/Municipal/Village level authority for DRR with jurisdiction and DRM works and emergency responses related responsibilities. Such responsibilities shall include inventorying disaster events and impacts, local-level hazard and risk assessment, carrying out disaster awareness programmes, community-based Disaster Relief and Management, VDC-level DRM planning, including capacity building for DRR and emergency response.

National Reconstruction Authority (NRA) Act, 2015

NRA is the leading and managing agency for the earthquake recovery and reconstruction in Nepal. Its overall goal is to promptly complete the reconstruction works of the structures damaged by the devastating earthquake of 25 April 2015. NRA Communications and Outreach Strategy has set the direction for the both internal and external communications and has policy to be open and transparent in communication with people and communities affected by the earthquake to Build Back Better. The Authority with its autonomous type of structures has till date not been able to operate smoothly. The organization structures are pervasive and weaker coordination at all level has been major reasons behind the poor delivery.

Social Welfare Council Act, 1992

Social Welfare Council Act has mechanism for the Social Welfare Council to register me /NGOs and coordinate their assistance. The provision is potentially very useful in coordinating DRR and other development projects in the national interest. Local NGOs need to register in respective district for their operation to technically operate in the district. This has become a bottleneck in the administration of DRR projects further discouraging the establishment of NGOs with a national focus. Two important provisions 'physical supervision/audit of the affiliated I/NGOs properties' and 'collect grant from the national and international agency and to manage the fund' attracts the transparency and accountability issues.

Good Governance (Management and Operation) Act, 2008

The Act has intent on governance elements by which administrative structures are expected to transform into service providers and facilitators that demands responsibility for upholding the rule of law, promoting human rights, ensuring government accountability and encouraging financially prudence. The act has limited provisions on Citizen Charter/ Public Hearings/ Social audit /Complaints/ Grievance handling.

Associations Registration Act, 1977

All of the social services related agencies and NGOS including civil societies are to be registered under this act. For the organizations to be more transparent and accountable the act has provisioned the 'submission of statements of accounts to the local Authority', along with the report of the auditor as the responsibility of the Management Committee. DAOs have no capacity to perform these tasks.

Right to Information Act, 2007

This act entitles every citizen 'to have the right to information and access to the information' held in the public bodies. Compensatory arrangements are provisioned that are seldom claimed or paid. Classification of information is yet to be done that has prompted public officials to be more protective on any sort of disclosure. Public entity seems not serious on information dissemination and which is why no action as such is taken against public officials failing on Proactive disclosure.

Local Administration Act, 1971

Two of the important additional tasks relating to disaster management- to maintain law and order through mobilization of security forces and carryout the central governments orders and directives - are being performed by the CDO under the Act. To smoothly carry out the tasks and responsibilities entrusted by the Natural Calamity Relief Act the CDOs use these provisions for coercive measures and enforcement of other laws.

The Public Procurement Act, 2007

The act states about information and convenience of general public. The Acts and Regulations and Procurement Manuals made by the public offices shall be kept in the website of the Public Procurement Monitoring Office. Procedural complexities largely remain. Public officials show reluctance to perform speedy procurement during emergency response with a fear from Commission on Investigation of Abuse of Authority /Public Procurement Management Office.

Prevention of Corruption Act, 2002 /National Vigilance Centre

Provisions relating to offences of corruption and punishment 'to give and take of graft', 'public officials preparing false documents causing loss to Government' shall be liable to a punishment of imprisonment. It provisions a National Vigilance Centre - statutory government body responsible to collect information on properly conducted and to alert them, to conduct surveillance under the direct supervision and control of the Prime Minister. The center has been overshadowed by the Executive limiting its role to a 'night watch'.

The National Disaster Relief Framework

The framework mainly responds to larger scale of disaster in a more effective and coordinated manner. It has scope much limited to the response preparedness and emergency response at all levels. The framework is more oriented to facilitate and coordinate support organization and partners. It has defined the process for the government if required requesting to UN, international governments, Red Cross /Red Crescent, donor communities including I/NGOs for relief and support assistance. It is grossly silent on adopting or exercising any measures contributing to transparency and accountability after the relief operations or DRR.

The National Strategy for Disaster Risk Management

NSDRM encompasses prevention, mitigation, preparedness, response and recovery measures and different tiers of response structures. The strategy has tasked the clear role of different ministries for different phases of disaster.

It works as a roadmap that includes strategic improvement in the existing policy and legal environment enabling an atmosphere for encouraging disaster risk reduction providing long term guidance in the area of disaster risk management planning and implementation in Nepal. The Strategy recognizes stakeholders rather than the less expensive option of proactive preparedness and risk mitigation.

Local Disaster Risk Management Planning Guideline

The Government has endorsed LDRMP that aims to strengthen the disaster preparedness and reduce the disaster risk with the objective of mainstreaming DRR and ultimately contribute to develop disaster resilient communities focusing heavily on risk reduction and mitigation measures for the district. LDRMP has been detailed aiming to address at preparing Community Disaster Management Committees for municipal governments as well. The district level District Disaster Management Plan a compilation of the Disaster Preparedness and Relief Plan, and existing LDRMPs at VDC level were harmonized with district provision to initiate and facilitate the local development programs.

Local Bodies Resource Mobilization and Management Guidelines

The guideline is an overarching tool for the local level resource allocation and prioritization. The guideline has DRR component defined and subsequent investment priority. Governance related provisions (transparency, accountability, clear cut roles and responsibilities of the local authorities) are to be approved by the council.

Local bodies as well as community level set up consider the planning process and application of transparency related tools as cosmetic. Arrangements designed to control fiduciary risk are weaker.

Local Bodies Public Hearing procedure, 2010

The procedure has details of process and methods augmenting the Citizen charter with compensation arrangements, related responses. There is a mandatory provision of holding such hearings of the public expenditures locally. The tools and instrument like complaint/suggestion box, citizen report card, and exit poll results are taken in consideration. This arrangement worked well during the conflict period through effective mobilization and support of Citizen Ward committees and Community Social mobilizers. Currently the exercise of this procedural guideline is losing its momentum. With little accountability of the concerned VDC/authorities, the exercise is seen to be attending formalities and mostly found to be conducted in a limited transparency.

Local Bodies Social Audit Procedure, 2010

The procedure has details on process and methods augmenting the arrangements related responses and conducting social audit of schemes, fund mobilization, support cash programmes in local bodies. This procedural guideline has been instrumental to bring transparency in all type of DRR measures and making the public offices and bodies and Development Partners and NGOs accountable.

2.2 Gaps Identified from District level consultation

District level consultation programme was organized to discuss and find operational policy level gaps. Participating project members of four project districts Kavrepalanchok, Rasuwa, Dolakha and Sindhuli were engaged to find out DRR governance related gaps and issues at the implementation level.

Planning process
- 14 steps Planning process of local bodies is becoming cosmetic. The process is exercised as formalities and do not give priority to DRR related schemes. Such process oriented meetings most often are held at the district or VDC centres and are found difficult to follow the time frame.
- Preparedness for DRR and measures including its planning is grossly missing at community level. The procurements and hardware related schemes get more priority. Communities also seem to be convinced on such investment.
- Transparency in budget allocation is not maintained.
- Database and documentation is weaker.
- Budget is distributed according to the influence of political parties.

Implementation
- Users Committees are formed on political party's proportional representations. Schemes are distributed according to their influence.
- Preparedness on disaster management has not been a part of the management. Community lack technical knowledge on DRR.
- VDC Staff including the technical ones are not available for the required

supervision and supports while implementation and are left in communities own discretion.

- Local structures on DRR are not formed. DRR Fund is not available and not created.
- Disaster fund at local level is not available. Disaster management related tools and Equipment not maintained for ready use.
- No separate organization at local level for DRR. Local level organizations cannot sustain without the fund and the authority

Accountability /Compliance
- Users/ beneficiaries committees also seem to be heavily divided on political ideology. And bear no responsibility for whatsoever during the implementations.
- Community's access to information and particularly to DM related information is much limited. Project brief Hoarding boards are kept towards the end of the project time. Transparency related tools like Social Audit, Public Hearing are applied mere as formality and conducted at a very late stage after project completion.
- In the absence of the representatives at the local bodies the care taker staff at these bodies does not show accountability towards the citizen.
- Political conflict and power relation between service provider and recipients has made coordination difficult.
- The DRR related process/procedure is cumbersome. It is difficult to fulfil the formalities. People need to wait long for the assistance or the program.
- DDCs have no capacity to monitor NGOs activities.

2.3 Case study of Project Area

The case studies of Kavrepalanchok and Rasuwa district that included gaps findings and recommendations through consultations at community. Following is the key points.

- The Ward Citizen forums were found having no information and knowledge as well on DRR. VDC did not provide them information on DRR and management either. They lacked knowledge about climate change adaptation and disaster risk reduction activities. The relief support for the construction of damaged structures was felt as cumbersome.
- The political party's cooperation was satisfactory but they too seemed to be unknown about DRR Regulations etc. DDRC members were of opinion that they have no information on budget and priority of DRR during planning process.
- The NGOs and INGOs were found not providing their working calendar to the VDC so that VDC can manage to avoid duplication of works. I/NGOs were blamed to be working only during disaster time (not on preparedness and recovery).

Reconstitution of the Citizen's Alliance for Reconstruction

The national level Citizen's Alliance for Reconstruction with representation from Experts/Professionals at the centre was set up in 2013The Alliance has been reconstituted having representations from districts and DRR related contributing organizations/agencies in the centre.

The newly constituted Alliance adopted its Declaration having commitments on policy advocacy.

2.4 Feedback from Academia

A consultation programme representing Kathmandu University, Tribhuvan University, Rural Development faculty members, members from Civil Society, Lawyer, and Journalist mapped out the gaps and issues at the academic level. Discussion session put emphasis on the following upon utilization of research results and expertise available at academia as.

- Prevailing Acts on DRR and management are too generic and unable to address different scale and type of disaster.
- DRR related legal provisions are little known outside the government systems. Government agencies hesitate to hold consultation on the issues at national level and most of the time does not see as necessary.
- DRR and related guidelines are being prepared by many agencies involved separately. As these are drafted as per their convenience it has fewer reflections from communities / stakeholders. Harmony is not seen.
- Academic/Researcher is not encouraged due to poor linkage of the agencies working in DRR with them as a result- knowledge skill could not be utilized in policy/acts formulation etc.
- Professional also shows temptation to distort the legal provisions and arrangements for instant gains and commit such that undermine the compliance.
- Little information on DRR in education system resulting distorted knowledge.
- Systemic discrimination exists. No effective participation of women, marginalised, ethnic minorities. The meetings and forums are seen to be well and balanced participated. Whereas the goals and objectives of such meetings are hardly known to the marginalized.
- Government and Public employees' perception on NGOs is very critical. They lack mutual respect and faith upon themselves. Government rules are distorted and several standards. NGOs professional inputs are undermined.
- Legal process has incongruity. Consideration on the number of beneficiaries of a household for reconstruction support is not in tune with the database of the household furnished for other financial purposes.
- The inputs provided in the projects at community level are to be different so that specific needs of the community get addressed. This can only be done if the regulations and measures are defined for different layers of service delivery.

2.5 National level consultation

A national level consultation programme organized put emphasis on coordination issues as well as the need of well delineated roles and responsibilities of the agencies in DRR. Key issues and recommendations from the event are:

- Local level planning process is not owned by government agencies. Government sector offices follow their own planning process and do not comply with DDC planning process.
- DRR governance is considered as the responsibility of only CDO/LDO. Also largely the authority remains with these two organizations. Community has limited information on the roles and responsibilities of the agencies related to DRR.
- RTI and DRR are not linked. People's engagement/ involvement are still big question. People are losing faith on government.
- Governance related gaps were there. With more awareness and demand these have now triggered.
- Self- help is eroded. Traditional organization, technology, measures are forgot. The legal provisions have no scope for them.
- All sort of assistance have been much politicized. DRR is becoming less priority for them.
- NRA working procedure, delayed support assistance has raised question on government credibility.
- Political leaders seem to be claiming the relief through their political ideology. Others at the moment are deprived.
- The international community spends huge amount on the DRR assistance and promotion of governance that remain unnoticed and therefore are being criticized.
- Application of transparency tools (Public audit, Social audit, Citizen Card, monitoring etc.) has been cosmetic. Application of Holistic audit system is yet to be ascertained.

3. KEY RECOMMENDATIONS

3.1 Amendments in Laws /Policies

Putting DRR strategies (governance related) as per the scale and type of disaster in the legal provisions should be the first step. Unifying many prevailing DRR and governance related guidelines will help reduce obligatory burden of the community for the compliances. DRR and management related roles and responsibilities of the concerned agencies including community are to be well defined.

Overlap of the standard relief supports from agencies can be addressed through introducing Standards of Operations as per the types of disaster and magnitude of required relief.

Inter-relationship between development process, environment and disaster could be well established through emphasizing the design and implementation of DRR measures in communities' initiations at the local level. The practice of developing own implementing and procedural guidelines by the agencies working in the sector is to be discouraged and unified so that a single mode of operation could be adopted.

The District Preparedness and Management Plans at districts should also incorporate authority of District/Municipal/Village level on DRR with their jurisdiction, scope for disaster relief and management works and emergency responses related responsibilities.

The National Disaster Relief Framework and National Strategy for Disaster Risk Management should be reviewed to adopt all scale of disaster and provisions and measures contributing to transparency and accountability after the relief operations or DRR.

Some of the above points have been considered in the proposed Disaster Management Bill under purview of the parliament.

Encouraging academics' involvement in policy formulation through joint consultation forum shall help formulating policies/laws based on outcomes of the study/research.

