

# **2015 Gorkha Earthquake, New Constitution and Local Resilience in Nepal**

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## Abstract

Building a resilient state is a much-desired goal of any national government. Nepal has enacted a 2018 policy on disaster risk reduction and management (DRRM) complementing the 2015 Constitution of Nepal, which provided the legal bases for the institutionalized efforts to improve state capacity and serve the citizen, particularly on this concern. These have two-pronged strategies: strengthening national capacity and empowering citizens through both direct and indirect measures on DRRM. The 2015 Gorkha earthquake being the most devastating of recent time has left many scars on people's lives. Meanwhile, the state has an opportunity to assess its shortcomings and improve its performance so that the people would not be disaster victims again. An emerging nation-state that witnessed decades of political turmoil, internal conflict and poor public sector performance, Nepal has to work harder to build resiliency. The 2015 Constitution of Nepal has assigned the exercise of state power among federal, provincial and local governments. The local governments have received an exclusive status of autonomous government with major responsibility to provide uninterrupted services to the citizens, including DRRM. The promise of resilient society now largely depends on the functioning of local governments and state efforts to strengthen their capacity.

## Introduction

This article is a summary review of Nepal's efforts towards 'resilience society.' While doing so, we will keep the 2015 earthquake in focus and navigate through the geopolitical situation, institutional arrangements, policy responses and the recent restructuring of Nepal with new form of governance and devolution of authority to local governments, including disaster risk management. Being prone to multiple types of disaster risks, the country is working towards building a resilient society through strategies of strengthened preparedness capacity, both institutional and social, mitigation and post-disaster recovery activities. In fact, disaster is multidimensional within which social factors are equally important to address (Fordham, Lovekamp, Thomas, & Phillips, 2013). In a context, the country that is struggling to graduate from least-developed country (National Planning Commission [NPC], 2013), Nepal's lessons are worth noting by for individuals and institutions around the world, particularly those working to improve resiliency.

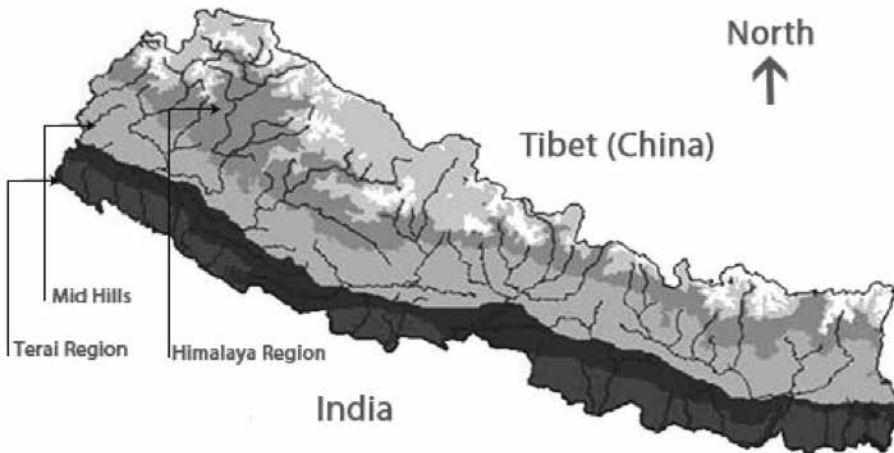
This article is organized to provide macro overview of Nepal's geophysical, polity, narratives of 2015 April earthquake (popularly known as Gorkha earthquake), recent political and administrative restructuring of the nation and role of local governments in achieving the much cherished goal of resilient society.

## I. Nepal's Geopolitical Situation

As an emerging nation-state of the South Asia, Nepal lies in active seismic belt and is

prone to several other anthropogenic hazards. The latest earthquake of 7.6 magnitude in 25 April 2015 and subsequent aftershocks, that claimed almost 9000 lives and cost huge economic losses is a recent example. Nepal is popularly recognized in the world by the tallest peak, the mesmerizing beauty known as ‘Mount Everest’. Underneath it are two colliding tectonic plates; young mountains (Khrul, Adhikari, & Dorka, 2018); active fault line, and thousands of rivers and rivulets (Dhital, 2015) that keep this country on hazardous zone.

Nepal is situated in middle of the Hindu Kush Himalayan range. It has diverse geography. In a north-south stretch of about 200 kilometer, three distinct geographies are recorded (Figure 1). The northern part is sparsely populated mountainous area with snow-covered peaks housing eight of the ten world’s tallest peaks. The middle part is a hilly area and is largely populated and arable. The hills serve as major economic centers and used to hold the largest proportion of population some decades ago. The southern part is plain land, holding the highest proportion of population. Economically, it serves as the food bank to entire country. Nepal borders with two giants, in terms of geography, economy and demography: China in the north and India in the east, south and west. The deep interconnection with these two neighbors in economy, social values, culture and political affairs, has some impacts on national affairs.



Source: Retrieved from <http://creativenepal.co.uk/wp-content/uploads/2014/09/nepal-map.jpg>, accessed on 15 March 2019

**Figure 1:** Geographical Zones of Nepal

A landmass of 147,181 square kilometers, Nepal, is residence of 26.5 million people (Nepal 2011 census). With an average annual growth rate of 1.35 percent, the population of Nepal is projected to be 30.4 million by 2021 and to 33.6 million by 2031. The population is sparsely distributed throughout the country with an average of 180 people per square kilometer in a range of 3 to 4416 (Central Bureau of Statistics [CBS], 2014). The

country is also an example of rich social-cultural and ethnic diversity, a recorded home of over 125 caste/ethnic groups. Each caste/ethnic group represents different socio-economic status, residential pattern, choice of occupation and awareness about risk profile. The recent 2015 Constitution of Nepal paved the way for both political and administrative restructuring of the country, that impacts on Nepal's governance system, including disaster risk management. This will be discussed in the later section.

## II. Disaster Risk Profile

The country has unique disaster risk vulnerability, with numerous hazards present throughout the country. Table 1 is a summary of key hazards as identified by the Ministry of Home Affairs, the lead ministry in dealing with disaster risk reduction in Nepal. The hazards are combination of anthropogenic factors and operate separately or in combination. The socio-economic profile of particular area adds vulnerability in disaster risk. Excluding the 2015 earthquake, Nepal records an average of over 300 deaths and property loss of over 10 million dollars each year (Ministry of Home Affairs [MoHA] & Disaster Preparedness Network-Nepal [DPNet-Nepal], 2015).

Records show that Nepal has witnessed major earthquake waves in certain intervals, claiming lives of thousands of people and huge cost in loss of properties. The first recorded earthquake in Nepal dates back to 7 June 1255 with a magnitude of 7.7. Series of tremors were observed thereafter (NSET, 2012). In 1934, an earthquake struck with a magnitude of 8.1 and an epicenter at the Eastern part (six miles south of the Mount Everest) of Nepal and at Bihar, northern state of India, claiming lives of more than 12,000 combined (Gunn, 2008). A few medium sized earthquakes were recorded in between- 6.0 M in 1966, 6.5 M in 1980 and 6.6 M in 1988 (Dhakal, 2016). The 2015 Gorkha earthquake is the latest in the series.

