

# Making communities disaster resilient Challenges and prospects for community engagement in Nepal<sup>1</sup>

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## **Keywords**

Nepal, Community participation, Disaster risks reduction, Local initiatives Paper type Research paper

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## **Introduction**

Under the climate of frequently occurring multifaceted disasters, disaster policies are expected to enable communities to be disaster resilient and this is particularly the case in Nepal as Nepal is one of the most disaster prone and vulnerable countries in the world. However, studies, policy analysis and field experience show that community led initiatives of disaster risk resilience are not well recognized, opting for consultant driven high-tech international and national response rather than capitalizing local community-based initiative for sustainable resilience. We argue that communities possess critical local resources, practical skills, and traditional knowledge and support structures for disaster preparedness, mitigation and post-disaster responses. Understanding these bottom-up approaches including local coping mechanisms, recognizing them and strengthening community capacities is important in the process of disaster risk reduction. This study addresses the questions:

- To what extent existing disaster policies in Nepal support and enable community- based disaster resilience?
- What challenges and prospects do the communities have in responding to disaster risk for making communities resilient?

## **Background overview**

Disasters are serious disruption of the functioning of a community or society causing widespread human, material, economic or environmental losses, which exceed the ability of the affected community or society to cope, using its own resources (UNISDR, 2004). Disasters impact all dimensions of human existence, including damages to physical infrastructure and natural ecosystems. Disasters have placed a heavy toll on communities and affected the well-being and safety of individuals, families, communities in various ways, with women, children and people in vulnerable situations disproportionately (United Nations, 2015). Earthquakes, floods, storms, drought, heat-waves, cold-waves, wildfires, landslides and other natural hazards cause tens of thousands of deaths, hundreds of thousands of injuries and billions of dollars in economic losses each year around the world (Dilley et al., 2005). South Asia is one of the highly exposed and vulnerable regions to the

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<sup>1</sup> An edited version of the paper published in "Disaster prevention and management: An international journal" Vol. 28 No. 1. in August 2018

impacts of hazard events. According to EMDAT, South Asia has experienced 1,017 natural disasters that meet the criteria of EMDAT between 1971 and 2009 (World Bank, 2012). Global assessment report on disaster risk reduction highlights how intensive disaster risk is disproportionately concentrated in lower-income countries with weak governance (United Nations, 2013).

According to DesInventar Disaster Information System, Nepal's hazard profile between 1971 and 2013 indicates that Nepal is prone to a plethora of natural and human induced calamities ([www.desinventar.net/DesInventar/profiletab.jsp](http://www.desinventar.net/DesInventar/profiletab.jsp)). Nepal, one of the least developed countries, is highly vulnerable to various types of hazards, which include, inter alia, glacier outbursts, landslides, mudslides, wildfires, earthquakes, droughts, cold-waves, heat-waves, lightnings, floods, road accidents, drowning accidents, landmines and climate induced hazards (MoHA and DPNet, 2009; Aryal, 2012). It is one of the most natural disaster-prone countries in the world as it is located in the seismic vault of the ridge of two giant plates namely Indian and Tibetan plates ( Jin et al., 1996). Maplecroft (2010, 2016) place Nepal in the highly risk countries category (Maplecroft, 2010, 2016) recognizing that it is also the fourth most climate-vulnerable and the eleventh most earthquake-prone country in the world (MoHA, 2015). An average of nearly 300 natural disasters, such as lightning strikes, floods, earthquakes and landslides occur annually in Nepal (Adhikari et al., 2016). Between 1971 and 2012, over 28,000 people have lost their lives due to natural disasters (MoHA, 2013).

In fact, Nepal encountered an overall increase of the disasters particularly floods and landslides from 2013 onwards as haphazard settlement practices and politically-engineered road networks were taken as the path for development and prosperity since 1990s. The rise in the number of news media and public access to information and communication technology also played important roles to bring any hazards to local, national and international news. The floods and landslides that occurred in 2013 in Far Western Region and landslides in 2014 in Mid-western region were broadcast live to show how frightening and devastating disasters that caused enormous losses to human lives and physical infrastructures (MoHA, 2015). On April 25, 2015, a gigantic earthquake measuring 7.6 on the Richter scale struck the country in more than 80 years affecting 31 out of 75 districts. After 17 days, on May 12, 2015, another earthquake measuring 6.8 on the Richter scale ravaged Nepal causing further damages and loss of lives (GoN/NPC, 2015; MoHA, 2015). These earthquakes claimed 8,896 lives, injured seriously 22,303 people and displaced about 2m people. The quakes also destroyed 604,930 houses completely and 288,856 houses partially. The post disaster need assessment estimated the disaster damages and losses were to be an equivalent of \$7bn (GoN/NPC, 2015).