3.2 Planning/Implementations process

The country will have a different local government structures once the local elections are held and interim phase is over. This will take quite a few years. For the interim period realigning and rearranging of 'planning process' to make them owned by the government line agencies in federal management as well is essential. The measures on increasing community's involvement can be done by giving them required role.

Preparedness for DRR and its measures including the application transparency tools could be brought through adoption and exercise of established Planning process. Supporting NGOs and agencies should focus to increase meaningful participation of the targeted communities as well. Also creating data base at VDC on disaster related information help to plan and prioritize the resources.

Reducing politicization of the DRR related assistance is possible through effective exercise of the planning process. The planning process that is much criticized should be trimmed down to fit the Interim Management to be prescribed by MoFALD on federal arrangements.

Reducing fiduciary risks and making the external assistance more transparent through engulfing the roles and duties of local government in DDC/DAO/DDRC structures or the Interim Management for local government.

Timely use of transparency tools can be enhanced through the tracking systems of the community base organizations. Holding the council as per the provisions and giving priority to DRR in VDC budgeting could be some of their important tasks.

A community based structure and DRR fund at local government level with administering authority has to be established.

3.3 Accountability

Increasing community's access to information/communication through real application of already introduced and established transparency tools is possible. The awareness campaigns conducted by the agencies working in the community should obtain the related information from VDC/DDC on a regular basis. Also the demand side are to be encouraged to do so and go for Public entity's Proactive disclosure.

Through LBFR provisions Ward Citizen Forum, Citizen Awareness Centre can exercise transparency in all type of DRR measures and thus make the public offices and Development Partners and NGOs accountable.
Increased advocacy, and awareness programmes on disaster prevention, mitigation and preparedness at all levels including the policy/decision makers by the partner agencies can create a moral pressure to the local bodies to incorporate such in their annual programmes.

Putting DRR curriculum in formal education require exploring the basic science of environmental hazards before moving on to instruction in safety measures. Therefore a systematic coverage of the hazard, its prevention, mitigation, and, preparedness are to be devised as per the local context as well. The 'dedicated subject approach' to integrating DRR into the curriculum still shall be more appropriate for Nepal context.

Bringing change in the Government and public employee's perception on NGOs through increased trust and co-works will help making DDCs capable to monitor NGOs activities.

People engagement/ involvement can only be insured through effective participation of women, marginalised, ethnic minorities as well. Meaningful participation happens only if information for the community is available. The pre information of the planning process schedule and dedicated involvement of NGOs in planning process can be done through wide circulation of prescribed guidelines on NGO mobilization. Making NGO desk active has been seen as effective tools in the districts as well.

DISASTER MANAGEMENT

IN

THE KATHMANDU VALLEY, NEPAL

EARTHQUAKE AND FIRE SPECIFIC MANAGEMENT GUIDELINES

Resource person:
Mr. Ujjawal Upadhyay
Development Activist, DRR Governance and Management

EXECUTIVE SUMMARY

This paper looks forward to find out disaster issues[1] of great importance and concerns to the people of Kathmandu, especially those who have historically underestimated the effects of disasters to the people and property of Kathmandu.

Nepal faces varieties of hazards, which combined with the growing population and severe lack of education and awareness, result in very high degrees of risk. Out of 200 countries, Nepal stands at 11th and 30th respectively with regard to relative vulnerability to earthquakes and floods[2]. Another study ranks Kathmandu Valley as an "at-risk" city, where "at-risk" is measured in terms of potential death due to an earthquake. Apart from this, Nepal is exposed to several types of disasters such as floods, landslides, droughts, wind storms, avalanches, debris flow, GLOF, cloudbursts, hailstorms, fires, epidemics, lightning (thunderbolts) and ecological hazards.

Disaster planning and response require even more scientific elaboration. All phases of the rescue process need an efficient managerial system, from prediction and prevention to preparedness, immediate medical response, assistance, and rehabilitation. Definitions of the various types of disaster are given. A trembling earthquake and a thermal agent disaster is:

> Disaster causing severe losses in human life and material goods as a result of massive destruction and heat production respectively. The Earthquake disaster can be defined as overall effects of tremendous damaging of heavily constructed concrete buildings and associated materials to its deposition over human body and other properties. Burn disaster can be defined as the overall effect of the massive action of a known thermal agent on living beings.

Both of these disasters are characterized by a high number of fatalities and of seriously injured and burned patients with a high potential rate of mortality and disability. Any health management plan in the event of a burn disaster must include: a) rapid evaluation of the extent of the disaster; b) specific and rapid health assistance response on site; c) assessment of the capacity of local specialized structures to receive burn victims; d) selective evacuation of the injured away from the disaster zone. Disaster plans like those for any other types of rescue operation will be no more than empty words unless they are tested in training programs, made intelligible to the general public, supported by adequate resources, and updated as necessary. The acquisition of emergency capability by ordinary people is a sign of civil and cultural progress, but the most important factor of all is disaster preparedness.

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[1] Disaster issues in this case would be basically focused on earthquakes and urban fire hazard.
[2] UNDP/BCPR (UNDP, 2004), among 200 countries

Introduction

All disasters--whether they are earthquake, fires, floods or droughts--inevitably cause upheaval not only in the physical but also in the social and economic contexts where they occur. If a disaster is of major proportions, as may be the case in the event of earthquakes or fire, an entire region or extensive national territory (in case of earthquake) may be involved.

The study and analysis of factors that cause disasters, the characteristics that shape their evolution, the effects on the population and the natural environment, the instruments that can mitigate their effects, and the various ways of reestablishing the optimal living conditions of the persons and communities involved have led to the creation of the new science of "disastrology," which studies disasters from all points of view and establishes guidelines for their management. "Disaster Medicine" considers the health aspects of disasters, in particular the study and collaborative application of the various health disciplines involved, i.e. from epidemiology, communicable disease, nutrition, public health, emergency surgery, social medicine, community care, humanitarian relief, and international health, to the prevention, immediate response, and rehabilitation of the health problems arising from disaster, in co-operation with other disciplines involved in comprehensive disaster management.

These approaches have led to the scientific elaboration of disaster planning and response. This has been gradually transformed from a combination of ad hoc[1] and humane actions for the stricken persons into an efficient managerial system throughout all the phases and aspects of the disaster, from prediction and prevention to preparedness, immediate medical response, assistance and rehabilitation.

1.1 Geography

Kathmandu is a large and fertile valley of the independent country of Nepal located in South Asia. A historical town known for many of its economic, social

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[1]   Advertisement preparation

and cultural activities, it is the capital of Nepal. It lies right in the heart of nation; it is in a plain valley of mid-hills between Mahabharat and the Himalayan Mountain. The densely populated valley constitutes about 3.5 million people. (CBS 2011)

This valley politically constitutes three districts of the Bagmati zone collectively known as the Kathmandu valley. The bowl shaped valley covers an area of about 400 sq km. The non-uniform diameter of valley is about 27 km. The valley is located between latitudes 27°32'13" and 27°49'10" north and longitudes 85°11'31" and 85°31'38.

Kathmandu Valley is situated about 1,400 meters above see level surrounded by high peaks and passes. The highest peak is the Phulchoki in the South east of valley with the elevation of 2,600 meters. Other peaks such as Shivpuri, Chandragiri and Nagarjun are located at North, South West and Western part of the valley respectively.

1.2 Climate and Biodiversity

The climate of Kathmandu is temperate where the temperature sometime goes above 35 degrees Celsius in the month of June; however, the temperature can drop below the freezing point in the month of January. The valley is rich in biodiversity; however, it seems to be in losing certain wild species of flora and fauna. The Shivpuri National Park is established at northern part of the valley now has played major role to conserve biodiversity and watershed.

1.3 Ethnic Composition and Culture

Kathmandu valley is ancient town with full of historical architectural assets carrying great archeological importance both nationally and internationally. Having been a kingdom ruled by regimes of various dynasties one after another also adds to its historical importance.
Almost all the dynasties of Nepal have been able to leave their identities through the proliferation of their various architectural crafts and by the monuments erected in their honor. Such unmatched artistic excellence in the forms of buildings, monuments, sculptures, etc have made this region an excellent tourist site.

The major profession of the valley has been agriculture. There are still many people who practice this trade; *Jyapu* are the main crop and vegetable producers. However, a remarkable advancement has been observed in these people's lives because of the rapid urbanization of the valley. Most of the *Jyapu* are quite happy to continue their ancestors' profession.

As in Nepal, the people of the Kathmandu valley can be divided into two distinct groups: the Aryans and the Mongolians. The Newars constitute an important ethnic group in the Kathmandu valley. The Newars are rich in culture and famous for their craftsmanship. There are many artistic pagodas, monuments and old

palaces in the Kathmandu valley built by the Newars. The Brahman and Chhetris also play an important role in society of valley. These groups are originally from the western parts of Nepal and now inhabit most parts of Nepal. Tamangs live outside the rim of the Kathmandu valley.

Apart from the above, there are still many other ethnic groups in Kathmandu, and all of these groups are tied up together by their common ideals of peace and nationalism. Hinduism and Buddhism are two major religions of Nepal. Hindus and Buddhists are tolerant to each other and the both religious group worship each other's deities and observe each other's festivals, traditional customs and religious rites.

1.4 Terms of Reference

As per the Terms of Reference (TOR), this research will be basically focused on earthquakes and fire hazards in relation to the Kathmandu Valley. The study will be focused on outlining the issues that need to be identified in relation to protecting against hazards. Thus, we will be focusing on the activities that need to be carried out before, during and after an earthquake so as to minimize the adverse effect to a minimum. The research will also be focusing on fire related hazards and associated activities need to be undertaken to reduce their adverse effects.

The research basically focuses on preventive measures. It is believed that despite active awareness and successive monitoring, the casualties in Kathmandu will be

very high if earthquakes of high seismic disturbance occur. Similarly, a crowded city can suffer a big loss of life and property if a fire of similar scale occurs. Thus finally the research will conclude with successive recommendations regarding the curative measure. So far in the country, people have died due to lack of appropriate and timely rescue rather than spot death in such hazards.

1.5 Objectives of Research

The basic objectives of this study are to:

a. Observe and assess Kathmandu Valley's earthquake and fire hazards as per the so far undertaken study.
b. Reduce the earthquake and fire vulnerability in urban infrastructures based on the available resources.
c. Raise awareness about the Kathmandu Valley's earthquake and fire risks among the people who fall on victims of such disasters.
d. Suggest and recommend policies and guidelines to build up the network, coordination within working groups that can work in areas of emergency post earthquake and post fire relief and rescue activities within Kathmandu Valley.

1.6 Scope

Since this research was being conducted in short span of time and because the report was supposed to be submitted in short timeframe, field visits, household surveys and direct field observations were avoided. The research is based on input and data collected from available literature and through visits to various organizations working directly or indirectly in specific aspects of disaster management. Visits were also made to a few other organizations for gathering the data and information necessary for the preparation of the report.

1.7 Methodology

Secondary data collection, study and analysis of information and studies were performed by past researchers and produced by various governmental and non-governmental organizations. The study also significantly covers the available literatures in newspapers, magazines and personnel theses and reports. Internets have been extensively used for the preparation of this report. The lack of information and data about fire disasters was bitterly experienced in the local libraries and organization working in this field. Questionnaires and discussions with intellectuals and experts of the same field were carried out.

Urbanization and Infrastructural Settings of the Valley

Kathmandu Valley is populated with 3.5 million people (CBS, 2011), is one of the most densely populated cities in the world with 62,500 people per square kilometer[2]. The annual growth rate of the population of the valley is 6.5 percent, one of the highest rates in the world.[3] The per capita income of Kathmandu Valley clearly reflects the actual statuses and living standards of the people.[4]

This low statistic has badly ruined the safety of people of Kathmandu form hazards as most of the people can not nearly afford building newer hazard-resistant housing. Most of the buildings are several centuries old, especially in old markets in city centers like Ason, Nardevi and Bangemudha in Kathmandu. Similarly in Lalitpur and Bhaktapur, plenty of such older buildings have been catalogued, some of which would not be able to resist even a modest quake of scaling five on the Richter scale.

More than 10 people, on average, are living inside such houses in the valley. The settlements were quite concentrated in such centers until the construction of the ring road. The lack of awareness about seismic risk and other forms of hazard rendered people to become complacent and settle in city centers. Houses were constructed even in area of 1 *Paisa* land.[5] After the construction of the ring road, the settlement of Kathmandu started to become more scattered. Homogeneity of housing variety began to decrease and as a result, settlements became decentralized.

But the rapid increase of population and the immigrant influx soon filled the entire valley. The centralized policy by government regarding all its administrative working activities was culpable for bringing such large volumes of immigrants to the valley; a lack of good schools, colleges, institutions and opportunities in other part of the country drove people to step into the valley. The developing town became a prime destination for tourists and this development further lured many youths from outside.

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[2]   Implications and Consequences of Rapid Urbanization of Kathmandu Valley, Upadhayay, 2004
[3]   CBS, 2001, NLSS, 2004/5, CBS and WB 2005
[4]   US $ 531, Gurung, H, Social Inclusion Fund Secretariat
[5]   1 Paisa is equivalent to 35 sq. ft. area

The people of Kathmandu started adopting the lifestyles and traditions of European and American tourists. This cultural change added to the immigrating factor for the youth to displace to valley. Basically the government's centralized policy led all Nepalese people to dreaming about "a home in Kathmandu Valley." These hasty, unplanned and unsystematic settlements in the valley ultimately put such residents in the risk of disasters and hazards.

Traditionally, for the people of Nepal as well as of Kathmandu, living together with combined family is of supreme socio-eco-cultural importance. They have strong bonds with their old homes and their antique archeological architectures. Many people deem their homes as holy symbols bequeathed by their ancestors. In spite of their comfortable earnings, some believe that it is a cardinal sin to demolish such old houses.