**Table 1:** Risk Profile of Nepal, 2017

Type of hazard	Nature	Location	Reasons of vulnerability
Landslides	Recurrent	The hilly districts of Nepal located in the Siwalik, Mahabharat range (east-west lower hill range), mid-land, and also fore and higher Himalayas	Both natural and human factors such as steep slopes, fragile geology, high intensity of rainfall, deforestation, unplanned human settlements
Floods	Most common	River basin like Koshi (eastern Nepal), Narayani (central), Karnali (mid-western), Mahakali (far-western) rivers perennial rivers	Anthropogenic activities like improper land use, encroachment into vulnerable land slopes and unplanned development activities such as construction of roads and irrigation canals without proper protection measures in the vulnerable mountain belt and climate change

Glacier lakes outburst floods (GLOFs)	Occasional	High altitude areas particularly in the foot hill of mountain	Damming in by moraines, the lakes contained huge volumes of water melting of glacier may lead to outbreak the lakes
Earthquake	Occasional	Major active faults in east-west alignment, entire Nepal which lies in active seismic zone	Siwalik, lesser Himalaya and frontal part of the Higher Himalaya
Fire	Recurrent	Mid hill areas	78% agro-base households, cluster based house more susceptible to catching fire, in dry season wild or forest fire
Drought	Recurrent	Some parts of Terai, mid-land and Trans-Himalayan belts of Nepal	Mostly caused by uneven and irregular low monsoon rainfall and moreover the lack of irrigation facilities further exacerbates the effect of drought causing enormous loss of crops production leading to the shortage and insecurity food
Avalanche	Occasional	High mountainous region having the rugged and steep slopes topographically	Slopes, thickness of snow or human activity with cumulated debris in the snowline.

Source: MoHA (2017)

Except for earthquakes, there is seasonal calendar of hazards in Nepal. The floods, thunderbolts and landslides are prevalent during the monsoon season; while cold waves and avalanches take place more often in winter; fires and heat waves take tolls in summer. Health hazards are more prevalent in communities with poor access to health facilities and backward socio-economic status. Nevertheless, the entire country experiences at least some forms of disaster throughout the year. The MoHA (2017) records for 2015 and 2016 include 2,940 disaster events with a toll of 9698 deaths, 281 missing and 23,317 injured persons. The former includes deaths from 2015 Gorkha earthquake. These disasters also have incalculable economic and social loss, adversely affecting the lives of people.

### III. The 2015 Gorkha Earthquake

In 2015, Nepal witnessed two major events – the Gorkha earthquake and the new Constitution. These two events, although not correlated in any way, have far reaching impacts in Nepal's disaster governance system. The 2015 Gorkha earthquake came at the time Nepal was in the process of promulgating a new Constitution through people elected Constituent Assembly. The Constituent Assembly was an outcome of long battle between the state and the rebels in a 'war' that took lives of almost 17000 people. The conflict had pushed the country into a fragile, unstable and economically weak country.

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Nepal's image in the world political and social map was a country with very high political vulnerability compounded with high disaster vulnerability.

The 2015 earthquake provides two major frameworks to evaluate Nepal's disaster governance. First, this provides an assessment of the country's readiness to confront such huge shocks, e.g., *capacity assessment*. This also adds value to existing knowledge by bringing perspectives on the country survived such large-scale disaster. Second, in using the lessons learned from this costly experience, Nepal may be able to *strengthen its system*. Will this learning fit into Nepal's policy process and disaster governance? The 2015 aftermath also gave opportunity for reengineering Nepal's settlement pattern, understanding about social dynamics and encouraging citizen to live safer lives in a way that is in harmony with their culture and geography.

In this article, we will assess the narratives around the 2015 Gorkha earthquake, provide summary of damages and of key aspects of reconstruction done, with the end in view of drawing some lessons in building resiliency. The paper will also discuss the process of promulgating the 2015 Constitution and its relation to post-disaster recovery policies, as well as the institutional arrangements and roles of local governments in improving disaster governance in Nepal.

At least for the current generation, mid-day of Saturday 25 April 2015 remains as one of the key events that they have added in their timeline. The country trembled with a force of 7.6 magnitudes, putting everyone into chaos, uncertainty and bewildered terror. Perhaps, for the Nepali society, that day could be known as the exceptionally most terrifying day in the past half of the century. Increasing access to public information and government and other organization's efforts to increase awareness of citizens on disaster risk, have made the Nepali society more aware of potential disaster risks. Amidst fear, partial knowledge and government's minimal efforts to improve disaster preparedness, on 25 April 2015 a powerful earthquake of 7.6 magnitude with epicenter at Barpak, Gorkha district, 76 kilometers northwest of Kathmandu and a major aftershock of 6.8 magnitudes on 12 May 2015 with its epicenter at Dolakha district, 85 kilometers northeast of Kathmandu occurred. The incidents destabilized social lives leaving long standing questions for Nepali state and society, on the state's ability to build resilient society.

Table 2 summarizes the damage of the 2015 Gorkha earthquake. The aftermath took almost 9000 lives and left around 22,000 people injured. At least one-third of the total population was affected in some way. It fully or partially damaged nearly a million private houses from 31 of 77 districts. The Government declared 14 severely affected and 17 partially affected districts. The Post Disaster Needs Assessment (PDNA) conducted by National Planning Commission following the aftermath estimated the impact on eight million people. The PDNA further asserted a loss of \$7.065 billion in 18 sub-sectors out of four sectors- social, productive, infrastructure and crosscutting. Of them, social sector including private housing, human settlement, health and education infrastruc-

tures and cultural heritage alone accounted 58 percent of the total loss (National Planning Commission [NPC], 2015).

**Table 2: Economic Loss by Sectors**

S.N.	Sectors	% of total	% within sector
<b>A</b>	<b>Social Sectors</b>	<b>57.84</b>	<b>100.00</b>
1	Housing and human Settlements	49.62	85.79
2	Health	1.07	1.85
3	Education	4.43	7.66
4	Cultural heritage	2.72	4.70
<b>B</b>	<b>Productive Sectors</b>	<b>25.21</b>	<b>100.00</b>
5	Agriculture	4.02	15.93
6	Irrigation	0.05	0.22
7	Commerce	2.40	9.52
8	Industry	2.73	10.82
9	Tourism	11.50	45.61
10	Finance	4.52	17.91
<b>C</b>	<b>Infrastructure Sectors</b>	<b>9.45</b>	<b>100.00</b>
11	Electricity	3.01	31.81
12	Communications	1.23	13.02
13	Community Infrastructure	0.47	5.01
14	Transport	3.13	33.12
15	Water and Sanitation	1.61	17.04
<b>D</b>	<b>Cross-Cutting Issues</b>	<b>7.49</b>	<b>100.00</b>
16	Governance	2.66	35.44
17	Disaster risk reduction	0.02	0.29
18	Environment and Forestry	4.82	64.27
	<b>Total</b>	<b>100.00</b>	<b>100.00</b>
	Total (NPR million)	706,461	
	Total (US\$ million)	\$7,065	

Source: National Planning Commission [NPC] (2015)

These estimates were used in preparing post-disaster recovery plans and sourcing support from the international community to 'build back better' the Nepali society. The PDNA reports recognize social aspects' vulnerability but could not do much to account



for losses. The reports state ‘the disaster also highlighted aspects of inequities in Nepali society spanning geography, income and gender. Poorer rural areas have been more adversely affected than towns and cities due to the inferior quality of their houses (National Planning Commission [NPC], 2015)’. Factoring in social aspects in damage would give a different scenario, although it is mathematically difficult to estimate. Nevertheless, the resilient characteristics of the Nepali society were fully appreciated and admired, leading to the successful completion of early rescue and relief, despite some minor weaknesses.