Several disasters occurred in Nepal and elsewhere have shown the salience and the need of effective response mechanisms in pre-disaster, in the immediate aftermath and post-disaster recovery. Analytical reviews of the disaster events data of the years 2013, 2014, 2015 and 2016 evidently show the extreme needs of huge efforts in disaster risk reduction and investment in preparedness to reduce the losses of lives and properties in the future (MoHA, 2015). The Sendai Framework for Disaster Risk Reduction (SFDRR) highlights the role of stakeholders, which include both the State as the primary actor and the non-state actors as one of the important collaborative actors in disaster risk reduction and management (United Nations, 2015). Within non-state actors, civil society, volunteers, organized voluntary work organizations and community-based organizations focusing on the roles of women, children, elderly, disabled and indigenous people are encouraged to participate locally in collaboration with public institutions. In this context, billions of dollars in emergency relief and rescue operations, reconstruction loans and humanitarian assistance are expended annually, however, efforts to reduce the risks of natural hazards remain largely uncoordinated across different hazard types, lack of community level preparedness and response mechanism and do not necessarily focus on areas at highest risk of disaster (Dilley et al., 2005).

The government of Nepal through its recently introduced act, policy and strategy highlights the roles of “public and private” sectors for “reducing disaster risk with preparedness plan, program and projects and building resilience with the goal of sustainable development” (MoHA, 2015, p. xxiii; GoN, 2018a, b). To align with the essence of SFDRR (2015–2030) to widen and deepen the scope of disaster response from relief, rescue and disaster management to disaster risk reduction, the government of Nepal has introduced Disaster Risk Reduction and Management Act 2017 (GoN, 2017), Local Government Operations Act 2017, National Policy on Disaster Risk Reduction 2018, National Strategic Action Plan for Disaster Risk Reduction 2018–2030. These policy, acts and strategy also make reference of voluntarism, and engagement of communities in disaster risk reduction and management. It is also recognized that diverse scale disasters occur frequently in Nepal, causing huge damages to properties and lives therefore the national disaster response mechanism needs to be equipped with human, knowledge and capital resources for effective coordination and timely humanitarian assistance (Pandey, 2017; Koirala and Jayasawal, 2015; GoN, 2018a). However, ineffective community engagement, scanty public awareness, lack of disaster preparedness, bad governance, limited financial resources and insufficient technical knowledge for mitigating the natural disasters can be attributed to frequent and high level of casualties in Nepal (Tuladhar et al., 2014; Pandey, 2017). In this context, the acts, policies and strategies introduced by government of Nepal has highlighted the role of public and private actors along with the passing reference of engaging communities through “Volunteers Bureau” yet it does not vividly articulate how communities are better prepared and the roles of citizens, individuals of community and networked individuals in community groups in disaster management, which are always, in essence, the first to be affected, and the first response makers (McEntire, 2015).

### **Community-based disaster management**

The fundamental responsibility of the government in any country and its agencies is to provide all basic necessary facilities, including lifesaving services to public yet the role and importance of people’s participation in this process is vital to its success (Oxfam and ADPC, 2014). Historical analysis of disaster management practices robustly indicated that prior to the existence of statehood system, communities were taking care of themselves through logic of collective actions during disasters (Shaw, 2014). With the emergence of statehood, government-based disaster risk reduction programs started but the emerging evidence from the grounds showed that they failed to fully serve the needs of the people and communities on effective and timely manner. It was also realized that the top-down and traditional aid approaches ignored the potential of local resources, capacities of local citizens, indigenous people and communities, which collectively further increase peoples’ and community vulnerabilities (Victoria, 2012; Fabricius and Koch, 2004).