Continuing their old culture is of the utmost importance to certain communities such as the Newars, the prime inhabitants of Kathmandu. The Newars, generally, are quite happy to live as they have been living for centuries--living in crowded community and apartment-style homes, susceptible to earthquakes and other forms of hazard. New immigrants have also fallen quite short with regard to safe building guidelines. They could neither afford to follow such guidelines nor did the government do anything regarding the building of earthquake- and hazard-resistant housing and settlements to make the capital city a safe and secure place to live.

2.1 Risks from an Earthquake Perspective

Like in many urban areas in developing countries, Kathmandu Valley's risk has increased significantly since its last major earthquake.[6] The Valley has a burgeoning population, uncontrolled development and a political system that has actually degraded over the past century. A weak economy and abundant poverty have resulted in a lack of government funds to support earthquake and hazard mitigation programs (including the ratification of a building code), inexpensive and poorly constructed dwellings that often fail even in the absence of earthquakes, and a tendency in the general population to ignore the earthquake hazard because of more immediate needs. Recall, the Kathmandu Valley has an urban growth rate of 6.5 percent and one of the highest urban densities in the world.[7]

Currently, Nepal has no official building safety codes and nearly all construction is undergone without the input of an engineer and without considerations for seismic forces that may occur. The technical information about earthquake risk in the Kathmandu Valley is incomplete and scattered among several governmental agencies. However, a more important contributor to the region's lack of earthquake preparedness is that the synthesized and *available* technical information has not been applied to the infrastructure of the modern day Kathmandu Valley and has *not* been presented in a form *comprehensible* to the public and government officials.

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[6]   Earthquake Risk Management Action Plan Initiatives
      www.geohaz.org/contents/project/ kathmanduinitiatives.html, Read in June 2006
[7]   CBS, 2011

It is clear that a large earthquake near the Kathmandu Valley today would cause significantly greater human loss, physical damage and economic crisis than past earthquakes. Thankfully, many organizations have been registered and formed in Kathmandu Valley; yet, their actual capacity and caliber have not been exposed. The people of Kathmandu are still puzzled regarding what kinds of specific precautions they need to take undertake when disasters occur.

2.2 Risks from a Fire Perspective

Similarly, the rapid urbanization and unplanned growth have induced many people to get concentrated in small-congested areas. Buildings with no fire-hazard precaution whatsoever are under huge risks. A weak economy and traditional lifestyle result in a lack of government funds to support fire hazard mitigation programs (including ratification of a building code). The people are concentrated at the city centers such as Ason, Nardevi etc where the streets are quite narrow--sometimes even to walk. Such streets have become even more crowded due to development of areas such as market places. In addition, the area becomes very crowded during business hours, especially from midday until late evening. The tall houses--up to five stories, with only five feet of space for the alleyways between--can easily be observed in phenomenal numbers. Moreover, most of the houses are built of wood and other materials that are very susceptible to fire. Such business complexes do store significant amount of fire prone materials such as fibers, clothes, synthetic material, plastics and electronic goods. Government and private organization services to the public such as electricity wires and cables have also been haphazardly reinforced and distributed to the households. The un-insulated wire always puts those areas under huge threat as no fire brigade can manage to enter such narrow streets. It is also estimated that the fire can bring a severe loss of property in addition to people's lives.

This paper attempts to look at the probability of such natural hazards and their probable damage to the people. The paper also comes out with appropriate solutions regarding the preventive mechanism to reduce disaster vulnerability to minimum and required curative measures as effective post disaster management.

LAWS AND REGULATIONS

Before the advent of Natural Disaster Relief Act (NDRA), 1982 AD there was no well-structured disaster policy in Nepal. Prior to 1982 AD relief and rescue works were carried out as social works only. Thus, realizing the need for action, the Natural Disaster Relief Act was formulated in 1982 AD, which has already been since amended twice, in 1989 AD and in 1992 AD[8].

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[8]   Pp 9 Chettri MBP, (1998): " Disaster Management in Nepal: Challenges and opportunities" a research paper, 1998 Kathmandu, Nepal.

However, the Natural Disaster Relief Regulations (NDRR) could not yet be formulated which is very essential. In the absence of NDRR, NDRA could not be fully effective. NDRA, 1982 does not describe the duties and responsibilities of all the disaster management related agencies other than the Ministry of Home Affairs. Duties and responsibilities of various other disaster management agencies have to be reflected in NDRR as each and everything could not be stipulated in the Act. According to NDRA, 1982 there has been the provision of Central Natural Disaster Relief Committee (CNDRC). Furthermore, there is also the provision of a Relief and Treatment Sub-Committee (RTSC), Supply, Shelter and Rehabilitation Sub-Committee (SSRSC), Regional Natural Disaster Relief Committees (RNDRC), District Natural Disaster Relief Committees (DNDRC) and Local Natural Disaster Relief Committees (LNDRC) in the NDRA, 1982. RTSC and SSRSC shall be activated in the time of very serious natural disasters while CNDRC and DNDRC are active all the time. This is so to expedite the immediate rescue and relief works. However, RNDRC and LNDRC shall be activated as when necessary, at the moment, these two agencies are as dormant agencies. Besides, as the NDRA, 1982 does not describe the functions and duties of all district disaster management related agencies, the problem of cooperation, coordination and mutual understanding between various district disaster management related agencies are seen. Consequently, sometimes, disaster victims do not get immediate, efficient and effective rescue and relief services. Delayed relief works often brings very serious and unpleasant results. And, sometimes, duplication of relief works has also been experienced, mainly due to the absence of dialogue and mutual understanding among disaster management related agencies. In addition, some of the district disaster management related agencies try to shift their responsibilities to the other, as there is no clear-cut job description in the Act. Thus, immediate formulation of NDRR is very necessary where clear-cut job description of all the disaster management related agencies should be made.

Source: Quoted from "Disaster Management in Nepal: Challenges and opportunities" a research paper, 1998 Kathmandu, Nepal, Chhettri, MBP

Earthquakes, Their Occurrences, Effects and Consequences

3
CHAPTER

One of the most frightening and destructive phenomena of nature is severe earthquakes and their terrible aftereffects. An earthquake is a sudden movement of the earth, caused by the abrupt release of strain that has accumulated over a long time in the earth's tectonic plates. For hundreds of millions of years, the forces of plate tectonics have shaped the earth; gradually over time, the huge plates that form the earth's surface slowly move over, under and past each other. Most of the time, the movement is gradual; at other times, the plates are locked together, unable to release the accumulating energy. When the accumulated energy grows strong enough, the plates break free, causing an earthquake. If the earthquake occurs in a populated area, it may cause many deaths, injuries and extensive property damage.

EARTHQUAKE TERMS

Familiarize yourself with these earthquake hazard terms:

Aftershock
An earthquake of similar or lesser intensity that follows the main earthquake.

Earthquake
A sudden slipping or movement of a portion of the earth's crust, accompanied and followed by a series of vibrations.

Epicenter
The place on the earth's surface directly above the point on the fault where the earthquake rupture began. Once fault slippage begins, it expands along the fault during the earthquake and can extend hundreds of miles before stopping.

Fault
The fracture across which displacement has occurred during an earthquake. The slippage may range from less than an inch to more than ten yards in a severe earthquake.

Magnitude

The amount of energy released during an earthquake, which is computed from the amplitude of the seismic waves. A magnitude of 7.0 on the Richter scale indicates an extremely strong earthquake. Each whole number on the scale represents an increase of about thirty times more energy released than the previous whole number represents. Therefore, an earthquake measuring 6.0 is about thirty times more powerful than one measuring 5.0.

Seismic Waves

Vibrations that travel outward from the earthquake fault at speeds of several miles per second. Although fault slippage directly under a structure can cause considerable damage, the vibrations of seismic waves cause most of the destruction during earthquakes.

3.1 Kathmandu and Earthquakes

Nepal is located within the Himalayan mountain range, a product of the continental collision of the Eurasian and Indian plates, initiated about 40-55 million years ago. The collision was followed by subduction of the Indian plate underneath Tibet, which continues today at an estimated rate of about 3 cm per year. The subduction results in tectonic stresses along the Himalayan Frontal Fault (HFF) System, the Main Boundary Thrust Fault (MBT) System, the Main Central Thrust Fault (MCT) System, and the Indus Suture Zone (ISZ), all parallel to the Himalayan arc. Numerous earthquakes have occurred in this region, including four major earthquakes of magnitude greater than M8 within the last 100 years[9].

Picture No 1 Tectonic plate shift
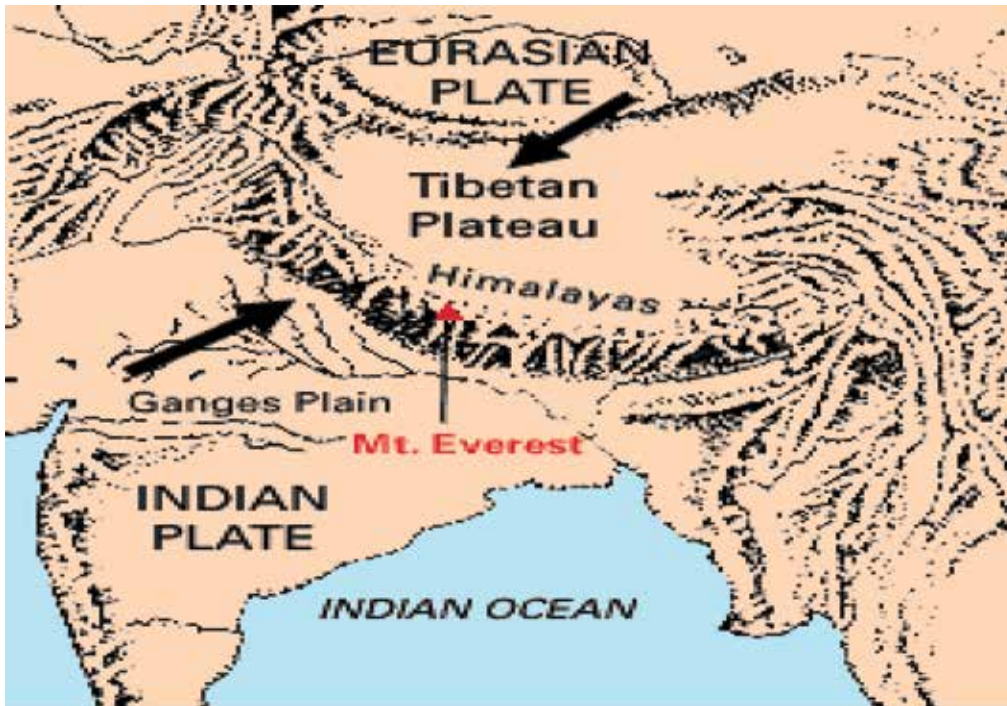
Courtesy: USGS 2018

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[9]   Seeber et al., 1981; Molnar, 1984; and Chandra, 1992

Picture No 2: Lateral View, Tectonic plate Shift.
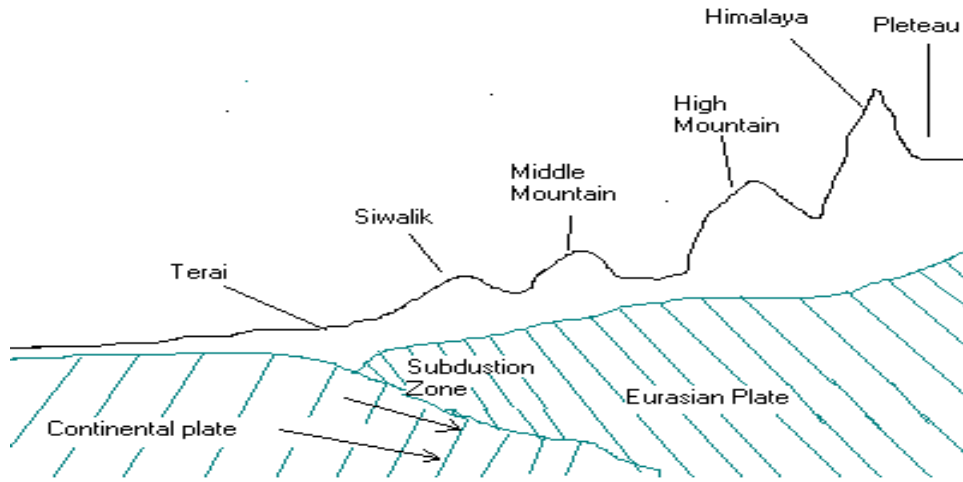
In this century alone, over 23,000 people have lost their lives due to earthquakes in Nepal. The 2015 Gorkha earthquake and 1934 AD Bihar-Nepal Earthquake yielded severe devastation for the Kathmandu Valley and Nepal's political, economic and cultural capital, destroying 20 percent and damaging 40 percent of the valley's building stock. In Kathmandu itself, one quarter of all homes were destroyed along with several historic sites. Recall that historical monument of Dharahara was broken to three pieces in 1934 and completely devastated in 2015 and Ghanataghar-Clock Tower was severely damaged. This was followed by Gorkha Earthquake 2015 where three successive quakes of 7.9, 6.8 and 7.1 along with hundreds of aftershocks badly damaged the entire economic and infrastructure settings taking toll of more than two thousand people and left more than seventeen thousands houses damaged.