#### **IV. Political Perils around 2015 Gorkha Earthquake**

As Nepal were to fully focus on reducing the damage and negative effects of the 2015 earthquake, the political negotiations to draft the new constitution were rife (Pokharel, et al., 2018). The political parties were divided in understanding and advocating proposals to be included in the Constitution. The system of the coalition government was a ‘new normal’ and the political process was basically confined to negotiations on power sharing and holding portfolios. The demise of the first constituent assembly in 2012, after four years of dismal existence and without delivering any output, e.g., a new constitution, had further heightened the political turmoil. People were skeptical on the capacity and intent of the government to put a governance system on track and deal with the massive destruction. Frequent changes of governments in the past two decades (before the quake), have destabilized the state machineries and ingrained a culture of distrust on their effective functioning (Bhandari, 2014).

The election of the constituent assembly was a result of 2006 Comprehensive Peace Accord (CPA) between the state and rebels who fought for state transformation for almost a decade. Following the CPA, the country started moving towards institutionalizing the peace process and draft new constitution through constituent assembly. The political parties paid more attention in echoing their political interests than bringing improvements in the delivery capacity of the state.

For long Nepal was portrayed as a country of instability, conflict and poor governance (Kaufman, Kraay, & Mastruzzi, 2009). The country was progressing amidst low performing public institutions, government institutions confined within city centers and some minimally accessible to the rural areas. For people living in far-flung areas, access to government was a nightmare. Local government institutions were almost dysfunctional in absence of elected representatives of people, for almost two decades (Pokharel, et al., 2018). This created an obstacle in echoing citizen voices in public governance.

The formation of the second Constituent Assembly (CA) in 2013 gave hope to citizens that the CA would deliver a constitution and lead the country towards stability. The coalition government formed in February 2014 from two major political parties had a major mandate to formulate a constitution adhering to the citizen’s demand for ‘a just and inclusive state’. However, the fragile coalition was replete with tensions, differences and diverse advocacies to propose in the constitution. Fully occupied with political dis-

courses, the government was not adequately prepared for other types of disaster such as natural disasters and earthquakes. As such, a comprehensive pre-plan to deal with mega catastrophes was not in place. A tendency to politicize any event and seek opportunity for political calculation was vertically distributed across the country (The Asia Foundation, 2011). The political maneuvering resulted in a 'cheaply constituted' National Reconstruction Authority (NRA), a much hyped and 'minimum condition institution of donor community' to deal with the entire process of post-earthquake reconstruction.

The political negotiation was so intense that the NRA was constituted twice. The government made the first attempt in August 2015 through an ordinance which was dissolved shortly after the government failed to forward such ordinance to the parliament, owing to lack of political consensus. Following the formation of the new government, the government formed the NRA on 25 December 2015, eight months after the devastating earthquake. The turnover of four Chief Executive Officers in less than three years of NRA's formation indicates that the problem of disaster mitigation and management has become a political playground and minefield.

Nevertheless, the disaster played as a catalyst to bring all disgruntling political parties together to comprise. Amidst public pressure and political tension, the Constituent Assembly promulgated the Constitution of Nepal written by the representative of citizens on 20 September 2015. This was supposed to end an era of instability and uncertainty. However, it took time for establishing institutions as provisioned in the constitution. The state then concentrated its strength on implementation of constitution and formation of new institutions through elections further undermined the functioning of NRA.

## **V. Pre 2015 Gorkha Earthquake Institutional Arrangement**

Classically, disasters were considered as the result of divine power and were addressed in same approach. The disaster management was mainly driven by charity approach. The state emphasized on rescue and relief activities and less emphasized on preparedness and mitigation. In short, there was absence of holistic approach of disaster risk management. Although not very effective, Nepal has made several legal and institutional frameworks to deal with disasters (Table 3). This section briefly summarizes key legal and policy instruments and institutional arrangement that Nepal had adopted before 2015 Gorkha earthquake. The post-disaster institutional framework is discussed in subsequent section.

### ***Natural Calamity (Relief) Act 1982***

The Natural Calamity (Relief) Act 1982 was the first formal legal instrument enacted with an objective to 'make arrangement for the operation of relief work and the maintenance of people convenience with a view to protect the life and property of the people in general and public property' (Nepal Law Commission, 1982). With the focus on post-disaster relief management, the Act has provisioned a 25-member Central Disaster Relief Committee under the leadership of the Minister for Home Affairs and describes

the detail functions of the committee in relation to natural disaster. It allowed the government to constitute disaster relief committee at regional, district, and local level. The Act provided authority to set up natural disaster relief funds at the central, regional, district, and local levels by authorizing the respective committees to use such funds in relief operations. This Act was the only legal instrument to deal with disasters until replaced by Disaster Risk and Management Act 2017. As this Act was enacted to improve rescue and relief, the preparedness and other aspects of disaster risk management were not adequately addressed.

### ***National Action Plan for Disaster Management (1996)***

In light of the International Decade for Natural Disaster Reduction (IDNDR, 1990-1999) and the Yokohama Strategy (1994) and the need to translate the commitments into action, a national plan for disaster management was developed in 1996. This action plan mapped the disaster risk management capacity of the country and mainstreamed disaster risk management particularly in the education sector. It also defined the roles and responsibilities of key actors in risk management and prioritised activities designed to increase the resilience of communities and decrease the risks.