Community-based disaster risk reduction approach is considered to be an important pillar of disaster risk reduction and disaster management (Sharma, 2012; Victoria, 2012; Fabricius and Koch, 2004; Jones et al., 2014). Community-based disaster risk reduction is a process in which communities at risks of disasters are actively engaged in the identification, analysis, treatment, monitoring and evaluation of disaster risks in order to reduce their vulnerabilities and enhance capacities (Asia Disaster Preparedness Center, 2006). This means the people are at the heart of decision making and implementation of disaster risk management activities. The review of literature demonstrated that community-based disaster-related activities/ responses are termed with different terminology (Victoria, 2012; Sharma, 2012; Nakagawa, 2012; Comfort and Wukich, 2012). In 1990s, United Nations International Decade for Natural Disaster Reduction highlighted the need for proactive activities of preparedness, mitigation and prevention recognizing the significant role of local communities in disaster risk management to correct the defects of the top-down approach in disaster management and development planning. This initiated the critical role of community-based approaches or community

participation with the names of community-based disaster management (CBDM) or community-based disaster risk management (CBDRM).

The CBDM focuses mainly on disaster management in the line of Hyogo Framework of Action (2005–2015) whereas the concept of CBDRM focuses on both disaster and risks management and relates to the Sendai Framework of Action (2015–2030). In CBDRM, the community members are the main actors to sustain the disaster risk reduction process and pursue disaster risk management activities (Victoria, 2012). It provides a platform of inclusive participation for building resilient communities and sustainable community development. Oxfam and ADPC (2014) divide CBDRM into five stages, which are adapted and shown in the Figure 1. Sensitizing the community about their capacity and duty toward DRM process is the initial stage of the process and raising a community which is trained, has system in place and is capable to take on minor localized disasters at their own and can also trigger and support the government system for prompt action in case of a major disaster are the other stages identified by Oxfam and ADPC (2014).

In Nepal, the community-based disaster risk reduction and management informal practices are historical. Only after the enactment with Natural Calamity (Relief) Act 1982, the government of Nepal started to act as the key actor in disaster management especially focusing on managing post disaster situation highlighting short-term actions such as rescue and relief distribution. The 1982 Act entirely lacked the important components of disaster risk reduction and management, which include preparedness, response, recovery and reconstruction in addition to short-term responses of rescue and relief distributions. Even after the enactment of the Act 1982, the government was not able to make its presence when disaster occurred in various geographical locations of Nepal, which are urban, rural and extremely mountainous. It was clearly observed during post-earthquakes period in 2015 as the government and most NGOs located in urban settings were not able to reach earthquake affected people in rural settings of Gorkha for weeks. Understanding these limitations of government and NGOs and realizing the prospects of communities, the United Nation Development Program (UNDP) and National Society for Earthquake Technology-Nepal (NSET-N) formally piloted CBDM Program in various regions of Nepal.



**Figure 1. Community-based disaster risk management process, Adapted from Oxfam and ADPC (2014)**

The UNDP piloted its two-year community-based disaster risk management activities in Chitwan, Makwanpur, Sarlahi, Sindhuli, Tanahu and Syangja. This pilot project started as a model. According to UNDP (2008), local people were trained to enhance their capacity to reduce their risk from natural hazards along with the central and local government levels. The focus of these pilot activities particularly appears to be disaster mitigation. The NSET-N activities were urban centric in Kathmandu valley. According to NSET-N (2011), the main aim of the project was to enhance disaster safety of selected communities through awareness campaigns, trainings and institutionalization of the method in the local governance system. Although the CBDRM is found to be an integral aspect of disaster risk reduction and management by building the capacity of the communities to increase resilience against hazards and disasters at community level, it has not well capitalized in both governmental policy and practice aspects except some bits and pieces of practice aspect has been piloted by a few international organization and non-governmental organizations.

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**Methodology**

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This paper is based on policy and academic literature reviews complimented by field research in two communities, one in Shankhu, Kathmandu district and another in Satthighare, Kavrepalanchowk district in Nepal. Shankhu lies within Shankharapur municipality in Kathmandu District in Bagmati zone and 17 km far away from Kathmandu. Its geographical coordinates are 27° 44′ 48′ ′ North, 85° 30′ 35′ ′ East and had a total population of the municipality was 4,333 living in 928 households (Central Bureau of Statistics, 2011). Satthighare lies in Panchkhal municipality in Kabhrepalanchowk district in Bagmati zone. Panchkhal Municipality is situated in Bagmati, Central, Nepal and its geographical coordinates are 27° 39′ 0′ ′ North, 85° 37′ 0′ ′ East and had a total population of 40,061 with 8,948 households (Central Bureau of Statistics,

2011). It is about 55 km north-east Kathmandu. The Shankhu community is an urban and the Saththigare community is rural in setting. Both of these case study sites are prone to various human and nature induced disasters which include hazards such as, inter alia, earthquakes, mudslides, water insecurity and climate change.