This earthquake was not an isolated event. Three earthquakes of similar size occurred in the Kathmandu Valley in the 19th Century: in 1810, 1833 and 1866 AD. The seismic record of the region, which extends back to 1255 AD, suggests that earthquakes of this size occur approximately every 75 years, indicating that devastating earthquakes are inevitable in the long run. (Seeber, 1981, Molnar 1984)

The high mountains and the Himalayan range of Nepal comprise a rather young mountain range. It stretches almost 2,500 km in the east-west direction and they fall under the seismically active zone, which is considered as the result of the subduction of the Indian plate under the Tibetan plate (picture 2). The seismic record of Nepal goes back to 1255 AD (Chhetri 1999) Since then, a series of destructive earthquakes occurred in 1408 AD, 1681 AD, 1810 AD, 1833 AD and 1866 AD. Among all these earthquakes, the event of 1833 AD was the most

devastating. Exact data and records of that event are not available. After that Nepal experienced a very large earthquake in 1934 AD with a tremor of 8.4 on the Richter scale. Kathmandu was the epicenter of the quake. The quake claimed the lives of 16,875 people and destroyed 3,18,139 houses in Kathmandu valley. Nepal experienced two other major earthquakes one in 1980 AD and another in 1988 AD. The earthquake of 1980 AD had a tremor of 6.5 Richter scale magnitudes, the epicenter of which was in the Bajhang district. In the quake, 178 people lost their lives and about 40,000 houses were destroyed. The earthquake of 1988 AD had a tremor of 6.6 Richter scale with the epicenter in the Udayapur district; this earthquake killed 721 people, 1,566 heads of cattle and destroyed about 64,467 houses.

3.2 Consequences of Earthquakes in the Kathmandu Valley

The over population, lack of awareness, lack of technical support and guidelines, poorly constructed houses, unplanned settlements, narrow and confusing roads and street in the settlement, overcrowding of urban areas and business complexes, and unmanaged distribution of household electricity and telephone cables have all contributed to put the valley over "Dynamite." The modern definition of risk is the "number of people who are going to be exposed to accidents." Huge accidents sometimes have less risk because of lack of people who are going to be exposed. But small accidents can have greater risk chances because of the number of people involved. Earthquakes happen very often in Nepal but its most disastrous effect can be seen in Kathmandu.

The harsh climatic condition could further add problems. The cold weather could make many people become sick while hot and humid conditions could bring an epidemic outburst. Hospitals could not currently treat even one fourth of the total possible victims, and furthermore, most hospitals are themselves vulnerable to such earthquakes. There would also be acute shortages of firewood to burn the dead bodies. Waters supplies, electricity and telephones would be interrupted for months. Cell phone would not work anymore, as few tall telecom towers will have collapsed.

The amount of damage is strongly influenced by the quality of soil. Kathmandu Valley is located on the site of a prehistoric lake, which had been filled with soft sediments that make up the valley floor today. These soft sediments magnify the shaking during an earthquake. In addition, when shaken the water-saturated soil changes from a firm material to a semi-liquid material and loses its ability to support structures. This phenomenon is called liquefaction. The effect of the earthquake was seen more in the North west region of the valley mainly because of the existence of clay soil which could not absorb the seismic wave and shocks.

Picture No 3 Aerial Satellite Image: Kathmandu Valley

(Picture Courtesy: NSET, Kathmandu)

In the picture 3 (above), the red areas have high liquefaction potential. The Tribhuvan International Airport (bold area) is situated on relatively firm grounds but access to it might be cut off due to collapse of bridges. Darker to mild color illustrates about the declination of risk of damage.

3.3 Consequences of Earthquakes in the Kathmandu Valley

DURING EARTHQUAKES

- Many tall buildings, which are poorly constructed, are going to fall down. Infrastructure disregarding building codes and norms could possibly suffer complete collapse.
- Nighttime earthquakes can have a higher casualty rate than the daytime ones. The poor lighting system and unmanaged cable reinforcement systems may lead to fires.
- Casualty rates will be higher in nighttime because most of the people are inside the houses, which are poorly constructed. Where as daytime earthquakes can reduce the casualty rate as many people would be on the roads and out of the buildings.
- During daytime earthquakes, the casualty rates are most pronounced in narrow streets, which are often in crowded city centers. The casualty in these areas can occur due to tall building demolition as well as stampedes that would occur as a result of public panic.
- On-the-spot casualties will take place to greater extent as many of the houses are short of open spaces. Streets passing between houses are so narrow that the demolition of adjacent buildings can easily injure by-standers.

POST EARTHQUAKE

The post earthquake situation of Kathmandu will be a nightmare.

- There will be acute shortages of people who can act as rescuers and relievers. The most trained people themselves live in poorly constructed houses.
- The people who are trapped due to building demolition will not be accessible.
- Remaining spaces and people will suffer from acute shortages of food and drinking water.
- Settlements areas such as Baneshwor, Chabahil, Dhapasi and beyond will face severe food and water shortages. Since these areas would become isolated as the seven bridges, of Tilganga, Tinkune, Gopikrishna Hall, Maitidevi Dhobi Khola, Ratopul Dhobikhola, Kalopul Dhobikhola and Bhatkekopul Dhobikhola are on verge of getting damaged if a 1934 or similar-scaled earthquake were to occur in the future.
- Food shortage will be seen everywhere in Kathmandu as all the bridges are vulnerable to earthquakes. A single bridge collapse outside the Nagdhunga entry can block the capital city from everywhere.
- The drinking water and food shortages will be the key issues to be provided for immediately by medicinal inputs.
- The rainy seasons (monsoon and winter) can further deteriorate the situation. Rainy season makes impossible to cross the river as all the rivers will have sufficient water levels. It can have even more disastrous effect as epidemic out bursts can occur. For example, the following diseases might break out:

  - Cholera
  - Dysentery
  - Jaundice
  - Typhoid
  - Encephalitis and
  - Influenza

Winter season will make the situation even more severe as many of the survivors would die due to the severe cold.

Fires, Their Occurrence, Effects and Consequences

4

CHAPTER

4.1 Fire

Fire, thankfully, has not affected Kathmandu significantly so far; but the recently over populating and urbanization have definitely made Kathmandu Valley a disaster prone from an urban fire perspective. The unplanned settlement and crowded cities along with unplanned and carelessly distributed household electricity cables have increased the probability of urban fires quite dramatically. Over population, crowded cities, and general poorly designed infrastructure have made the condition even disastrous.

In such cases, the chances of fires are always high, and furthermore, the casualty rates will increase dramatically because of an inability to rescue those in need. Fire brigades and rescue teams cannot go to the place due to the narrowness of the roads. The big ISUZU fire brigades of 2.7 meters width cannot drive through many of the streets of Kathmandu. Fire can catch in the dense and crowded cities within no time as old houses in valley are mainly built of wood and other inflammable materials. The lack of water in city centers also limit the ability to fight such fires. The fire brigade in Kathmandu has just two water tankers. In the case of a big fire, the brigade will be unable to fight the blaze.

The heat and smoke from a fire can be more dangerous than the flames. Inhaling the burning air can sear the lungs. Fire also produces poisonous gases that disorient the mind and make it drowsy. Instead of being awakened by a fire, one may fall into a deep sleep.

4.2 Kathmandu Valley Fire Scenario

According to Hari Budhathoki, Fire Chief, Juddha Baruyantra Kathmandu, most fires occur due to electrical malfunctions. The outbreak of fires in Kathmandu Valley is as conventional as it generally seems. Fires occur evenly throughout the year. The months of Asoj (September/October) had twenty-two incidents last year. Since most of the fires are human-induce, carefulness is going to be the key for prevention. According to fireman and other Staffs, the available resources are

Status of Firing in Kathmandu Valley in Fical Year (2061/2062) No of Fire Incidents
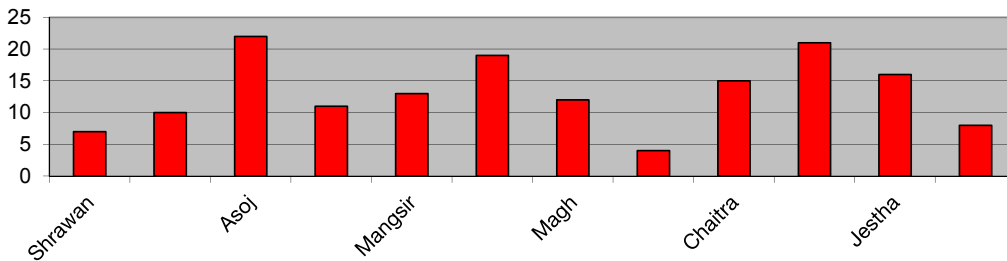
Source: Juddha Fire Brigade Office, Basantapur

not enough to tackle the huge fires. Heavy traffic and narrow roads followed by a lack of water are the major limiting factors to handle fire.

4.3 Status of Fire Fighters

The "Barun Yantra Karyalaya" knows the fire service of Nepal. The fire service started its first office in Nepal in Kathmandu in 1937 with a single "MORISH" (England made) vehicle. At that time Kathmandu was not linked by any drivable roadway, so porters who carried its components on their backs and shoulders from the Indian boarder transported this vehicle into the city. Although no telephone lines were set up in the city at that time, the needs of the fire service were realized and phone lines were established. An iron watchtower was built to monitor the city. As a precautionary measure, the fire servicemen were sent to the areas where fire could most easily catch.

Later in 1944, the fire service was extended to the neighboring cities of Kathmandu, namely Lalitpur and Bhaktapur, with a "DODGE" with Tailor pumps. In 1975, the German government donated seven very useful fire engines. Nowadays the service has been expanded in thirty-two other cities in the country. The fire service in Kathmandu airport was established in 1966 and it now has nine firefighters.

The *Juddha Barunyantra,* Juddha Fire Brigade was established in 1937 with a clear mandate to rescue the people from natural or human-induced disaster. In 1947, there were altogether 128 firemen in the Kathmandu Valley with fifty-four firemen in Kathmandu, thirty-six in Bhaktapur, and thirty-eight in Lalitpur. In 2005-06 the number of firemen in all three districts shrank to just twenty-three.

In the Kathmandu Valley, there are twenty-three firefighters engaged in the service, yet, very few of them are well bodied and most of them have not received

any proper training. Some of the established non-government firefighter services are being shut down because of the resource constraint. The firefighters lack fireproof uniforms, boots etc; the lack of water has been another problem. The fire brigade in Kathmandu has just one water jet with a water tank. There is not good coordination between fire fighters and other groups deployed when fire occurs. Other groups mean Armed Police Force (APF). According to Budhathoki, the groups of APF are not trained at all as they do not have basic idea about fighting fire. Remembering an incident about fire in petrol pump in Tinkune, he, further adds that they (APF) hit water in petroleum as we (fire brigades) had already covered the petroleum by using foam. Further sprinkling of water removed foam to let fire spread. According to Budhathoki, fire brigade Kathmandu severely lacks foams and foam-blending machine. Fire brigade mixes foam and water manually to fight the fire caught to petroleum. But in case of big hydrocarbon induced fire the existing resources is not enough at all as the scenario can become disastrous.

Table No. 3 Status of Fire Fighter Engines

District	Total number of Water jets	Working	Out of order
Kathmandu	Water Tank- 4	2	2
	88 ft. ladder –1	2	0
Lalitpur	5	2	3
Bhaktapur	4	2	2

Source: Juddha Barun Yantra Office, Basantapur2018

4.4 Consequences of fires

A fire of vast proportions can cause damage to the surrounding environment by the massive production of heat and emission of gases and fumes.

Smoke and gas because of their suffocating and direct affect on human airways represent other danger elements; the situation is further complicated because the public generally underestimates the danger of smoke and gas.

One factor that makes all fire disasters dramatic is panic. Anybody close to a sudden fire is affected by panic. When a violent fire breaks out, there is an initial moment of psychological paralysis, generally followed by total incapacity for logical thought, and this leads to instinctive behavioral reactions wherein the one aim is to save oneself and that entire one holds dear.

This sequence of actions frequently serves only to worsen the extent of the damage caused and to create an even more dramatic and tragic situation. In animals this may indeed be the only reaction possible, but in humans there is another option: that is to keep calm and take rational decisions. This can be achieved only in one way: through obtaining an awareness about the risks involved, through understanding of the dangers, and through instructions about how to behave in the case of a fire.

A fire disaster has very special characteristics if one considers the particularities of the agent and the type of damage it produces in living beings. When fire comes into contact with objects and materials, it burns them in a relatively short time.

The action of fire on a living organism can be lethal within a few seconds. In humans, if not immediately lethal, fire creates a pathological condition: the burn, considered to be the most complex trauma that can strike the human body.

For the above reasons, burn disaster management must, besides prevention, be mainly directed towards planning and application of measures necessary to mitigate the damage caused to people, to prevent aggravation, and to promote healing.

It is therefore useful to bear in mind some specific aspects of a fire disaster, briefly summarized as follows:

- The number of persons involved is usually high.
- The burns tend to be extensive, and the general condition of the victims precarious.
- The burn is often associated with other serious pathologies, such as wounds, fractures, electrocution and blast or inhalation lesions.
- Hypovolaernic shock, a characteristic feature in the first phase of the burn illness apparent as early as within three hours of the trauma, induces a state of tissue hypoxia with irreversible damage to the various organs and systems; the time interval between the burn accident and initiation of resuscitatory therapy must be less than two hours.
- The inhalation of combustion gases, fumes and hot air causes damage to the airways and this alone can jeopardize survival.
- The place where the disaster occurs is not always easily accessible, and speedy care and assistance may be inadequate.
- Specialists must carry out triage in loco of the victims, as only experts are able to evaluate the immediate gravity of the burn and the measures to take.
- Besides the number of dead, the overall assessment of the severity and damage must be made on the basis of the number of persons in a condition of potential mortality and severe risk of disability.
- The rapid assessment and care of the viable and potentially curable victims is paramount.

Preventive Disaster Management

5.1 EARTHQUAKE

5.1.1 What to do before an earthquake?

Earthquakes strike suddenly, violently and without warning. Identifying potential hazards ahead of time and advance planning can reduce the dangers of serious injury or loss of life from an earthquake. Repairing deep plaster cracks in ceilings and foundations, anchoring overhead lighting fixtures to the ceiling, and following local seismic building standards will help reduce the impact of earthquakes.

