

# The Production of Landslides Risks and Local Responses: A Case Study of Dhamilikuwa, Lamjung District of Nepal



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## CCRI case study 4

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## List of abbreviations

APM	All Party Mechanism
CAPA	Community Adaptation Plan of Action
CARE	Cooperative for Assistance and Relief Everywhere
CDO	Chief Development officer
CFUG	Community Forest User Group
CNCR	Central Natural Calamity Relief Committee
CPN-UML	Communist Party of Nepal Unified Marxist and Leninist
DAO	District Administration Office
DDC	District Development Committee
DDMC	District Disaster Management Committee
DDRC	District Disaster Relief Committee
DFO	District Forest Officer
DSCO	District Soil Conservation Office
DHM	Department of Hydrology and Metrology
DoI	Department of Irrigation
DTO	District Technical Office
EIA	Environmental Impact Assessment
FECOFUN	Federation of Community Forest Users Networks
FGD	Focus Group Discussion
GoN	Government of Nepal
ILC	Irrigation Line of Credit
MoHA	Ministry of Home Affairs
NAPA	National Adaptation Program of Action
NCRA	Natural Calamity Relief Act
NGO	Non Governmental Organization
NTNC	National Trust for Nature Conservation
USAID	United State Agency for International Development
VDC	Village Development Committee
WWF	World Wide Fund for Nature

## 1. Introduction

This case study analyzes how the people of Dhamilikuwa Village Development Committee (VDC) in western Nepal experienced a series of landslides and their efforts to deal with the disaster. This case study also develops an analysis of the level of understanding of the landslide as a problem and how the responses, that are made locally, are shaped by the existing support system and governance arrangements at the meso-level. The ‘meso-level’ is defined here as the one above the local community but within the district level; typically covering processes around VDCs to the District Development Committee (DDC) level.

With a goal to understand the meso-level institutional responses to climate related disasters (particularly landslides), this paper focuses on exploring how community and household level responses are shaped by meso-level institutional dynamics. In doing so, it generates an empirical account of governance arrangements, particularly at the district and VDC levels, demonstrating how various meso level institutions are involved in responding to landslides that have struck Dhamilikuwa VDC over the past two decades. Moreover, this report helps develop a better understanding on the role and relevance of the meso-level institutions in terms of local response to the disaster risks. While our focus is on the meso-level institutional responses, we also analyze the link between meso- level responses (e.g. district level agencies) to national level responses (policies).

Taking a grounded, and to some extent holistic, approach to analyze the specific case of landslide, we cover four key aspects which are inevitably linked to the production of landslide risk in the area and the subsequent responses to the risks:

1. The geographical and hydro-meteorological contexts explaining where and how the landslides occurred, including how the risk was distributed across spatial domains;
2. Perceptions of landslides in the domain of practical discourse and systems of knowledge - demonstrating how the landslides were/are perceived by the dominant actors at the district level followed by their actual or potential responses to these events of disasters;
3. Social context of landslides occurrence and distribution of risks and response capabilities across households and community groups across various forms of social differentiation;
4. Institutional processes involving the politics among different actors involved in responding to the landslides, including any conflicts, cooperation, exchanges, and communication among people variously affected by the disasters, as well as the ways in which the meso-level authorities responded to the needs of the vulnerable families in the post-disaster scenario.

Based on the empirical analysis, we identify and discuss a few conceptual and policy issues which have emerged from the case, and provide insights into the production of disaster vulnerability in a climatically variable and socially unequal society typical in the mid hills of Nepal. This report offers important evidence to demonstrate that unlike the popular policy assumption, disasters are not an abrupt process of natural events resulting from the causal chain of processes in the hydro-meteorological and natural environment. Rather, as this case



study demonstrates, disasters are a socio-environmental process, rooted equally on the natural environment and societal system. Moreover, the case generates a critique of current understanding of disaster risk and vulnerability, as well as disaster responses in the policy and development arena. In this report, we argue for a more socially responsive, equitable and socio-ecologically resilient ways of understanding and responding to the socio-environmental hazards like landslides. Underpinning this argument, we suggest taking a regional disaster planning approach, considering the meso-level institutions as the key elements of disaster risk management, including their accountability to the local communities.

The case offers generic insights into the landslide related disaster risks which are common in the entire Himalayan region, where small-scale landslides are often ignored in the environment and development policy debates, with much of the attention going to less frequent events such as glacial lake outburst flood (GLOF) and Earthquake.

## **2. Methodology**

This study is based on an in-depth analysis of a particular case of landslide in the Himalayas of Nepal, taking a qualitative approach to develop a grounded understanding of institutional responses to landslides as a form of disaster. The case study selection involved several sequential steps, starting with the selection of Lamjung district (as one of the highly vulnerable district according to the Nepal government's National Adaptation Program of Action (NAPA 2010). Rather than trying to represent Nepal's overall situation, our strategy in selecting a particular case is to capture the in-depth account of small-scale landslide events with over 10 years of major landside management history.