The primary aim of this research is to explore the local dynamics of CBDM practices in the two case sites to identify the prospects and gaps of pre-and post-disaster responses and preparedness in community levels. The rationales for choosing these two localities were the intensity of 2015 earthquakes' impacts causing the total destruction of both localities and an immense support needs in post-disaster period. Also, Shankhu was one of the most earthquakes impacted localities in Kathmandu valley and Saathigare had 60 houses standing before the earthquakes of 2015, which completely collapsed after the quakes. To answer the research questions and primary aim noted above, the use of qualitative data became inevitable; therefore, we employed the Key Informant Interview for data collection. We conducted a total of 14 in-depth interviews, 7 in each of the research sites. The interviewees were selected through non-probability purposive sampling method, which included members from local community and local civil society organizations.

We also mapped out key disaster-related policies of Nepal, which included DRRMA-2017, Local Government Operations Act 2017, National Policy on Disaster Risk Reduction 2018, National Strategic Plan for Action 2018 to investigate the recognition of community led disaster risk reduction and the role of communities in disaster risk management and post-disaster activities to verify and validate disaster policy effect on the ground – through interactive discussion with the community stakeholders in the case study sites. As such the methodology comprises policy review and field verification.

## **Disaster institutions and governance in Nepal**

Disaster risk is continuously increasing, making more people exposed to disasters as larger number of people and vulnerable people and assets are located in multi-faced disaster exposed areas. Traditionally, Nepal used to have a strong community-based approach to cope with disasters and these practices are still carried out in many places today. Since early 1990s, Nepal shifted to an ad hoc government-based approach in disaster management. In this context, the first disaster-related policy was drafted in 1982, known as Nepal Calamity Act 1982, which mainly focused on post disaster situation of relief and rescue distributions. Until 2017 before the introduction of DRRMA-2017, Ministry of Home Affairs assumed the central role of coordinating the overall disaster management activities and the roles of other ministries were constrained within reliefs and rescue responses. It has become immense challenge for making the timely, effective, efficient and coordinated responses for management of disasters in the absence of a dedicated institution with authority and resources. Effective and efficient planning and implementation of preparedness and mitigation measures has often been hampered by lack of institutional coordination between and within government and non-governmental organizations (Pandey, 2017). Lack of effective coordination has led to gaps, duplication and redundancy of response works of various government and aid agencies. Clearly, the focus of disaster management has still been on relief/response and recovery to support communities struck by disasters largely in an ad hoc basis and in many cases to an insufficient degree. The priority is still mainly reactive to cover the post-disaster needs – focusing on rescue and relief work and this is a common mindset of people and organizations working in this sector and because of this mindset, disaster mitigation and preparedness activities have not received sufficient priority in disaster risks reduction and management activities (ICIMOD, 2007).

Koshi flood of August 2008 in eastern lowlands of Nepal, which affected 65,000 people and 700 ha of fertile land in Nepal introduced a new era of disaster policy evolution. The flood did not only result into the losses of

properties and lives but also put immense pressure on government to expedite the disaster policy changes. More than a dozen rules and regulations were introduced since 2008 post-Koshi flood in Nepal. For making an effective disaster response the Prime Minister Disaster Response Fund Guidelines 2006 had also been revised in 2008. The disaster response line ministry funds have been established in an attempt of making the response mechanism effective. Likewise, the earthquakes and aftershocks since April 2015 did not only cause the losses of lives of more than 9,000 people and immense amount of properties, but they also put second round of unavoidable pressure upon government of Nepal to introduce disaster policy consistent with pre-disaster preparedness and mitigation, and post-disaster immediate and long-term responses in timely manner. In the immediate aftermath of the earthquakes 2015, some policy implications including building codes, which had been introduced in 1994 against the potential earthquake disasters, were revised and implemented throughout the country. Focus was also placed in building resilient communities but without recognizing the immediate and long-term roles of communities in disaster management. In the immediate aftermath of Koshi floods and earthquakes 2015, it was observed that local people and communities were the first responders in the immediate aftermath post-disaster scenarios and long-term recovery processes (Pandey, 2017; Jones et al., 2014). These events were significant to showcase the scenario of disaster risk reduction in Nepal yet such innovations arising from community-based approaches were little recognized and encouraged in existing disaster-related policies and in the structures of government of Nepal (See GoN, 2017 and other existing disaster policies of Nepal).