Six ways to plan ahead

1. Check for hazards in the home

- Fasten shelves securely to walls.
- Place large or heavy objects on lower shelves.
- Store breakable items such as bottled foods, glass and china in low closed cabinets with latches.
- Hang heavy items such as pictures and mirrors away from beds, couches and anywhere people might sit.
- Brace overhead light fixtures.
- Repair defective electrical wiring and leaky gas connections. These are potential fire risks induced by earthquakes.
- Secure a water heater by strapping it to the wall studs and by bolting it to the floor.
- Repair any deep cracks in ceilings or foundations. Get an expert's advice if there are signs of structural defects.
- Store weed killers, pesticides and flammable products securely in closed cabinets with latches and on bottom shelves.

2. Identify safe places indoors and outdoors

- Under sturdy furniture such as a heavy desk or table.
- Against an inside wall.
- Away from where glass could shatter around windows, mirrors, pictures or where heavy bookcases or other heavy furniture could fall over.
- In the open, away from buildings, trees, telephone and electrical lines, overpasses or elevated expressways.

3. Educate yourself and family members

- Contact your local emergency management office for more information on earthquakes. Also read the instructions for information on how to protect your property from earthquakes, issued by various such organizations. e.g. NSET, MoHA.
- Teach children how and when to call the police or fire departments and which radio station to tune to for emergency information.
- Teach all family members how and when to turn off gas-powered appliances, electricity and water.

4. Have disaster supplies on hand

- Flashlight and extra batteries.
- Portable battery-operated radio and extra batteries.
- First aid kit and manual.
- Emergency food and water. (beaten rice and water along with blow whistle)
- Nonelectric can opener.
- Essential medicines. (such as paracetamol, metronidazole, antacid tablets, painkillers and analgesic and anti-allergic, Patients are suggested to keep extra medicines for a week long stock)
- Cash and credit cards.
- Sturdy shoes.

5. Develop an emergency communication plan

- In case family members are separated from one another during an earthquake (a real possibility during a day when adults are at work and children are at school), develop a plan for reuniting after the disaster.
- Ask an out-of-state relative or friend to serve as the "family contact." After a disaster, it's often easier to call long distance. Make sure everyone in the family knows the name, address, and phone number of the contact person.

6.Help you community get ready

- Publish a special section in your local newspaper with emergency information

on earthquakes. Localize the information by printing the phone numbers of local emergency services offices.

- Conduct a weeklong series on locating hazards in the home.
- Work with local emergency services and officials to prepare special reports for people with mobility impairments on what to do during an earthquake.
- Provide tips on conducting earthquake drills in the home schools and similar other institutions.

5.1.2 What to do during an earthquake?

Stay as safe as possible during an earthquake. Be aware that some earthquakes are actually foreshocks and a larger earthquake might occur later. Minimize your movements to a few steps to a nearby safe place and stay indoors until the shaking has stopped and you are sure exiting is safe.

If indoors

- DROP to the ground; take COVER by getting under a sturdy table or other piece of furniture; and HOLD ON until the shaking stops. If there is no table or desk near you, cover your face and head with your arms and crouch in an inside corner of the building.
- Stay away from glass, windows, outside doors and walls and anything that could fall, such as lighting fixtures or furniture.
- Stay in bed if you are there when the earthquake strikes. Hold on and protect your head with a pillow, unless you are under a heavy light fixture that could fall. In that case, move to the nearest safe place.
- Use a doorway for shelter only if it is in close proximity to you and if you know it is a strongly supported, load bearing doorway.
- Stay inside until shaking stops and it is safe to go outside. Research has shown that most injuries occur when people inside buildings attempt to move to a different location inside the building or try to leave.
- DO NOT use the elevators, escalators and lifts.

If outdoors

- Stay there.
- Move away from buildings, streetlights and utility wires.
- Once in the open, stay there until the shaking stops. The greatest danger exists directly outside buildings, at exits, and alongside exterior walls. Many of the 120 fatalities from the 1933 Long Beach, US earthquake occurred when people ran outside of buildings only to be killed by falling debris from collapsing walls. Ground movement during an earthquake is seldom the direct cause of death or injury. Most earthquake-related casualties result from collapsing walls, flying glass and falling objects.

If in a moving vehicle

- Stop as quickly as safety permits and stay in the vehicle. Avoid stopping near or under buildings, trees, overpasses and utility wires.
- Proceed cautiously once the earthquake has stopped. Avoid roads, bridges or ramps that might have been damaged by the earthquake.

If trapped under debris

- Do not light a match, lighter.
- Do not move about or kick up dust.
- Cover your mouth with a handkerchief or clothing.
- Tap on a pipe or wall so rescuers can locate you. Use a whistle if one is available. Shout only as a last resort. Shouting can cause you to inhale dangerous amounts of dust.

5.1.2 What to do after an earthquake?

- Expect aftershocks. These secondary shockwaves are usually less violent than the main quake but can be strong enough to do additional damage to weakened structur es and can occur in the first hours, days, weeks or even months after the quake.
- Listen to a battery-operated radio or television. Listen for the latest emergency information.
- Protect your houses from the outsiders and looter (if you can). Take help from your neighbors to form monitoring and guarding groups.
- Use the telephone only for emergency calls. (over calling might keep network busy unnecessarily)
- Open cabinets cautiously. Beware of objects that can fall off shelves.
- Stay away from damaged areas. Stay away unless your assistance has been specifically requested by police, fire or relief organizations. Return home only when authorities say it is safe.
- Help injured or trapped persons. Remember to help your neighbors who may require special assistance such as infants, the elderly and people with disabilities. Give first aid where appropriate. Do not move seriously injured persons unless they are in immediate danger of further injury. Call for help.
- Clean up spilled medicines, bleaches, petrol, kerosene or other flammable liquids immediately. Leave the area if you smell gas or fumes from other chemicals.
- Inspect the entire length of chimneys for damage. Unnoticed damage could lead to a fire.

5.2 FIRE

5.2.1 What to do before a fire?

The following are things you can do to protect yourself, your family and your property in the following events of the fire.

Smoke alarms

- Install smoke alarms. (relatively easy and cheap to purchase) Properly working smoke alarms decrease your chances of dying in a fire by half.
- Place smoke alarms on every level of your residence. Place them outside bedrooms on the ceiling or high on the wall (4 to 12 inches from ceiling), at the top of open stairways, or at the bottom of enclosed stairs and near (but not in) the kitchen.
- Test and clean smoke alarms once a month and replace batteries at least once a year. Replace smoke alarms once every ten years.

Escaping the fire

- Review escape routes with your family. Practice escaping from each room.
- Make sure windows are not nailed or painted shut. Make sure security gratings on windows have a fire safety-opening feature so they can be easily opened from the inside.
- Consider escape ladders if your residence has more than one level and ensure that burglar bars (grill, metal frame) and other antitheft mechanisms that block outside window entry are easily opened from the inside.
- Teach family members to stay low to the floor (where the air is safer in a fire) when escaping from a fire.
- Clean out storage areas. Do not let trash, such as old newspapers and magazines, accumulate.

Inflammable items

- Never use gasoline, benzine, naptha or similar flammable liquids indoors.
- Store inflammable liquids in approved containers in well-ventilated storage areas.
- Never smoke near inflammable liquids.
- Discard all rags or materials that have been soaked in inflammable liquids after you have used them. Safely discard them outdoors in a metal container.
- Insulate chimneys and place spark arresters on top. The chimney should be at least three feet higher than the roof. Remove branches hanging above and around the chimney.

Heating sources

- Be careful when using alternative heating sources.
- Check with your local fire department on the legality of using kerosene heaters in your community. Be sure to fill kerosene heaters outside, and be sure they have cooled.
- Place heaters at least three feet away from inflammable materials. Make sure the floor and nearby walls are properly insulated.
- Use only the type of fuel designated for your unit and follow manufacturer's instructions.
- Store ashes in a metal container outside and away from your residence.
- Keep open flames away from walls, furniture, drapery and inflammable items.
- Keep a screen in front of the fireplace.
- Have heating units inspected and cleaned annually by a certified specialist.

Matches and smoking

- Keep matches and lighters up high, away from children, and if possible, in a locked cabinet.
- Never smoke in bed or when drowsy or medicated. Provide smokers with deep, sturdy ashtrays. Douse cigarette and cigar butts with water before disposal. It is logical to keep water inside sturdy ashtrays.

Electrical wiring

- Have the electrical wiring in your residence checked by an electrician.
- Inspect extension cords for frayed or exposed wires or loose plugs.
- Make sure outlets have cover plates and no exposed wiring.
- Make sure wiring does not run under rugs, over nails or across high-traffic areas.
- Do not overload extension cords or outlets. If you need to plug in two or three appliances, get an UL-approved unit with built-in circuit breakers to prevent sparks and short circuits.
- Make sure insulation does not touch bare electrical wiring.

Other

- Sleep with your door closed.
- Install A-B-C-type fire extinguishers in your residence and teach family members how to use them.
- Consider installing an automatic fire sprinkler system in your residence.
- Ask your local fire department to inspect your residence for fire safety and prevention.

5.2.2 What to do during a fire?

If your clothes catch on fire, you should:
• Stop, drop, and roll--until the fire is extinguished. Running only makes the fire burn faster.

To escape a fire, you should:
• Check closed doors for heat before you open them. If you are escaping through a closed door, use the back of your hand to feel the top of the door, the doorknob, and the crack between the door and door frame before you open it. Never use the palm of your hand or fingers to test for heat--burning those areas could impair your ability to escape a fire, i.e. climbing ladders and crawling.

Hot Door	Cool Door
Do not open. Escape through a window. If you cannot escape, hang a white or light-colored sheet outside the window, alerting fire fighters to your presence.	Open slowly and ensure fire and/or smoke is not blocking your escape route. If your escape route is blocked, shut the door immediately and use an alternate escape route, such as a window. If clear, leave immediately through the door and close it behind you. Be prepared to crawl. Smoke and heat rise. The air is clearer and cooler near the floor.

• Crawl low under any smoke to your exit--heavy smoke and poisonous gases collect first along the ceiling.
• Close doors behind you as you escape to delay the spread of the fire.

5.2.3 What to do after a fire?

The following are guidelines for different circumstances in the period following a fire:
• If you are with burn victims or are a burn victim yourself, call an ambulance; cool and cover burns to reduce chance of further injury or infection.
• If you detect heat or smoke when entering a damaged building, evacuate immediately.
• If you are a tenant, contact the landlord.
• If you have a safe or strong box, do not try to open it. It can hold intense heat for several hours. If the door is opened before the box has cooled, the contents could burst into flames.
• If you must leave your home because a building inspector says the building is unsafe, ask someone you trust to watch the property during your absence.

Recommendation to HRA fire prevention objectives

- Identify and develop public, private and fire community partnership opportunities to implement and enhance fire prevention and awareness activities.
- Provide professional, managerial and technical assistance to State, Tribal and local fire service organizations and individuals.
- Provide classroom and distance education-training programs for fire service and emergency response personnel.
- Collect and analyze data to project national trends and training needs.
- Manage a national public fire education and awareness program.
- Encourage the inclusion of fire prevention and detection technology and practices in the design and construction of physical facilities.

Curative Disaster Management

6
CHAPTER

6.1 EARTHQUAKES

It is important to make the relief and rescue team that is always prepared to work when earthquake undergoes.

6.1.1 Deployment of Rescue Team

Rescue team with proper training should be kept in various areas of Kathmandu with consideration of flood in river and possible damaging of bridges. The team should be provided the following things.

- Torchlights or emergency lights to every rescuer with fully charged batteries.
- Lifeguard jacket, helmets and waterproof uniforms.
- Microphones, loud speakers and wireless.
- Heavy equipments such as excavators, dozers and cranes.
- Ropes, equipments, oxygen cylinder, pack food and first ad boxes.
- Light raft boats to cross-rivers.

6.1.2 Infrastructure Requirements

It is very essential to form infrastructure for the immediate relief of the victims. The immediate response should have following infrastructure.

- Open spaces should be allocated for each residential area. The open space such as Tudikhel, Khulla Munch can be the options.
- Such open spaces should be provided with waterproof tents and hoods.
- The first aid and major aid alternatives should also be kept open.
- Medicines and required treatment equipments should be kept inside the earthquake resistant rooms and buildings for such emergency purposes.
- Doctors and other medical workers should be formed in each residential areas according to the accessibility.
- It is necessary to make pre-determined plan about where and how get gathered for treatment of victims when earthquakes occur.

- Even if the telephones do not work such team members should contact to get together.
- Food storehouses should be made easily available for the authorized rescuers in case of disasters.

6.2 FIRE

6.2.1 Deployment of rescue teams

Rescue team with proper training should be kept in various areas of Kathmandu with consideration of accessibility. The team should be provided the following things.

- Fireproof lifeguard jackets, helmets and waterproof uniforms.
- Microphones, loud speakers and wireless.
- Heavy equipments such as excavators, dozers and cranes.
- Ropes, fire fighting equipments, oxygen cylinder, pack food and first aid boxes.
- Small fire brigades (TATA mobile with up to 1500 liters capacity water tanks)

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- Food storehouses should be made easily available for the authorized rescuers in case of disasters.