**Table 3:** Major Policy Frameworks in Pre-2015 Earthquake

<b>Year</b>	<b>Policy/Strategy/Guideline</b>
1982	Natural Calamity (Relief) Act
1992	Inter-Agency Standing Committee
1996	National Action Plan for Disaster Management
1998	Local Self-Governance Act
2002-2007	Tenth five-year development plan
2003	DisInventar database system
2005	Water-Induced Disaster Management Policy
2005	Disaster Rescue and Relief Standard
2005	Prime Minister's Natural Disaster Relief Fund
2007	Disaster Management Act (proposed)
2008/10, 2011/13, 2014/16	Three-Year Periodic Plans
2009	National Strategy for Disaster Risk Management
2009	National Platform on Disaster Risk Reduction
2009	Multi-Sectoral Initial Rapid Assessment
2010	National Early Warning Strategy
2010	DRR and CRM focal points
2010	District Disaster Management Plan

2010	National Adaptation Programme of Action
2011	Nepal Risk Reduction Consortium
2011	Disaster Preparedness and Response Plan
2011	Local Disaster Risk Management Planning Guidelines
2011	Climate Change Policy
2011	Emergency Operation Centre
2012	National Land Use Policy
2013	National Disaster Response Framework
2013	Environmentally Friendly Local Governance Framework
2013	National Monitoring and Evaluation Guidelines
2013	Disaster Recovery Framework
2013	National Adaptation Programme
2013	Dead Body Management Guideline

### ***Local Self Governance Act, 1999***

The Act decentralized risk management issues by delegating more authority and responsibility to local bodies for the design and implementation of local-level plans and programs. It emphasized on the development activities, including infrastructure development, which could manage natural calamities and lessen related loss of life and property, but its focus was not really on the disaster risk management. As provided in the Act, around 600 disaster management committees were formed at the local levels. Disaster risk management were linked with district disaster relief committees (DDRCs) to promote the effectiveness of technical, financial and other aspects of coordination.

### ***Periodic Plans***

Nepal started planned development from 1956 with the disclosure of first five year plan. The disaster risk management got exclusive attention only in 2002. The tenth five year plan (2002-2007) managed to allocate a separate chapter to disaster management. The plan acknowledged that disaster risk management is key to ensuring sustainable development, public safety, and the effective management of natural resources and human-induced disasters. The plan called for programmes such as piloting GIS maps and hazard-and-vulnerability assessments and for formulating a sector plan on disasters. It also recognizes the link between disaster reduction and the environment.

The two three year plans 2007/08-2009/10 and 2009/10-2012/13 continued to give due consideration to disaster risk management. The plans emphasized on policy formulation, strengthening institutional mechanism, introduce early warning system in major rivers across the country; foster coordinated approach for disaster risk reduction and linking disaster management with climate change, among others.

### ***National Strategy for Disaster Risk Management (NSDRM) 2009***

The NSDRM underscored that unless disaster risk management is mainstreamed into development activities, the people and state will continue experience of loss of physical property, human lives, and basic infrastructures. The framework proposed to strengthen MoHA's role as the focal agency for disaster risk management. It further recommended establishing a national disaster preparedness agency, setting up a nationwide early warning system, and investing in weather forecasting capacities, but the progress was far below the targets set in the action plan.

The framework had adopted three major strategic objectives and five priorities of action as set by Hyogo framework of action. The framework outlined 29 strategic activities under five priorities of action. The strategies included were agriculture and food security, health, education, shelter, infrastructure and physical planning, livelihood protection, water and sanitation, information, communication, coordination and logistics, search and rescue, and damage and needs assessment (Ministry of Home Affairs [MoHA], 2009).

### ***Disaster Preparedness and Response Plans (DPRP), 2011***

The government formulated DPRPs in all 75 districts to boost risk management and enhance emergency response and relief for local-level resilience, milestones initiatives. Based on these plans the local bodies were also encouraged to prepare local disaster risk management to address their own local needs. The MoHA had conducted annual pre-monsoon workshops at the national, regional and district levels from 2011 to make stakeholders aware of disaster preparedness and response and facilitate them to implement DPRPs. In absence of strong vigilance and monitoring, the actual output the plans could not be accounted whether, it made a significant move towards building resiliency.

### ***National Disaster Response Framework (NDRF), 2013***

The MoHA prepared NDRF outlining the roles and mandates of all government and non-government stakeholders to respond to disaster. The NDRF connected all relevant stakeholders in a platform to compliment in all phases of disaster management cycle. Because it was a kind of standard operating procedures (SOP) mechanism, it eased the process of coordinating humanitarian agencies during emergency response in case of mega disaster. This effort had awakened an integrated platform against disaster events and for rapid response and recovery. The NDRF strengthened institutional capacity and put in place collective and coherent efforts to systematize the disaster response.

## **VI. Institutional Mechanism**

### ***Ministry of Home Affairs***

Ministry of Home Affairs (MoHA) acts as national focal agency on disaster management and lead agency responsible for implementation of the Natural Calamity (Relief) Act, 1982. The MoHA is also responsible for rescue and relief work, data collection and dissemination, as well as collection and distribution of funds and resources. The assigned task has been implemented through disaster management division within the ministry

and national emergency operation center and its district level offices.

### ***Central Disaster Relief Committee (CDRC)***

According to Natural Calamity (Relief) Act, 1982, the government has constituted the Central Disaster Relief Committee under the leadership of the minister for home affairs. The committee is responsible to formulate and implement the policies and programs relating to the natural disaster relief work and to undertake other necessary measures thereof. Moreover, the Central Committee prepares specific norms of relief assistance to the disaster victims.

### ***Regional Disaster Relief Committee (RDRC)<sup>2</sup>***

Regional committees used to work as subsidiary arm of central committee. It was responsible for formulation of regional level policy on natural disaster relief work and preparation of the progress, coordinate or cause to coordinate between sub-regional committees on relief work and forward information to the central committee.

### ***District Disaster Relief Committee (DDRC)***

In the erstwhile system, the DDRC was the most functional unit for disaster risk management at sub-national level. These committees have functions and duties to coordinate or cause to coordinate between local committees in relief work, formulate district level plans, monitor relief work of local committees and support the on-going work, forward information and work in accordance with the directives of higher level committees. The Chief District Officer was made responsible for overseeing activities related to disaster, basically the post-disaster rescue and relief activities.

### ***Local Disaster Relief Committee (LDRC)***

At municipal level, the LDRCs had functions and duties to prepare detailed description of the loss, organize volunteer's teams, make necessary arrangements to provide medical access, make arrangements for the evacuation of the victims, distribute the relief packages, conduct awareness programmes as a precaution for the prevention and control of the possible events of the natural disaster. However, because of limited capacity and absence of technical knowledge the functioning of these committees are always questioned.

### ***Disaster Units in Security Forces***

The three security forces — Nepal Army, Armed Police Force and Nepal Police had disaster units and squads within their structure. These units used to function in coordination with committees at various levels. For rescue and relief activities, these units come into forefront and take lead.

In addition, the government agreed on cluster approach and identified 11 clusters by the NDRF 2013 and assigned clusters lead and co-lead. The government took in all clusters while the humanitarian agencies seconded as co-lead. This approach proved to be instrumental to coordinate among the institutions working in disaster risk manage-

ment. Frequent but small-scale disasters have continuously encouraged the government and other partners to prepare for resilient society and concentrate its efforts in improving institutional disaster governance. In absence of intensive simulation and continuous engagement, lapses were noticed in disaster governance. The Gorkha earthquake provided an opportunity to assess Nepal's institutional capacity to deal with disaster risks.