DRRMA-2017 is the latest disaster policy enacted by the government of Nepal, which clearly states that with the enactment of this new Act, the Natural Calamity Act 1982 has been canceled and not applicable any longer (GoN, 2017). This new Act has adopted in line with Sendai Framework for Action (2015–2030) recognizing the needs for risks reductions along with disaster management with an envisioning of six layers of disaster management institutions. The top one in the ladder is National Council for Disaster Risk Reduction and Management, which is chaired by the sitting Prime Minister of Nepal. The key role of the Council is to approve and sanction disaster-related rules, regulations and policies prepared and forwarded by other related institutions and direct Executive Committee for Disaster Risk Reduction and Management led by the sitting Minister of Home Affairs, National Authority for Disaster Risk Reduction and Management (NADRRM) led by a politically appointed qualified Chief Executive Officer, Provincial Disaster Risk Reduction and Management Committee chaired by the sitting Chief Minister, District Disaster Risk Reduction and Management Committee led by Chief District Officer and Local Disaster Risk Reduction and Management Committee (LDRRMC) led by sitting Mayor of Municipality or Chair of Village Council. The NADRRM is the functional institution that primarily works under direction of the Council and Executive Committee for NADRRM of Federal level to implement disaster-related rules and regulations sanctioned and directed by the two bodies above it. But the role of the authority is not clear in relation to provincial and local governments except that the authority will provide some guidance to these institutions for drafting disaster-related rules, regulations and policies and there will definitely be the conflicts in relation to institutional power and authority sharing within and between these various levels unless clear terms of references of each institution is prepared and adopted. As presented in the Figure 2, within the six layers of the DRRMA 2017, there has not been any clear note/discussion of recognizing individual and community initiatives and clear guidelines to capitalize these vital resources in the immediate aftermath of disasters as well as in normalcy to make community resilient through robust disaster preparedness and mitigation systems (GoN, 2017, p. 15). Other key disaster-related policies in Nepal include National Policy on Disaster Risk Reduction 2018, National Strategic Plan for Action 2018 and Local Government Operations Act 2017 to develop local policies and execute them in the local levels.



**Figure 2. Institutions provisioned by GoN (2017)**

### **Interaction between community initiatives and existing disaster policies**

Existing literature clearly identifies that the community led initiatives in risks reduction and management is an evolutionary phenomenon, which has already been piloted in history and on a small scale by many institutions over the last few years (McEntire, 2015; Solo et al., n. d.). Institutions like World Bank and countries like the USA and Bangladesh supported by international organizations, inter alia, have heavily invested in strengthening the capacities of individuals, community and community groups (McEntire, 2015; Solo et al., n.d.). In the USA, community people are spontaneously involved in a variety of post-disaster activities ranging from contribution of donations to volunteering in order to perform vital services after disasters. The practice aspects of first responders are the people from communities and emergency managers highly recognize that citizens are some of the first people to respond to disasters when they occur. Valuing this philosophy of recognizing the role of local community and engaging community people as first responders, the USA has trained some citizens from each USA's community to be the members of Community Emergency Response Teams (CERTs), which is a group of concerned citizens that receive some basic training about disaster risk reduction and management from local governments to act as the first responders in the disaster situation (McEntire, 2015, p. 66).

In Bangladesh, as it is one of the most disaster vulnerable countries in the world, various natural disasters occur and cause losses of many lives, infrastructures and resources. The government of Bangladesh considers that it may not be possible to prevent the occurrence of disasters caused by natural or anthropogenic causes but collective action through proper plan for disaster risk reduction and management can significantly minimize the impacts of disasters. Prioritizing the collective action inclusive of local community members, the GoB, supported by international organizations, has developed disaster risk reduction and management policies, plans and programs emphasizing the role of community in disaster management cycle (Hossain, 2013).