Picture no 4: Kathmandu Valley and recommended fire brigade stations
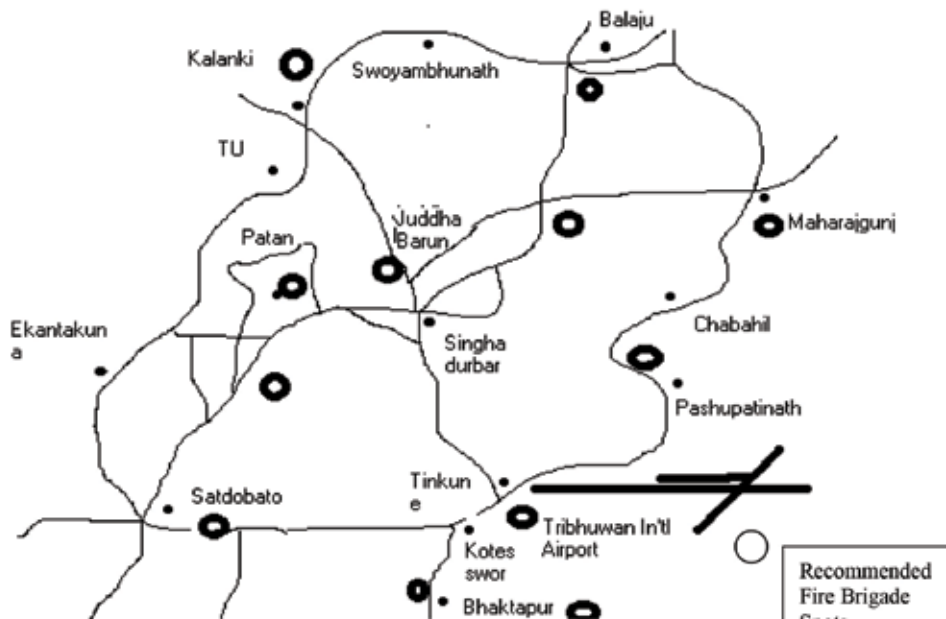
Establishing fire brigades stations in different parts of valley

The rampant urbanization and growing population of the Kathmandu valley has congested the valley and has led to the need for an increase in firefighter resources to combat the increased risk of fires. The 300 sq km of densely populated valley offers severe obstacles to the current fire department to get to potential accident areas in time. The growing vehicular pressure and traffic congestion has made valley roads difficult to maneuver. Even highways like the ring road are consistently jammed for several hours during rush hour. The consequences can be disastrous if fire fighters fail to reach blazes timely. Considering these trends, it has become important to establish at least twelve brigades with at least seven stations in Kathmandu district alone. In picture No. 4 the thick circular wheels outlines the different proposed locations for the new brigades and stations.

Special Delivery Plan for Fire and Burn Disaster

7

CHAPTER

THE PLANS FOR BURN DISASTERS

The drafting of an operational rescue plan for a burn disaster cannot fail to take into account two points:

1. The victim's pathological picture, i.e. the presence of extensive burns, inhalation lesions, and polytrauma.
2. The type of intervention required.

Plans must be developed along three lines: immediate care; medical rescue within three hours; use of specific equipment and means for the rescue of the burned patient.

The timeliness and the effective impact of relief work depend on both general and local factors. In the particular case of "burn disaster," as defined earlier, the particular circumstances--such as the moment when the disaster occurs (e.g. night, daytime, public holiday and weather conditions) the place of the disaster (e.g. residential area, night club, cinema halls, fun fares and exhibitions or in isolated locality), the degree of accessibility, the distance from operational rescue forces--all acquire importance because any delay will prevent relief work from being immediately available.

A decisive role is therefore played also by local intervention factors that chiefly depend on the behavior of the people present at the scene of the disaster and on the speed and action of the operative teams that arrive on the scene. The peculiar nature of the burn disaster therefore dictates well-defined chronological and qualitative operative phases. A person with burns of the airways and associated trauma needs immediate care of a different type from that given to the victim of an earthquake or flood. It is also of fundamental importance, for prognostic reasons, that pending the arrival of organized relief some medical and/or surgical first aid be given within a very short time, according to the type of lesion present.

For the above reasons the basic points of any health management plan in the event of a burn disaster must include:

A. Rapid evaluation of the extent of the disaster.
B. Specific and rapid health assistance response on site.
C. Assessment of the capacity of local specialized structures to receive burn victims.
D. Selective evacuation of casualties from the disaster area.

A) Rapid evaluation of the extent of the disaster

A rapid evaluation of the extent of a burn disaster is essential for calculating the size of the rescue forces that need to be involved (teams operating on the spot, teams brought up to the operative area, local first-aid units, regional/interregional/international units, etc) for health assistance to the injured.

The death of 25-30 persons indicates a burn disaster of very severe proportions, especially considering the high number of additional burn patients that can be expected.

A burn disaster certainly requires specific management as local rescue forces are most often unable to cope with the initial health impact and conditions are unequal: consider that in the event of a disaster in an urban area the resources available may be greater than those available in a rural or isolated area; but it should not be forgotten that faced with a high number of burn victims even the most sophisticated Burns Center may prove inadequate. When a burn disaster causes hundreds of burn casualties it may be necessary to call on not only regional and interregional health forces but also national and international organizations. Link-ups with international organizations, with their specific experience in this type of rescue work, must be included in disaster management planning. The number of dead and injured, the types of pathology involved, the availability on the spot of material and personnel capable of providing assistance, local environmental conditions as regards access to the disaster area-- all these factors are essential information for the assessment of the initial gravity of a disaster.

The persons on the spot who provide immediate aid must be able to provide rapid information on local conditions and the extent of the disaster for the use of local authorities in charge, i.e. fire brigades, police, etc. These will in turn send the alert to local hospitals, specialized centers, ambulance services, helicopter rescue, etc.

All these persons must be able to assess, even if only approximately, the time necessary for the arrival of full-scale first-aid support.

A more accurate assessment will be possible later when the first experts arrive on

the scene, e.g. the fire brigade. The real extent of the disaster can then be notified to the operation control centers.

B) Specific and rapid health assistance response on site
Three distinct phases can be defined in rescue operations: immediate care, medical first aid and organized relief.

Immediate care is provided by persons present at the scene of the disaster. Relatives, friends, passers-by, uninjured survivors--all persons who witness the disaster or who arrive immediately on the scene. Generally speaking, their help is an automatic reaction derived from affection, friendship, and a spirit of human solidarity.

In the event of burn disasters, in particular, it is important that the first people to provide assistance should be fully aware of what they have to do. The behavior of the rescuers in immediate care can be summarized as follows:

1. Self-control.
2. Self-protection.
3. Reduction of the fire.
4. Extraction and transfer of victims to the open air.
5. Appropriate action when clothing is on tire.
6. Removal of burning clothing.
7. Emergency treatment of burned areas.
8. Knowledgeable action pending more complete relief.
9. Dealing with chemical burns.
10. Dealing with electrical burns.

To acquire the necessary experience and know-how, rescue teams must have attended specific training courses, taken part in civil defense and disaster simulation exercises, and attended emergency health courses for persons of all backgrounds and ages, starting from school age.

The occasional rescue workers must be able to perform, even if only in summary fashion, an initial assessment of the damage that has occurred and activate the first triage procedures.

In a disaster with great numbers of burn patients and other casualties occurring in a rural or isolated area with predictable delays in the arrival of the first rescue workers, the persons present on the spot should mark out a safe place as an area for assembly of the injured. This area should be accessible to vehicles already in the vicinity or on their way (ambulances, helicopters, private cars, etc). This will facilitate the task of the first rescue workers who arrive, as they will be able to proceed immediately to their task and perform initial triage and initial resuscitatory treatment.

Medical first aid refers to the action of trained persons present in the immediate vicinity who have already received experience in rescue operations and who organize and go into action very rapidly, within 2-3 hours. They may be physicians, nurses, EMS paramedics, members of voluntary organizations, etc. They are supported by public and private organizations in the area--hospitals, casualty departments, clinics, fire brigade, police, etc--coordinated by the local authorities.

The authorities provide guidelines on specific stockpiles in convenient locations, the management of ambulance services, traffic control, the use of local and regional mass media, general means of transport, and other relevant services.

The kind of trained assistance provided by these first rescuers is of primary importance for the prognosis of the casualties. They must carry out the first triage of urgent cases and the many polytraumatized patients. Given the particular evolution of burn disease, particularly worsening hypovolaemic shock, they must also initiate all medical and surgical procedures necessary for preliminary resuscitatory therapy and the initial local treatment of burns.

Other teams of physicians, nurses, and specialized technicians could support these first-aid groups with appropriate equipment for the specific care of burn patients. These teams, sent in by air, would represent an outpost for organized relief when it arrived.

It must be stressed that it is of fundamental importance that the particular procedures regarding both medical assistance and general behavior, which rescue workers have to carry out, must be based on specially prepared protocols publicized through information media, education campaigns, refresher courses, and training sessions aimed at citizens of every social group, starting at school age.

The following are ten points that these medical first aid teams must follow:

1. Immediate triage of all victims.
2. Inspection of the upper airways.
3. Qualitative assessment of the burns.
4. Quantitative assessment of the burns.
5. Intravenous resuscitatory therapy.
6. Analgesic therapy.
7. Bladder catheterization.
8. Pressure-relieving incisions.
9. Examination of the patient with particular attention to respiratory capacity.
10. Hospital transfer.

Organized relief refers to the mobilization of all civil defense, military and volunteer forces that are ready to intervene in the event of a large disaster. These forces arrive on the site as rapidly as possible but mostly not within the first three hours, equipped with the necessary means and structures able to perform rescue action

within the first 48-72 hours after the disaster, until all the wounded have been evacuated. These units will be involved in triage of the victims, i.e. stabilization of the condition of serious victims, separating the less injured, preparing a preliminary evacuation plan, contacting dispatching stations, selecting means of transport, organizing first-aid posts and clearing the dead**.**

Specialized triage can save human lives, facilitate a more functional evacuation of the injured and make more rational use of specialized bed availability. Triage must bear in mind forecast. Absolute priority is given to injured persons who will die unless treated. Those injured persons who will survive even without therapy, and those who will die even if treated, are given second priority. In other words, the priority of casualty selection in a disaster is radically different from the priority followed in normal rescue conditions, where the most seriously injured are given priority, whatever the prognosis.

Burn casualty triage is conditioned by the number of patients, the gravity of the burns, the age of the patients, the presence of respiratory complications, and the availability of beds.

In burn disasters, it is useful to distinguish action for patients according to gravity categories:

- Minor burns/noncritical sites (<10% TBSA for children; <20% TBSA for adults): dress wound; tetanus prophylaxis; outpatient care.
- Minor burns/critical sites (hands, face, perineum): admit, early operation, special wound care, short hospital stay.
- 20-60% TBSA: burns unit, trained personnel; requires intravenous fluids/ careful monitoring.
- Extensive burns (>60% TBSA); mortality high.
- Minor burns/inhalation injury/associated injuries; administer oxygen, measure carboxyhaemoglobin and/or intubate, ventilate, care of injuries (COH_2 -> Halmoglobin +CO -> Carboxylhaemoglobin).

Some Centers suggest simplifying triage by the use of certain flexible formulas. For example, the gravity of burns can be expressed in terms of extent and age: where the sum of the age and extent of burns is greater than 90 percent, there is an empirical 50 percent chance of survival. By extending this number up or down, depending on the overall situation, one can increase or narrow the number of burns casualties who ought to be transported first.

Triage must be looked upon as a continuous and dynamic process. It begins on the spot and continues wherever the patients are transferred. A second level of triage may be performed in a decentralized, safer area, where casualties have been assembled, for example outside a hospital. A third level may be necessary in the hospital itself before sending on patients to the specialist treatment units.

Once the patients have been selected on the basis of the gravity of their condition, they should be labeled with cards or other clearly recognizable means of identification in relation to the priority of health care. Burn victims should never be marked on the skin with visible signs or by the application of adhesives to the forehead. A widely adopted method is to attach tags of various colors, in relation to priority of health care and critical condition. There is no standard system but the following is quite practical:

- red tag = immediate treatment for very serious life endangering lesions.
- green tag = secondary priority with urgent but stable trauma.
- yellow tag = less urgent lesions.
- black tag = deceased or fatal lesions.

There is some disagreement as to the use of colored tags. Some use a higher number of categories in order to avoid problems in the second and third phases. Others believe that this system can work satisfactorily only in urban rescue conditions, and that its use is debatable in disasters in rural areas.

Language and cultural differences also complicate their use on the international level. The Pan American Health Organization of WHO uses a color system:

- Red tag = First priority for evacuation: burns complicated by injury to the air passages.
- Green tag = Second priority for evacuation: second degree burns covering >30% T13SA; third-degree 10% T13SA; burns complicated by major lesions to soft tissue or minor fractures; third-degree burns involving such critical areas as hands, feet or face but with no breathing problem present.
- Yellow tag = third priority for evacuation: minor burns, second-degree covering less than 15% TBSA; third-degree <2% TBSA, first-degree <20% TBS/ excluding hands, feet and face.
- Black tag = dead.

C) Assessment of the capacity of specialized and non-specialized structures for the treatment of burn victims

The planning of burn disaster management must include the following:

1. Mapping of hospital facilities, private clinics, and reanimation and emergency centers in the entire region.
2. List of the larger hospitals in the region having burn centers, including bed capacity.
3. List of smaller regional hospitals with burn unit, including bed capacity.
4. Indications for the use of regional data banks used by the provincial and regional emergency health services. Inter alia, these give information on the availability of beds by sectors and by type of emergency, updated periodically.

In some countries this aspect is already operational, e.g. INFOBRUL in France; NDMS in the U.S.; Argo in Italy.

5. Guidelines for the use of specialized and nonspecialized hospital structures (interregional, national, and international) for the organization of transport and transfer of casualties in disaster emergencies.

6. Guidelines for the internal organization of hospital facilities in the event of disaster, including fire disaster.

Every hospital must be ready to set up an Emergency Co-ordination Operational Center responsible for.