## **VI. The Gorkha Earthquake and Recovery**

### ***The National Reconstruction Authority (NRA) and reconstruction***

Despite tedious mulling, the NRA was constituted on 25 December 2015, after eight months of the devastation. At the time, the public institutions were largely criticized for not performing and aloof of public interest, there was great skepticism on performance of the NRA. The NRA was constituted with aim to 'promptly complete the construction work of structures damaged in a sustainable, resilient and planned manner, and to promote national interests and provide social justice by making resettlement and translocation of the persons and families displaced by the earthquake' (Government of Nepal, 2015). The NRA then prepared a vision of well-planned resilient settlement and a prosperous society.

The NRA was a new practice in Nepal. Considering the scale of damage and work of reconstruction to be undertaken, an understanding between the government and development partners paved way for formation of dedicated institution to oversee entire process of reconstruction. As the rescue and relief was mostly completed before, the NRA was required to fully concentrate on reconstruction of public and private properties and bringing citizens back to normalcy but in safer living arrangements. The NRA suffered the impact of pre-disaster political economy and 'influenced not only by the actions of relevant stakeholders but also by bias, (in)justice and (dis) advantage that prevailed in pre-disaster setting (Pokharel, et al., 2018).

There was a big hope among citizens that the reconstruction would expedite along with the formation of the NRA, but it remained entangled with institutional arrangement, preparing standard operating procedures and engaging other stakeholders in the reconstruction process (Lord & Moktan, 2017). More important was to identify victims, communicate them the reconstruction process and build their confidence. This took longer period and went through several complexities like identifying actual number of victims, their socio-economic difficulties and the perspectives they have in reconstruction. The government also took time to get clarity and consensus on the process of disbursement of funds, establishing field offices, educating staff and mobilization of engineers, among others. The NRA itself was paralyzed for several months in absence of sufficient working staff and the support from other institutions with whom the NRA has to work together.

With the tenure of five years and possibility of extension of one year, the NRA engaged itself in initial preparation and creating base for reconstruction for almost a year. At the same time, the country got involved in the consecutive elections of federal, pro-

vincial and local levels starting from May 2017 to December 2017. It had severe impediments in the process of reconstruction from both government and citizens.

Absence of local elected representatives was another hurdle to establish reciprocal relationship with citizen in post-earthquake situation. Given the absence of legitimate local institutions, the reconstruction followed centralized model, with little space for citizen to express their interests. Almost all designs of private building were uniform prototype irrespective of personal needs of citizen. The process was either inflexible or communicated as inflexible. It could not attract the victims immediately to participate in reconstruction.

The election of local governments in 2017, after a break of almost two decades produced a new power dynamics and gave legitimate options for victims to echo their concerns. The local governments, since their formation, showed concerned over reconstruction process and ventilated grievances reporting of victims on reconstruction. In late January 2019, the NRA handed over the entire process of reconstruction of private households to local governments. We will discuss the role of local government in disaster risk management in later section.

### **VIII. Statistics of Reconstruction**

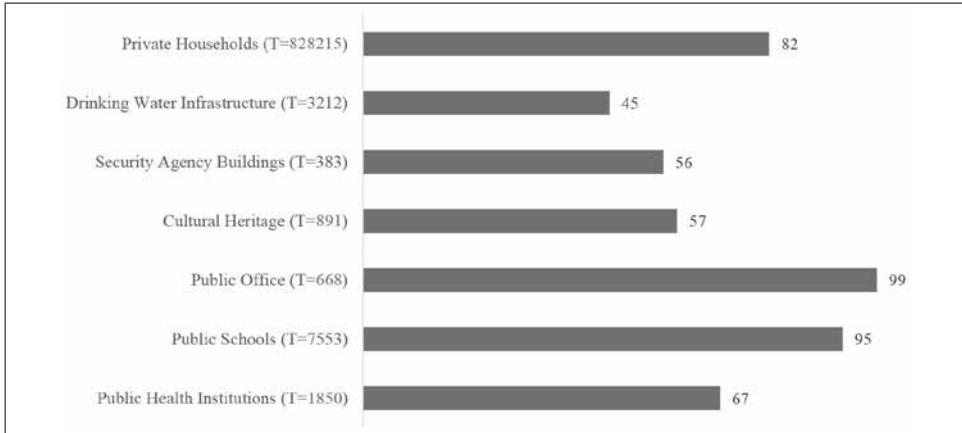
As of April 2019, the reconstruction is an ongoing business. The reconstruction is moving at different speed on different sectors. The reconstruction process completes in five stages – survey, identification of beneficiaries and validation, enrolment and agreement, reconstruction and disbursement of funds and completion. The Figure 2 shows the differential progress on reconstruction.

Reconstruction of private settlement constitutes major portion of work. The latest record shows that the recovery is moving forward but at slow pace at early stage and spike in the third year and expected to slow down thereafter. Of those who had agreement for reconstruction, by the end of February 2020, 82 percent have either started or completed the reconstruction of private houses. However, there are critics that the reconstruction has been instrumental to disburse and receive government's fund rather than addressing citizen's interest as it converted the traditional houses into single room houses (The Kathmandu Post, 2018). Compared to private settlements, school buildings and public offices, reconstruction of drinking water infrastructures, security agency buildings, cultural heritages and public health buildings is relatively slow.

### **IX. Lessons and Perils of Gorkha Earthquake**

The Gorkha earthquake did not only leave scars in Nepali society but also taught several lessons that Nepali state has to ponder for building a resilient society. For emerging country like Nepal, investing on disaster risk management does not get priority for several reasons like resource crunch, poor institutional capacity and limited choices for citizens. As a result, the rescue and relief activities remain uppermost agenda in disaster risk management in Nepal. As a barometer of measuring institutional, social, economic





T= Target

Note: a) For private households, only new construction is included. The target is reduced than earlier report by removing some default beneficiaries.

b) No update is available in drinking water infrastructures.

c) For other facilities, retrofitting projects are also included.

Source: National Reconstruction Authority, 2020, retrieved from <http://nra.gov.np/mapdistrict/datavisualization>, accessed on 1 March 2020.

**Figure 2:** Percentage of Completed or Under Construction Against Target as of March 2020

and political strengths, the Gorkha earthquake disclosed several shortfalls of Nepal's disaster governance. Nepal's has several good lessons to cherish for the ways it managed compared to similar type of catastrophe in Haiti in 2010 (Auerbach, 2015), at least in rescues and relief. This section summarizes key shortcomings that can be addressed in future risk reduction plan.

The lessons can be organized into two broader domains- structural and non-structural lessons. The *structural* lessons support for improving performance of government by strengthening institutional arrangement. The institutions and legal instruments that were in place for reducing vulnerability and safeguarding citizen, were either incomplete or not fully functioning. The organizations working in disaster risk management were shortfall of equipment, knowledge and resources. The laws and policy guidelines were inadequately communicated and a master plan of reducing vulnerability and improving resiliency was not in place. Despite an increasing attention, the structural reform was slow. For example, it took a decade to prepare disaster risk reduction and management act. The first draft was prepared in 2007 and after much hic-ups and deliberations, the act was approved by the parliament only in September 2017. The details of act are discussed in next section.