The current disaster management approaches of Pakistan also promote partnerships with government and the local communities with a realization that no initiative can achieve success if communities are left out or unwilling to cooperate and participate in them. The CBDRM of Pakistan is the result of this realization and aims to create opportunities and build partnerships with the communities to establish disaster resilient societies (Oxfam and ADPC, 2014).

Likewise, some gray and academic literature has covered brief stories of community participation in Nepal ( Jones et al., 2014; Asian Disaster Reduction Center, 2011; UNDP, 2008; NSET-N), however, how the local community participation can be made more effective for preparing communities nationwide against disaster through building local institutions to address the issues of disaster preparedness and mitigation, which is an already overdue subject for policy mainstreaming. Nepal's DRRMA-2017, GoN (2018a, b) are recently introduced act, policy and strategic plan. The GoN (2017) also touches upon the idea of local volunteer mobilization during the time of emergency. The local level institution provisioned as LDRRMC discusses about making local awareness and envisions community disaster risk management committee at local level. The NPDRR (2018) conceptualizes the idea of "Volunteers" Bureau' to expand national disaster risk reduction to local levels. The NSPDRR (2018) also notes that there is a need for engaging local stakeholders, and guidelines need to be developed for engaging local stakeholders including non-governmental actors.

The existing disaster policies of Nepal have recognized community participation either as "volunteerism bureau" or "one of the local stakeholders" or "an additional element" in disaster management necessary to reverse the worldwide trend of exponential increase in disaster occurrence, losses of lives and properties from small, medium and large-scale disasters. However, in community levels, various initiatives are seen to be in practice. Examples include, engagement of youth club, mother group (aama samuha), self-motivated individuals providing local leadership for immediate post-disaster activities. In relatively urban settings, teacher trainings, disaster quiz competitions, disaster safety campaigns, among others, are held on ad hoc basis for community knowledge building (Tuladhar et al., 2015) but the distribution patterns of these activities are not symmetrical across the communities of the country. Little resources are provided to local initiatives emerging from community levels for strengthening their capacity to reduce disaster vulnerabilities, damages to lives, property and the environment and to increase preparedness capacities for preventing or minimizing losses, and minimizing overall human sufferings.

To conduct the field verification about how government and community consider community engagement in disaster preparedness and post-disaster local community support and initiatives, as discussed in the methodology section above, we interviewed local community members of Sankhu, Shankarapur Municipality of Kathmandu valley and Saathigare, Panchkhal Municipality of Kavrepalanchowk. In Shankharapur Municipality, we found many community initiatives like youth club, mother group, and community guthis (clubs) but due to lack of disaster-related education, trainings and resources, people do not have clear and proper insights for disaster preparedness and management. Although Shankhu frequently encounters various types of disasters, the earthquakes of 2015 were the biggest disasters faced by this local community, which caused chaos and disorder associated with problems of food, medicine, safe drinking water, building of makeshift settlements and maintaining personal safety, safety of women, children, elderly and reconstructions (see Pandey, 2017 for details about earthquakes 2015). We found that for the immediate response in the aftermath of earthquake 2015 disaster, the local community spontaneously came together to address the local problems although everyone was suffering from many similar problems. The youths in community were found to be very active in collecting food items, clothes and medicine from different areas and distributing to the needy people[1]. The local youth club also took leadership role in helping people for search and rescue and relief distribution of food

donated by various organizations. Support between individuals, families and households during rescue and recovery were crucial. Many people from local community helped in the fair and equal distribution of food, medicines, clothes and other necessities provided by individual and many different organizations and country[2].

Prior to the disastrous earthquakes 2015, Sathighare community had many local groups including a youth club, which used to get engaged in various local initiatives including post-disaster initiatives but due to collapse of all the 60 houses of the community, most people associated with the local initiative institutions moved into other communities and cities in the pursuit of livelihoods and employments [3]. Not many community groups were found to be active in post-earthquakes 2015 in that area due to the lack of disaster education, adequate resources, disaster awareness and health, sanitation and livelihood challenges. Lack of community participation and attention is also found in relation to disaster preparedness, hazards monitoring, warning and information dissemination. Poor understanding of risks, community at risks and vulnerability, and inadequate resources for disaster education, trainings, and preparedness measures are found to be keys in obstructing communities and local initiatives to engage in disaster risk reduction [4].