- Making available specialized and non-specialized beds and organizing patient transfers and discharges on the basis of predictions of mass arrivals of injured and burned patients.
- Organizing emergency rota systems for medical and nursing staff.
- Organizing a central collection point for new victims arriving in order to organize a second triage.
- Organizing availability of operating rooms and beds (especially for respiratory reanimation), out-patient rooms, and areas for less serious patients requiring local burn treatment and therefore internal means of transport.
- Alerting laboratory and analysis services, radiology, blood bank.
- Alerting pharmacy services and laundry for supplies of medical and surgical material.
- Arranging consultancy services with other departments (neurosurgical, ophthalmic, orthopaedic, pneumological, pediatric, etc).
- Organizing an office for contacts with patients' relatives and friends.
- Organizing an office for contacts with foreigners, if any are involved, to help them with language problems and bureaucratic matters related to the repatriation of the dead and injured.
- Organizing an office for press relations in order to supply up-to-date reliable information on the evolution of the disaster and the conditions of patients, issuing medical bulletins at intervals.
- Organizing a liaison office with civil defense operative centers, fire service, police, provincial and regional emergency health services, helicopter rescue service, and other hospital facilities.
- Collaborating with the Chief of the Burns Center or Burns Unit in order to integrate nursing personnel on the spot, with a view to optimal distribution of burn patients in the various departments and to the dispatch, if necessary, of more personnel to the scene of the disaster.

D) Selective evacuation of casualties from the disaster area

This is certainly the most complex phase on both organizational and operational grounds. Selective evacuation depends on three factors:

i. Quality of triage already done (and continuing) on the spot.

ii. The means of communication with the disaster area.

iii.   Availability of transport for the injured.

As specialized burn care centers are few and far between and their beds are nearly always all occupied, the first phase of triage is of vital importance for orderly evacuation of the injured and rational use of beds. Triage, particularly after a burns disaster, must be as specialized as possible, dynamic and give priority for transfer of patients who need stabilizing, resuscitatory therapy and attention to conditions *quoad vitam*. This clearly concerns the majority of the patients. Such procedures will facilitate the task of the physicians in the reception centers.

Triage is not static; the need for further careful triage can be related to the high number of burn patients, the evolution of the victims' condition, or the lack of experience or specialized personnel on the spot. This will lead to risky and less accurate evacuation of casualties.

The "load and go" evacuation system must never be used, especially in burn disasters. It causes great hold-ups in transport, a chaotic use of specialized beds, and considerable risks for patients who receive resuscitatory treatment only after long delays.

The efficiency of the communication system is of great importance here. If the fire and police services are not immediately alerted following the disaster, the entire rescue operation risks being delayed and jeopardized. Disaster planning must give precise indications as to how to organize immediate and uninterrupted links between the disaster zone, especially if this is not in an urban area, and the operating centers of the fire brigade, police force, emergency health services, hospitals and civil defense.

Efficient communications are imperative in order to follow the initial phases of a disaster, which require coordinated and rapid responses in every aspect. Apart from normal communication services (telephone, fax), there must be radio links with the EMS, local and national police, fire brigade, voluntary organizations, regional emergency services, the army, and helicopter rescue.

Efficient communications between the disaster area and specialized local structures will also make it possible to activate, pending the arrival of specialist teams, a system of medical radio consulting to initiate emergency resuscitatory treatment. Experience from previous disasters and civil defense drills has highlighted the serious difficulties that occur in road connections between the disaster area and immediate response operating centers and hospitals. This can be avoided by isolating the affected area and creating a direct approach route for the arrival and departure of ambulances and rescue teams.

Particular care must be taken to control the influx of family members and bystanders. Traffic jams and other hold-ups will occur if the main access routes are not kept clear.

The rational evacuation of burn disaster victims is closely related to the condition of the injured, to their numbers, to the type and number of transport available, to the distance to be covered and to the availability of facilities at destination. Land transport is to be preferred if the patients' condition is stabilized and requires only maintenance treatment, the roads are free and properly equipped ambulances are available.

Planning must include a census of all ambulances, the public and private emergency health services in the territory, and the type of assistance they can provide in transit.

Patients with minor burns and light trauma who are able to walk can use buses, private cars, and covered trucks and lorries (these have to be requisitioned). If greater distances have to be covered in a limited time, air transport will have to be used. The most practical means is the helicopter, although its use depends on appropriate weather and visibility conditions and on the presence of landing strips in the area.

A census of fixed-wing aircraft and helicopters available in the region makes it possible to have up to date information on the number of air facilities and the time necessary for their arrival on site.

Such aircraft should offer resuscitation systems on board and be equipped for the transport of stretchers, patients, and medical and normal passengers. Aircraft with resuscitation systems are used for the transfer of burn patients with life-threatening conditions, in a grave toxic state and requiring a transport time of less than sixty minutes.

Aircraft should also be used for patients with stabilized conditions requiring resuscitatory therapy in flight and who have to cover greater distances to reach specialized centers. In maritime areas, rapid boat ambulances are helpful. Other means can be used for the evacuation of less seriously injured persons and to transfer specialist teams and first-aid material to and from the disaster area.

8

Conclusions and Recommendation

CONCLUSIONS

Kathmandu is disaster prone city. The continuous movement of tectonic plates by 3 cm per year and subsequent formation of mountains make it always vulnerable to disasters such as earthquake and other. The trend of massive earthquake in every 60-70 years interval to this point also indicates about how close we are to the earthquake. The unplanned settlements with no risk precautions are other factors to amplify the risk.

The crowded city centers and old buildings offering very less resistance to earthquake puts the city in general and people in specific over the dynamite. The poor buildings without following any building codes from earthquake and fire perspective can be observed quite easily in an entire city. Not only the residential houses but may other buildings such as shopping complexes, offices, hotels and hospital are not resistant to the earthquake of reasonable Richter scale. Add to that the rapid increase in population and urbanization in last few years have made the city much crowded. The population above 2.5 million with average growth rate of 6.5 percent is certainly one of the highest rates in the world's other cities. The occurrence of the disasters like earthquake and fire can create the significant casualty.

People will die due to lack of precautionary measures that need to be applied. Where as the most number of people will die due to lack of timely rescue and relief. It is quite important to make the people aware and to train them about earthquake and fire hazard as preventive measure. The preventive measures are equally important to reduce the possible degree of casualty and injuries. The existing resources can be made adequate to cope with post earthquake situation if different stakeholders are made and brought them together under the single umbrella of disaster management. But the existing resources are not adequate at all to fight with the fire of higher degree that has not occurred yet but can occur at any time.

The condition of the fire brigade in all three districts is quite poor. The decade old engines with no modern technologies are not able to fight the fire if takes place in

tall buildings and business complexes. The centralized office at Basantapur right from the history cannot reach to the far areas such as out side ring roads in time due to busy traffic. In rush hour such brigades sometimes reaches to the site when everything is over. In many instances such vehicles can't even enter to the narrow streets and becomes unable

RECOMMENDATION

In the past couple chapters, we have spoken about the severe dangers that natural disasters present our families and communities. We have also discussed specific courses of action to take immediately before, during and after such disasters; the precautions that we take during these situations highly improve our chances of survival.

Planning and preparation are the keys to our protective measures. Since we have already highlighted the immediate steps to be taken during the event of an emergency, we will now focus our attention on the more long-term preparations that may be taken in order to minimize possible disasters.

It is our opinion that pursing *architectural restructuring and development* will provide a solid foundation for the future safety of the Himalaya region. In other regions of the world prone to natural disasters, city planners and architects have begun to make buildings more structurally sound and adapted to dealing with disasters whether they be earthquakes, tornadoes or hurricanes. A vital step that Nepal can take is to help encourage homeowners to make their houses more resistant to the disasters specific to this country.

In keeping with the centrality of planning as a preventative tool against disasters, *educational policy-based initiatives* would be another great service the government could organize in order to reach the public. The advice we have outlined in this manual will be helpful if followed by individual households; however, the ultimate goal is for all households to learn about the severity of these disasters. Education will be a requisite tool for spreading the information we have learned about disasters and how we can deal with them. This task, however, will be difficult and cannot be accomplished through the work of a few alone. Whether the government wishes to create countrywide public educational programs itself or privately contract organizations to do the work is irrelevant. Also It is important to form a common task force immediately to overcome the adverse effects of disasters which are on the verge of occurrence anytime and any day. Kathmandu Valley disaster management body is very much poor in its resources especially in case of fire disaster. The formation of strong fire fighting groups with subsequent provision of firefighting equipments is in urgent need. It has also been experienced that there has been huge gap between what institutions and target groups. Institutions are carrying out sophisticated activities to overcome the disaster's effects but the general people are target groups, are

far apart from any precautionary measures as well as preventive measure need to be undertaken during disasters. Thus, the bottom line is that the public must be made aware through strengthening the institutional capacity. The public and major stakeholders need to be participated to form a good linkage between receptor group and service providers.

SPECIAL RECOMMENDATION TO HRA

As per the experience of thirty-three years of working in high altitude and available resources available, The HRA can undertake the following activities in order to ensure about its expansion of working wings in disaster relief and mankind.

PREVENTIVE

- Form **Local Emergency Groups** as an urgent need.
- Organization and formation of Non governmental Emergency Relief Committee (NGERC) with subsequent inclusion of all required stakeholders and members. (rescuers, medical officers, target groups, tent and TAAN workers etc.)
- Formation of committee as emergency rescue and relief group to ensure on-the-spot relief and provision of emergency goods such as shelters (by means of tents), food and rescue.
- Form a common working group in cooperation with several other organizations working in same field or similar field to ensure even better emergency relief.
- Provide training in school and institutions and carryout regular awareness campaign in every ward level.

CURATIVE

- Empower the groups (rescuers and relievers) to fight against such disasters.
- Store sufficient amounts of food and medicines in earthquake resistant areas so that the food deficiencies could be overcome.
- Provide all the necessities to the deployed group (as given in page 34)
- Ambulances and their establishments in various areas, small and large are very much important. Similarly Fire extinguishers, in case of electric fire are important. Small firebrigades (TATA mobile) are in urgent need and has to be provided.
- It is important to form a task force in every aspect of emergency response (such as rescue, relief, treatment, fooding and rehabilitation). Thus the monetary remuneration need to be made guaranteed prior to the disaster so that each and every individual associated with this group will go for working.
- Should have enough raw materials and hardwares so that the emergency shelters can be made to the victims who are in urgent need of treatment or have lost their homes. Thus tents, camping tents must be made available for at least ten thousand people.

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ANNEXES

ANNEX 1

MILESTONES OF EARTHQUAKE RISK REDUCTION IN NEPAL

1988

Udaypur Earthquake
721 deaths 22 districts of eastern Nepal affected Total direct loss of 5 billion rupees
Earthquake considered a major concern for the first time in the country

1992
Start of the National Building Code Development Project (BCDP)
Nepal observed the International Decade for Natural Disaster Reduction (IDNDR)
Day for the first time

1993
First World Seismic Safety Initiative (WSSI) Workshop in Bangkok
First National Conference on Disaster Management
Kathmandu Municipal Mayor participated in Istanbul Workshop on Issues in Urban Risk

1994
NSET registered as a non-governmental organization with His Majesty's Government of Nepal
The National Action Plan for Disaster Management prepared National Building Code drafted
BCDP released
consolidated earthquake catalogue
earthquake hazard maps
Risk Management Project (KVERMP)
First earthquake safety pamphlet published

1995
First training course for journalists on Disaster Journalism

1996
NSET inducted into the International Association of Earthquake Engineering as national member during the 11th World
Conference on Earthquake Engineering (WCEE)
First training course for school teachers on Earthquake Preparedness

1997
KVERMP launched as national project under the Asian Urban Disaster Mitigation Program of Asian Disaster Preparedness

1998

His Majesty's Government of Nepal declared 16 January as national Earthquake Safety Day (ESD)

Kathmandu Valley Earthquake Scenario published

Seismic vulnerability assessment of 1100 buildings of 643 public schools in Kathmandu Valley completed

Building Council Act adopted by the Parliament Workshop on Health and Medical Implications of

Earthquake Disaster was organized for the first time

Kathmandu Valley Earthquake Risk Management Action Plan finalized

Set up of the Disaster Management Section in Kathmandu Metropolitan Office

1999

Bhuwaneshwori Lower Secondary School – the first school to be retrofitted

Proved the technical, social, and economic feasibility of retrofitting public buildings

First ESD Prime Minister released the Kathmandu Valley Earthquake Scenario and Risk Management Action Plan First earthquake safety exhibition Completed the first Environmental Mapping Project in Madhyapur Municipality

Ministry of Health, and World Health Organization (WHO) conducted the training course on Mass Casualty Management

2000

Start of the Kathmandu Valley Earthquake Risk Management Action Plan Implementation Project

2nd ESD

Regional Symposium on Experience in Earthquake Risk Management SESP in

Vaisnabi Secondary School

Upayogi Primary School

Gadgade Primary School

Completed the Kirtipur Environmental Mapping Project

Set up of a ward-level disaster management committee

2001

3rd ESD

Late His Majesty King Birendra granted audience to NSET and foreign delegates

NSET received the United Nations Sasakawa Award for Disaster Reduction - Certificate of Merit

Participated in the WSSI/Earthquake and Megacities Initiatives Inter-disciplinary team to Gujarat following the

Gujarat Earthquake

Launched a half-hour weekly earthquake safety program on a community radio station

The Nepal-Gujarat Mason Exchange and Training Program implemented with Sustainable Environment and Ecological

Development Society and NGOS Kobe

Emergency Preparedness and Disaster Response Plan for the Health Sector drafted

Organized the National Training on Urban Disaster Mitigation

Collaboration with Room to Read on earthquake-resistant construction of two schools in Dhading District

UN Center for Regional Development initiated the Kobe-Kathmandu Students Collaboration on School Earthquake Safety

2002

Published a manual for designers and builders on Protection of Educational Buildings Against Earthquakes

Commenced a weekly structural safety program for house owners and builders

Ministry of Home Affairs completed, in cooperation with the Japanese International Cooperation Agency,

the study on Earthquake Disaster Mitigation in the Kathmandu Valley, Kingdom of Nepal