Lapses in mechanisms to strengthen coordination among institutions were apparent (Ministry of Home Affairs [MoHA], 2017). The influx of international humanitarian agencies and local organized/unorganized groups with relief materials had unequal distribution, as there could not be channel for the relief distribution in a managed way (Sthapit,

2015; Sharma, KC, Subedi, & Pokharel, 2018) . Victims of convenient places got more benefits while those at distance struggled for minimum entitlements.

Low enforcement of laws and guidelines related to risk reduction heightened the vulnerability. The building codes, for example, were introduced in major cities but were poorly followed and governed (Pokharel & Goldsworthy, 2017), No such codes were practiced in rural areas, where the most casualties happened. Similarly, the monitoring of compliance of safety provisions and removing vulnerable infrastructures also got low priorities.

The *non-structural* lessons are related to the level of knowledge and behavior of citizens towards resiliency. It is also about the knowledge and skills of office bearers responsible for disaster risk reduction. The investment of state to encourage citizens for safer settlements and increasing awareness on different forms of disaster was relatively inadequate. Educating citizens on their exposure to vulnerability and inducing to practice risk reduction measures either by relocation of settlement or applying mitigation measures was not in high priority. Applying building codes was considered as a technical but required to promote as social issue (National Society for Earthquake Technology-Nepal [NSET], 2017), that changes citizens' behavior towards resiliency.

Engaging citizens in designing solutions for post-earthquake reconstruction was undermined. Consideration of victim's socio-cultural aspects and involving them for designing reconstruction specifications is critical for sustainable recovery (Basnet, 2015; Sharma, KC, Subedi, & Pokharel, 2018). As a result, victims were reluctant to participate in reconstruction at early stage (Nepal Development Research Institute, 2017). The possibility of using technology that is culturally friendly and based on indigenous knowledge would attract citizen's participation in such recovery process.

The MoHA has identified 33 reform areas from the 2015 aftermath, most of them are structural reform. Some major lessons are policy reforms including new act on disaster management; institutional reforms including extension of disaster management unit to local level, equipping them; preparing a framework for mobilizing allied agencies and human resources; humanitarian staging area, among others. It has also identified vulnerability assessment, increasing civic awareness and promoting community involvement in cycle of disaster risk management (Ministry of Home Affairs [MoHA], 2016).

Despite shortcomings, the Gorkha earthquake also has some good lessons that Nepal has to translate into longer-term strategies of building resilient society. For example, the social capital where the people spontaneously stood together to extend support to affected people and contributed largely in recovery activities. It has also proved that if the government is committed, it could mobilize its machinery very effectively at the time of catastrophe. The increasing sensitization of building resilient society among governments agencies, the allied agencies and citizens to be considered as asset and need to improve further.

## **X. Post Gorkha Earthquake Institutional Arrangement**

### ***Post Disaster Recovery Framework (PDRF), 2016***

Taking the Gorkha aftermath as a learning lab for dealing with large-scale catastrophe, the government introduced some policy and legal reforms to improve institutional capacity. The NRA introduced Post Disaster Recovery Framework (PDRF) 2016-2020 with a vision to ‘well-planned, resilient settlements and prosperous society’, has defined five strategic intervention areas — safe structures, social cohesion, access to services, livelihood support and capacity building (National Reconstruction Authority [NRA], 2016). The PDRF serves as a framework to respond languishing and woeful recovery activities in a more planned and sustainable manner to attain resilience (Anhorn, 2018; SAWTEE, 2018).

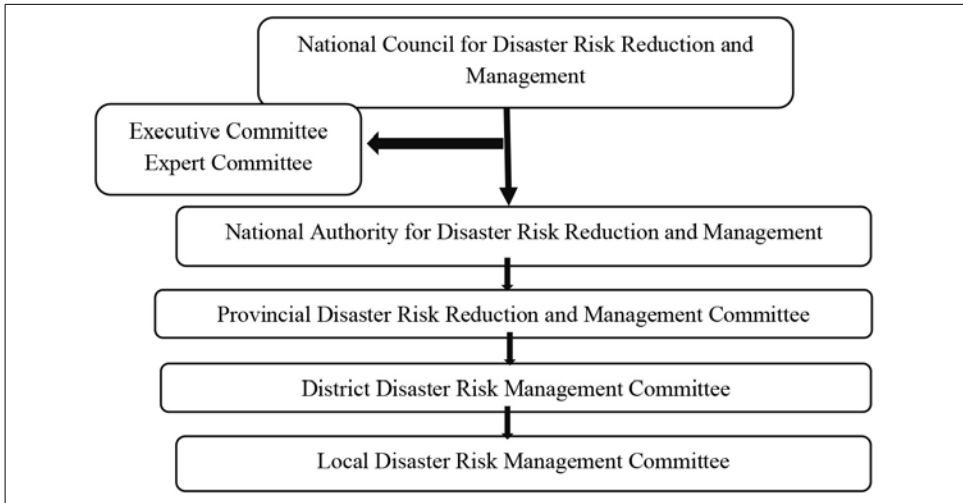
The Framework is cherished as a blueprint by the organizations working in recovery. Based on the framework, the NRA made subsequent policy revisions and recovery guidelines to facilitate the reconstruction. The PDRF prosed four activities to strengthen local capacity in recovery- a) setting up resource centers in partnership with non-governmental organizations for standardization of approaches and identifying good practices, b) supporting community level and district level project implementation units, c) hiring specialized skills for reconstruction of heritage that require special skills, and d) developing training strategies to supply trained construction workers. The PDRF should not be taken only as an interim document to complete post-earthquake recovery but to take as benchmarking framework for building resiliency by mobilizing broader network and strengthening capacity of sub-national institutions.

### ***Disaster Risk Reduction and Management Act (DRRMA), 2017***

After much owed deliberation and controversies around, Nepal endorsed Disaster Risk Reduction and Management Act (DRRMA) on 24 September 2017, replacing Natural Calamity Relief Act 1982. The Act envisions to ‘coordinate and effective management of activities related to natural and non-natural disasters; to protect life of citizens and public, private and individual properties, to protect natural and cultural heritage and physical infrastructure’ (Nepal Law Commission, 2017). The Act is considered as progressive and comprehensive (Ministry of Home Affairs [MoHA], 2017) compared to past legal arrangements. The Act has been promulgated at the time Nepal has introduced new Constitution that has federalized the governance system with delineation of roles and responsibilities of public affairs among federal, provincial and local governments. Key features of the Act include:

- Recognized disaster as multi-dimensional issue and adores disaster cycle – prevention, mitigation, emergency preparedness, response and recovery plan
- Building resilience society as core objective
- Dedicated ‘National Disaster Risk Reduction and Management Authority’ to oversee disaster risk management activities on a regular basis
- Devolution of disaster risk management activities to province and local govern-

- ments and strengthen their capacity
- Building alliances with organizations working in risk management



**Figure 3:** Institutional Structure for Disaster Governance Proposed in NDRRM Act 2017

The Act has made provision to set-up National Council for Disaster Risk Reduction and Management (NCDRRM) under the chairmanship of the Prime Minister as an apex body. In order to implement policies and plans formulated by the council, there will be an Executive Committee under the Home Minister and Expert Team comprising experts from geology, environment, infrastructure and others. National Disaster Reduction and Management Authority (NDRMA) will be set-up under the Home Ministry. At Province level, there will be Provincial Disaster Management Committee (PDMC) under the chairmanship of the Chief Minister. At local level, there will be District Disaster Management Committee (DDMC) and Local Disaster Management Committee (LDMC). The major rights, responsibilities and duties are also provisioned as institutional set-up by disaster types, level of governance and disaster management cycles that make the act more progressive.