The local community led initiatives were found to be the most effective mechanisms to plan for disaster preparedness and disaster management to make the nationwide communities disaster resilient, robust and strong. Jones et al. (2014) research highlighted that building resilience communities has become one of the mainstays of recent disaster reduction approaches noted in Hyogo Framework for Action 2005–2015 and Sendai Framework for Action 2015–2030 and this needs to achieve more finely-tuned risk assessment and to empower communities to govern their own disaster avoidance. We also found that the first responders were able to save over 22,000 lives whereas 41 international search and rescue teams saved only 19 lives in the aftermath of earthquakes 2015. In these realities and contexts, the government of Nepal and existing disaster policies can develop concrete provisions to facilitate, train and prepare local communities to be better responders and disaster resilient through effective preparedness plans, disaster risk reduction plans and disaster management plans. Regular disaster drills such as earthquakes, floods and fire drills and mock practice of various early warning systems can be conducted by local governments, who hold primary role in local disaster management (GoN, 2017). Local governments can also provide sound multi-hazard preparedness and response trainings to a certain number of community members to be in the group of CERT to meet the long-term mitigation and immediate post disaster local needs as found in the USA context. Federal Emergency Management Team also notes that quick action, proactive recovery planning, community engagement and partnerships, social networks, effective coordination, inclusive local decision making, management of financial acquisition, organizational flexibility and integration of mitigation and preparedness into recovery are the common features of successful community led recovery programs (FEMA, 2011a, b; Czerwinski, 2012). Several training workshops are also needed to sensitize people about risks society for disaster preparedness, mitigation and timely response in the aftermath of disasters (McEntire, 2015; Jones et al., 2014; Mercy Corps Nepal, 2009; UNDP, 2008; NSET-N, 2011).

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## **Conclusion**

CBDRM is an integral aspect of disaster risk reduction and management by enhancing the capacity of the communities to increase resilience against hazards and disasters at various levels of communities. The core philosophy of CBDRM is to make the mass capable of handling hazards, absorb shocks and avoid losses of lives and property and response to immediate post disaster situation as the first responders until, at least, formal support system arrives. The mantra of CBDRM is community engagement, which means the involvement of

local people to understand and prepare against their local hazards and risks associated with disaster and haphazard development. CBDRM approaches motivate people to work together because they feel a sense of belongingness to their communities and recognize the benefits of their involvement in disaster mitigation and preparedness. Clearly, community engagement for disaster risk reduction and management brings great benefits in terms of ownership and direct savings in losses from disasters because the dynamic process allows community to contribute and interchange ideas and activities for inclusive decision making and problem solving. But community engaged CBDRM for disaster risk reduction and management is a challenge in many countries.

In Nepal, community led initiatives are found to be historically practiced in post-disaster situation. In the immediate aftermath of 2015 earthquakes, members of communities were found to be spontaneously and voluntarily engaged as the first responders and were able to save more lives compared to international SAR teams. International organizations like UNDP and national NGOs like NSET-N have also recognized the importance of CBDRM and piloted it through formal trainings and other measures of capacity building in a few wards and districts of Nepal, however, these initiatives are exclusive and limited in terms of national scope and scale. In this context, the role of government of Nepal and the existing disaster policies, acts and strategies become crucial institutions in maximally utilizing human resources of communities through appropriate implementation of CBDRM capacity development programs. The recently enacted disaster governance inclusive of DRRMA 2017, NPDRR 2018, NSAPDRR 2018–2030 and LGOA 2017 have noted the engagement of local stakeholders and non-governmental organizations yet the policy and the acts, which are binding, still lack how they are going to materialize the benefits of engaging communities as the first responders in systematic way. The government and newly enacted governance mechanisms need to clearly articulate the pathways to address this gap by providing members of communities various disaster-related drills, and trainings and establishing a small local disaster risk reduction and management army of dedicated volunteers in each of the communities of Nepal – nationwide – irrespective of their geographical locations. Such initiatives are crucial for disseminating disaster-related information and engaging community members in preparedness and mitigation plans, and holding a standby local emergency team to respond against multiple hazards and disasters in the immediate aftermath of their occurrence.

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## Notes

1. Interview with member of Aama Samuha, Shankhu, December 1, 2017.
2. Interviews with members of Aama Samuha, Shankhu & SVP Youth Club, Shankhu, December 1, 2017.
3. Interview with member of Local Community, December 5, 2017.
4. Interview with member of Kalika Youth Club, December 5, 2017.

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