4th ESD

First ever mass casualty drill involving the emergency rescue responders and hospitals Seismic vulnerability assessment of 14 hospitals undertaken with Ministry of Health and WHO

Organized the Asian Seismological Commission 2002

4th General Assembly of the Asian Seismological Commission Symposium on Seismology, Earthquake Hazard Assessment and Risk Management Pre-Symposium Training Course on Earthquake Vulnerability Reduction for Cities KVERMP completed, the Municipality Earthquake Risk Management Project conceptualized as the replication and Consolidation of KVERMP

2003

Exhibitions held in Bhaktapur

Second phase of Program for Enhancement of Emergency Response (PEER) started in March 2003 for 5 countries including Nepal

Five more schools retrofitted under SESP program

Pre-Positioned Emergency Rescue Stores (PPERS) established in eight communities in Kathmandu. Local volunteers trained

Non-structural Vulnerability Assessment of nine hospitals conducted, methodology published

Half-hour weekly earthquake safety program launched with Annapurna FM Radio of Pokhara

MERMP implemented in four more municipalities as replication of KVERMP under the AUDMP program

DesInventar system introduced in Nepal with assistance of UNDP/BCPR. Inventory of natural disasters of the country for the last 33 years (1971-2003) prepared and analyzed

RADIUS established in Kathmandu Metropolitan City as a planning tool in cooperation with UNESCO

Lalitpur Sub Metropolitan City became the first municipality of Nepal to announce mandatory implementation of Nepal National

Building Code via building permit process

2004

Seven papers on earthquake risk management in Nepal presented by 5 NSET professionals to the 13 WCEE in Vancouver, Canada Kathmandu Valley Earthquake Preparedness Initiative (KVEPI) started jointly by American Red Cross, Nepal Red Cross For effective ERM efforts in Nepal, NSET signed Memorandum of Understanding (MOU) with Department of Urban Development and Building Construction (DUDBC) Nepal Red Cross Society Diploma Engineers' Association, Nepal (DEAN) Nepal Forum of Environmental Journalists (NEFEJ) Tribhuvan University, Teaching Hospital Kathmandu University Training courses developed for masons, technicians, engineers, policy/decision makers and schoolteachers. Training Programs started. "Guideline for Seismic Vulnerability Assessment of Hospitals" published jointly by NSET, WHO and Ministry of Health

ANNEX 2

ORGANIZATIONS

NDRA, 1982 has constituted the following organizational structure through which rescue, relief, rehabilitation and resettlement programs are being carried out effectively and efficiently:
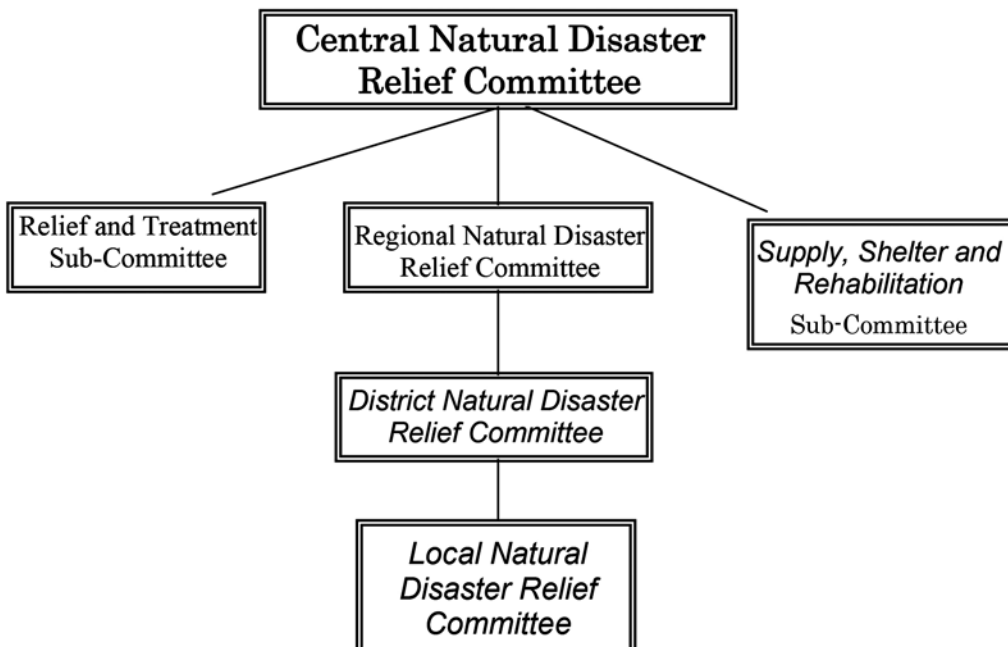
Source: Chettri MBP, 1998

ANNEX 3

ORGANIZATIONAL STRUCTURE OF THE MINISTRY OF HOME AFFAIRS

According to the NDRA 1982 Central Natural Disaster Relief Committee (CNDRC) has been constituted under the chairmanship of the Home Minister in order to formulate and implement the policies and programs relating to the natural disaster relief work and to undertake other necessary measures related thereof. Moreover, the Central Committee prepares specific norms of relief assistance to be given to the disaster victims of the affected area in cash and/or in kind. Please see appendix 4 for the composition of CNDRC.

The working procedures of the Central Committee may be managed by the Central Committee itself.

The Central Committee may constitute Relief and Treatment Sub-Committee (RTSC) and Supply, Shelter and Rehabilitation Sub-Committee (SSRSC) which provide necessary advice and suggestions to the Central Committee, help to execute policies and directives of the Central Committee and operate effectively the rescue, relief and rehabilitation work during a very serious natural disaster. Please see appendix 5, 6 and 7 for the composition of Relief and Treatment Sub-Committee (RTSC), Supply, Shelter and Rehabilitation Sub-committee (SSRSC) and District Natural Disaster Relief Committee (DNDRC).

Source: Chettri MBP, 1998

ANNEX 4

FUNCTIONS AND DUTIES OF THE CENTRAL NATURAL DISASTER RELIEF COMMITTEE

(a) To recommend to His Majesty's Government to declare the areas affected by natural disaster as the disaster area.
(b) To formulate the national policy regarding the relief work including the rehabilitation of the victims of natural disaster and the reconstruction in the areas affected by natural disaster etc. and for the control and prevention of natural disaster and the advance preparation thereof and to prepare the programs in accordance with the said policy and submit it to His Majesty's Government.
(c) To implement or cause to be implemented the policy and program formulated pursuant to the clause (b) after it has been approved by His Majesty's Government.
(d) To keep the money, food stuff, clothes, medicines, construction materials

and other goods received within the Kingdom of Nepal and from outside as aid or donation under the Central Natural Disaster Aid Fund and to send such goods as required for relief work in disaster area.

(e) To associate the social organizations in natural disaster relief work and to coordinate the activities of those organizations.

(f) To form groups and send them to disaster area to assist in natural disaster relief work.

(g) To give direction to the district committee and Local Committee on the matters relating to relief work.

(h) To perform the works specified by His Majesty's Government for the execution of natural disaster relief work.

(l) To submit progress report of work to His Majesty's Government from time to time.

The working procedures of the Relief and Treatment Sub-Committee and the Supply, Shelter and Rehabilitation Sub-Committee may be managed by themselves. However, the functions, duties and responsibilities of the two Sub-Committees shall be as specified by the Central Natural Disaster Relief Committee.

Source: Chettri MBP, 1998

Annex 4 (a)

Functions and Duties of the Regional Natural Disaster Relief Committee

(a) To give necessary suggestions to the Central Natural Disaster Relief Committee regarding the formulation of regional level policy on natural disaster relief work and preparation of the progress there under.

(b) To coordinate or cause to be coordinated between District Committees regarding natural disaster relief work

(c) To provide information to the Central Committee about natural disaster relief work from time to time.

(d) To work in accordance with the directives of the Central Committee.

Annex 4 (b)

Functions and Duties of the District Natural Disaster Relief Committee

(a) To coordinate or cause to be coordinated between Local Committees regarding natural disaster relief work.

(b) To formulate district level plans on natural disaster relief work and submit

such plans to the Regional Committee.

(c) To monitor the natural disaster relief work being conducted by the Local Committees and to support the on going work.

(d) To provide information to the Regional Committee about natural disaster relief work from time to time.

(e) To work in accordance with the directives of the Central and Regional Committees.

Annex 4 (c)

Functions and Duties of the Local Natural Disaster Relief Committee

(a) To prepare detailed description of the loss caused by natural disaster and to submit to the District Committee the estimation of means and resources required to the relief and rehabilitation of the victims of natural disaster

(b) To organize volunteer's teams according to need and conduct or cause to be conducted the relief work.

(c) To make necessary arrangements to take the injured in the natural disaster to the nearest hospitals and health posts as soon as possible.

(d) To make arrangements for the evacuation of the victims of Natural Disaster to a safe place.

(e) To systematically distribute the cash and kind received in assistance from District Committee and local resources to the families of the victims of natural disaster.

(f) To conduct an awareness program as a precaution for the prevention and control of the possible events of the natural disaster.

(g) To hand over the goods and cash balance and the accounts thereof to the District Committee upon completion of natural disaster relief work.

Source: Chettri MBP, 1998

act:onaid NEPAL

ACTION FOR SOCIAL JUSTICE STRATEGY

2023

AT A GLANCE

THEORY OF CHANGE

- Addressing discrimination and exclusion
- Active agency, empowerment and movement building
- Engagement, solidarity and support
- Democratisation and just governance
- Ecological sustainability
- Advocacy and campaign
- Alternative building

VISION
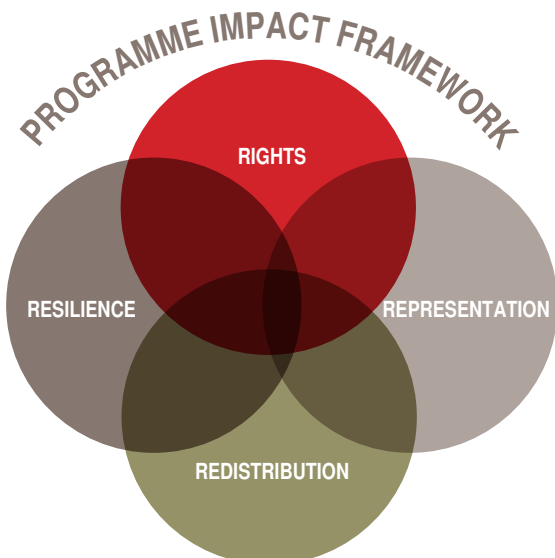Just and equitable society in Nepal and beyond, where every person enjoys the right to a life of dignity and freedom from poverty and inequality.
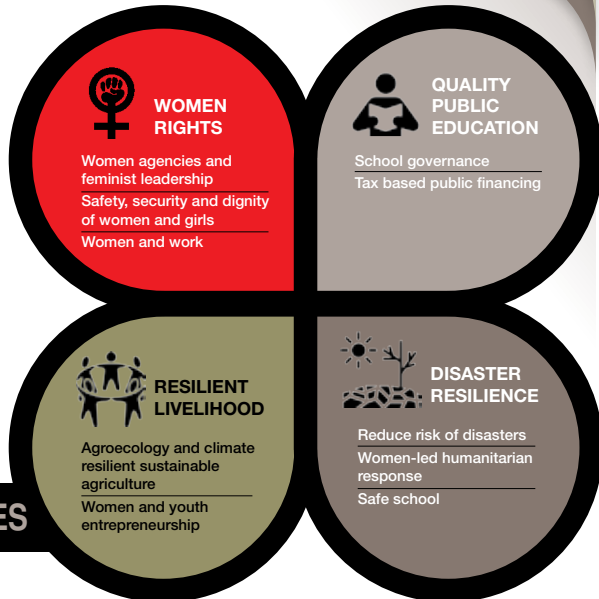
MISSION
Achieve social justice, gender equality and poverty eradication by working with people living in poverty and exclusion and their communities, organisations and movements.

STRATEGIC PROGRAMME PRIORITIES

WOMEN RIGHTS
Women agencies and feminist leadership
Safety, security and dignity of women and girls
Women and work

QUALITY PUBLIC EDUCATION
School governance
Tax based public financing

RESILIENT LIVELIHOOD
Agroecology and climate resilient sustainable agriculture
Women and youth entrepreneurship

DISASTER RESILIENCE
Reduce risk of disasters
Women-led humanitarian response
Safe school

PROGRAMME IMPACT FRAMEWORK

- RIGHTS
- RESILIENCE
- REPRESENTATION
- REDISTRIBUTION

INTERNAL ORGANISATION DEVELOPMENT PRIORITIES

ORGANISATIONAL DEVELOPMENT
- Governance leadership
- Diversity
- Innovation and digital transformation

KNOWLEDGE MANAGEMENT & LEARNING
- Generate
- Share
- Use

FUNDING BASE
- Child sponsorship
- Institutional fundraising
- In-country fundraising

VALUE FOR MONEY
- Cost effectiveness
- Zero tolerance on fraudulent act

PROFILE BUILDING
- Brand identity & visibility
- Communicating impact
- Public engagement

PARTNERSHIP MANAGEMENT
- Capacity
- Governance
- Quality outcome

WE WORK WITH
Women & girls, children, landless and smallholder farmers, Dalit, socio-economically marginalised people, young people, alliances, networks and agencies for People Living in Poverty and Exclusion

ActionAid Nepal

ActionAid is a global justice federation working to achieve social justice, gender equality and poverty eradication. ActionAid Nepal is a member of the federation, working for human rights, anti-poverty and gender equality. It is a non-governmental national social justice organisation established in 1982 and working locally in different provinces of Nepal. It is also a part of both national and global social justice movement and other civil society networks, alliances and coalitions.