### ***Sendai Framework of Action (2015-2030)***

Nepal adopted the Sendai Framework of Action with vision to stand together in international communities for building national capacity in disaster resilience. The framework asserts to 'set the goal to prevent the creation of new risk, reducing existing risk and strengthen resilience' (Pal & Ghosh, 2017). The countries and international communities stood together with a promise to protect people's right to live in a safer environment and building national strengths to reduce the risk of disaster. The Government of Nepal localized the framework and translated into national disaster risk reduction policy and strategic action plan with 18 priority areas as mentioned in section below.

The four priorities of Sendai framework

**Priorities 1:** Understanding disaster risk

**Priorities 2:** Strengthening disaster risk governance to manage disaster risk.

**Priorities 3:** Investing in disaster risk management for resilience

**Priorities 4:** Enhancing disaster preparedness for effective response and to 'Build Back Better' in recovery, rehabilitation and reconstruction.

Source: United Nations, (2015)

### ***National Disaster Risk Reduction Policy (NDRRP) 2018***

In order to facilitate and institutionalize risk reduction initiatives, the NDRRP emphasizes on the building resilient society. The Policy envisions to 'build resilient nation' for contributing in sustainable development (Ministry of Home Affairs [MoHA], 2018). Based on this policy, a national disaster risk reduction strategic action plan was adopted for the period of 2018 to 2030, which corroborates with the sustainable development goals and Sendai framework of action. These documents offer wide ranges of policy and strategic options to strengthen disaster governance and improve the capacity of state and the society for building resiliency. Founded on the lessons and experiences from implementation of NSDRM 2009 and the Gorkha earthquake 2015, the recent policy and strategic plan endorsed following priority areas and actions for building Nepal a safer and resilient country.

#### ***Priority Area 1: Understanding disaster risk***

Priority Action 1: Hazard-wise assessment of risk

Priority Action 2: Inter-agency coordination for multi-hazard risk assessment

Priority Action 3: Development of effective disaster management information system and information dissemination

Priority Action 4: Capacity building for understanding disaster risk

#### ***Priority Area 2: Strengthening disaster risk governance at federal, provincial and local level***

Priority Action 5: Establishing and strengthening organizational structures

Priority Action 6: Developing legal and regulatory frameworks

Priority Action 7: Capacity building, collaboration and partnership for disaster risk governance

Priority Action 8: Ensuring inclusiveness in disaster risk reduction

#### ***Priority Area 3: Promoting comprehensive risk-informed private and public investments in disaster risk reduction for resilience***

Priority Action 9: Promoting investment for building resilience

Priority Action 10: Promoting public investment in disaster risk reduction

Priority Action 11: Promoting private investment in disaster risk reduction

Priority Action 12: Increasing disaster resilience through risk transfer, insurance and social security

***Priority Area 4: Enhancing disaster preparedness for effective response and to 'build back better' in recovery, rehabilitation and reconstruction***

- Priority Action 13: Strengthening disaster preparedness for effective disaster response
- Priority Action 14: Development of multi-hazard early warning system for disaster preparedness
- Priority Action 15: Promoting community-based disaster risk reduction
- Priority Action 16: Strengthening communication and dissemination system for disaster preparedness
- Priority Action 17: Capacity building for search and rescue
- Priority Action 18: Promoting 'build back better' approach in recovery, rehabilitation and reconstruction

Each priority is clearly mentioned with activities, expected outcomes, timeframe, responsible agencies and supporting agencies, which makes the role of the entire disaster stakeholder clearer. This makes collaboration among the three tiers of government easier in building a resilient Nepal. Promulgation of new act to address new socio-economic and political dynamics and lessons learnt from recent massive disaster is a welcome work. The 15th five-year plan for 2019-2024 has also envisioned making Nepal a 'disaster safe and resilient nation' (National Planning Commission [NPC], 2019), for which number of policy interventions and strategies are identified. However, the provisions are yet to function fully and the results are not yet realized. The important aspect is how the strengths of disaster governance cascades to community through local institutions.

## **XI. The Constitution and Local Government in Disaster Risk Management**

### ***The Constitution of Nepal, 2015***

After a long political negotiation, battle and turmoil, Nepal adopted new Constitution on 20 September 2015. The Constitution is cherished than any earlier version on following aspects:

- The Constitution has ended long centralized form of governance and it has constitutionally recognized three levels of government – federal, provincial and local.
- The state power is constitutionally assigned among three levels of government.
- A considerable amount of state authority and responsibilities is assigned to the local governments.
- The Local governments are considered as the nearest public entity to deal with the citizens' basic issues including risk management. Therefore, uninterrupted presence of local government is ensured and the political differences in functioning are undermined.

The Constitution requires state to 'make advance warning, preparedness, rescue, relief and rehabilitation in order to mitigate risk from natural disasters' (Ministry of Law, Justice and Parliamentary Affairs, 2017). The Constitution further underscores disaster risk management is concerted effort of all three spheres of the governments and hence

they should work in tandem. The responsibility of managing disaster is shared responsibility among federal, provincial and local governments, while the local governments also have 'disaster management' as their exclusive responsibility, making them accountable for responding disasters (Ministry of Home Affairs [MoHA], 2017). This underscores the unabated roles of the local governments to deal with disaster as immediate responder closer to the citizens. The Constitution has also provisioned for stable local government that will function in principle of civic engagement, rather than a coercive government.

### ***Local Government Operation Act (LGOA), 2017***

One of the major instruments to organize and facilitate the exercise of authority at local level, the LGOA is prepared based on the constitutional assignment of roles to the local government. The LGOA elaborates the role of local governments in disaster risk management in the following 12 areas (Nepal Law Commission, 2017):

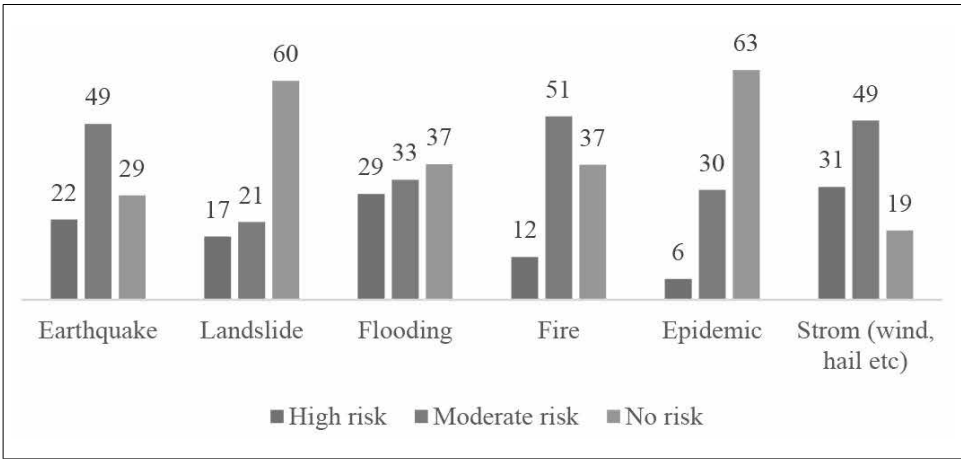
- Formulation, implementation, monitoring, evaluation and regulation of local policies, laws, standards and plans related to disaster management,
- Local level disaster preparedness and response plan, early warning system, search and rescue, buffer stock, distribution and coordination of relief materials,
- Local river embankment, landslide control and management and regulation of rivers,
- Mapping of disaster risk areas, and identification and relocation of settlements,
- Support, coordination and cooperation with federal, provincial and local communities, organizations and private sector for disaster management,
- Establishment and operation of disaster management fund and resource mobilization,
- Formulation, implementation, monitoring and regulation of local level projects related to disaster risk reduction,
- Local level rehabilitation and reconstruction after disaster,
- Data management and research studies related to local level disasters,
- Local emergency work operation system,
- Operation of community based disaster management programs, and
- Other works related to disaster management.

Besides, several other instruments make local governments responsible for dealing with disaster. However, considering that disaster is not only the natural phenomena but also largely social (Perry, 2018), requires a multitude combination of approach, efforts, intervention and investments. The local governments are considered as the foremost shield to build a resilient society but require a further investment to strengthen their capacity (Ministry of Home Affairs [MoHA], 2017; Nepal, Khanal, & Sharma, 2018; Pokharel, et al., 2018).

### **Conclusion: Towards Resiliency**

Nepal, being at high risk of exposure to different forms of disasters, is struggling to

overcome its social, economic and political factors that aggravate the vulnerability. Learning from past lessons and keeping the onus of making the society resilient is *prima facie* agenda of the government. For any disaster, the victims themselves are the first responders and there comes the community later. In a country with prone to multiple forms of disaster, citizen's awareness is instrumental asset to implement the risk reduction initiatives. A recent 'Nepal National Governance Survey 2017/18' conducted by Nepal Administrative Staff College among citizens of 18 years and above finds differential level of awareness about risks of different forms of disaster in their locality (Figure 4). Being in active seismic zone and prone to other forms of disasters, slightly over one-fifth people only consider they have high risk of earthquake, while those considering high risk of flooding is three-tenth. Less than one-fifth consider landslide has high risk for them, while three-tenth consider high risk of storm.

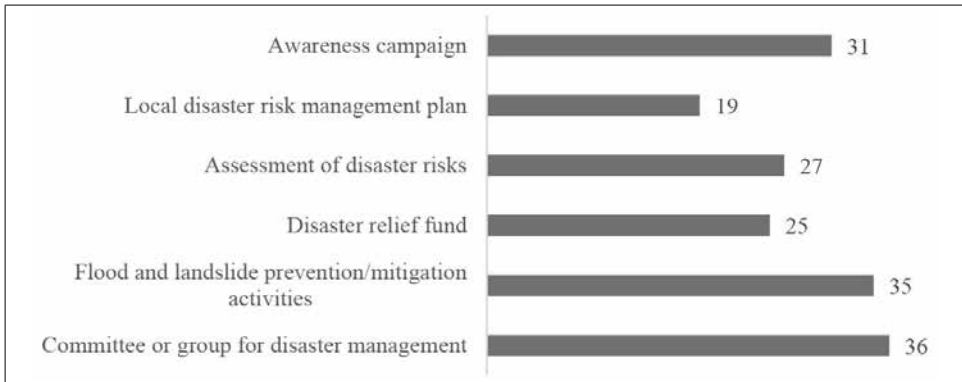


Source: Nepal Administrative Staff College [NASCL], (2018)

**Figure 4:** Perceived Risk of Disasters, 2017/18, Nepal (N=12872)

A further assessment by the same survey, on people's awareness about risk management initiatives in their locality, calls for more concerted investments in creating resilient environment. Less than 40 percent of citizens are only aware about any initiatives in the locality, the highest (36%) for committees or group on disaster management and lowest (19%) for local disaster risk management plan. The success of any initiative largely depends on to what extent the citizens are educated and taken on board during implementation.





Source: Nepal Administrative Staff College [NASCL], (2018)

**Figure 5:** Awareness About Risk Management Initiatives, 2017/18, Nepal (N=12872)

These two figures show a disparity between into policy provisions and the level of citizen's engagement in risk reduction activities. The appreciated success of the 'resilient society' largely depends on how effectively the government and allied organizations improve their capacity and reach out to people. Improved awareness among citizens would suffice the government efforts and aware citizens would hold government and other organizations accountable for their responsibilities. Low knowledge and participation of people in risk reduction initiatives should have due consideration as a potential drawback in the path of resiliency.

Nepal's deserves applauds in the way it managed several big catastrophes in recent past, particularly on immediate rescue and relief. It could happen because of collective efforts of the government, humanitarian agencies and society. However, the recovery phase suffers several impediments mainly because of insufficient preparation and weak institutional capacity to deliver the policy decisions (Ministry of Home Affairs [MoHA], 2017). To achieve the goal of 'resilient state', Nepal has to work more in disaster preparedness rather than waiting disaster to occur and have reactive approaches to address them.

Being a country with low per capita income, the social and individual capacity to deal with disaster risk reduction using sophisticated technology is costly, which may discourage people to follow guidelines. Using indigenous knowledge and technology is a good option, which makes resiliency locally adapted and culturally informed. As a young and dynamic country, Nepal will continue to grow. For meeting people's aspiration of a developed and prosperous country, Nepal is under pressure for demands of investment in development activities. This would lead to growth in construction of, large or small, infrastructures that require contributing in building disaster resiliency.

#### Notes

- 1 Both are Director of Studies, Nepal Administrative Staff College.

- 2 In earlier political administration system, Nepal was sub-divided into five administrative regions- Eastern, Central, Western, Mid-western and Far-western development region. Each region was governed by a Regional Administrator, who is a career bureaucrat Following the new Constitution in 2015, this structure is dissolved.

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