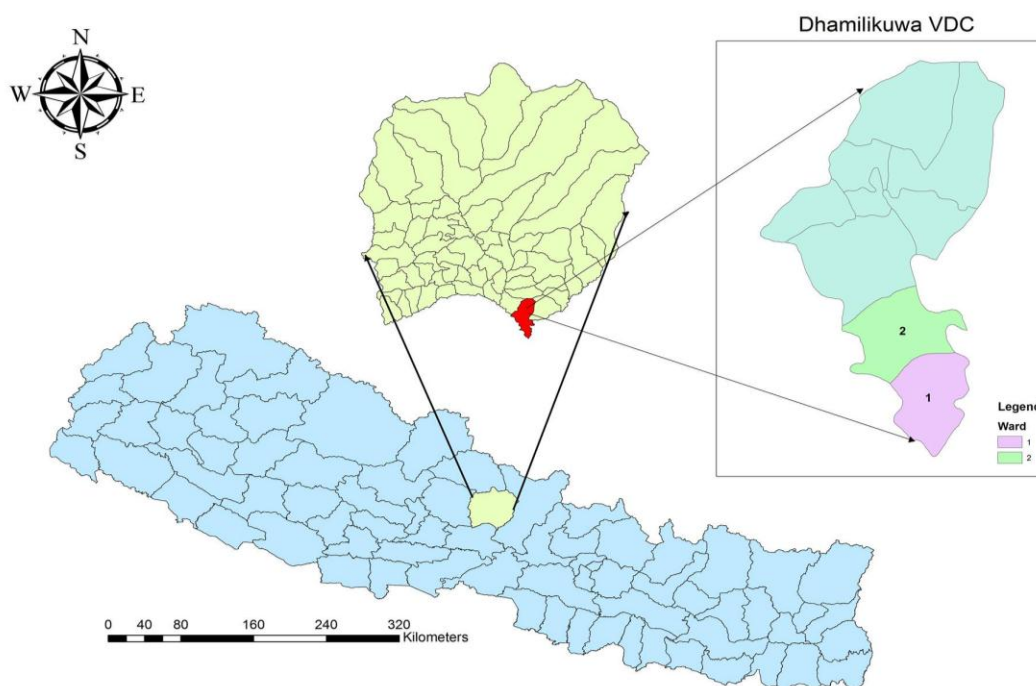
After consultation with few key informants in the district, Dhamilikuwa VDC with its notable cases of landslides along the Chepe river basin was selected for the case study. The river being just a size which people during winter cross on foot and hence interact the most when there are landslides of any scale.

The study is based on the field works carried out by the authors over a period of three years between early 2012 and middle of 2015. This study employed four key methods of data collection: 1) key informant interviews; 2) focus group discussions; 3) participant observation; and 4) review of the archival documents. We conducted 32 Key Informant (KI) interviews from the village to the district and national level. The KI interviewees included school teachers, political leaders, women group leaders, government officers and landslide victims themselves. Four focus group discussions (one involving people directly affected by the landslides and another involving the local leaders and school teachers) provided substantial insights into how landslides in Dhamilikuwa is connected to the spatial contexts, social practices, conceptualizations of landslides by dominant players, responses of meso-level institutions to the landslides and alternative ways of building adaptive capacity by local people. Through successive field visits, we were able to undertake participant observation of families displaced or directly affected by the landslides. Our repeated field visits by a multidisciplinary team of researchers (such as political economy, ecology and environmental science, gender, local governance and natural resource management) enabled us to understand disaster risk management dynamics in relation to seasons, unfolding political

dynamics (following the 2006 peace accord with Maoists who launched civil war during 1996-2006), and the emergence of local leaderships at the level of community and public institutions. Moving up from the village to the scales of VDC and DDC, we were able to gather the records of institutional context of disaster response, development and governance. The study also benefitted by Chepe river flow monitoring report of the Department of Hydrology and Meteorology (DHM) which has recorded the monthly flow of the river since 1964.

### 3. Geographic contexts of landslides

Dhamilikuwa is one of the 52 VDCs in Lamjung district, which lies about 150 kilometers West of Nepal's capital city, Kathmandu (see Map 1). The district is situated in the Narayani basin, one of the three major river basins that constitute Nepal's hydro-geography. The area of the district is 1,692 km<sup>2</sup> and the total population is 177,149 (DDC Lamjung 2014). Situated in the central Himalayan region, the district is particularly known for its steep gradient rivers, creating significant opportunity for hydropower generation, while at the same time raising flood and landslide related risks. Marsyangdi, the major tributary of the Narayani River, drains from the north to the south of the district, and is in turn fed by numerous tributaries including Chepe River which passes through Dhamilikuwa VDC just before merging with the Marsyangdi River (see Map2).

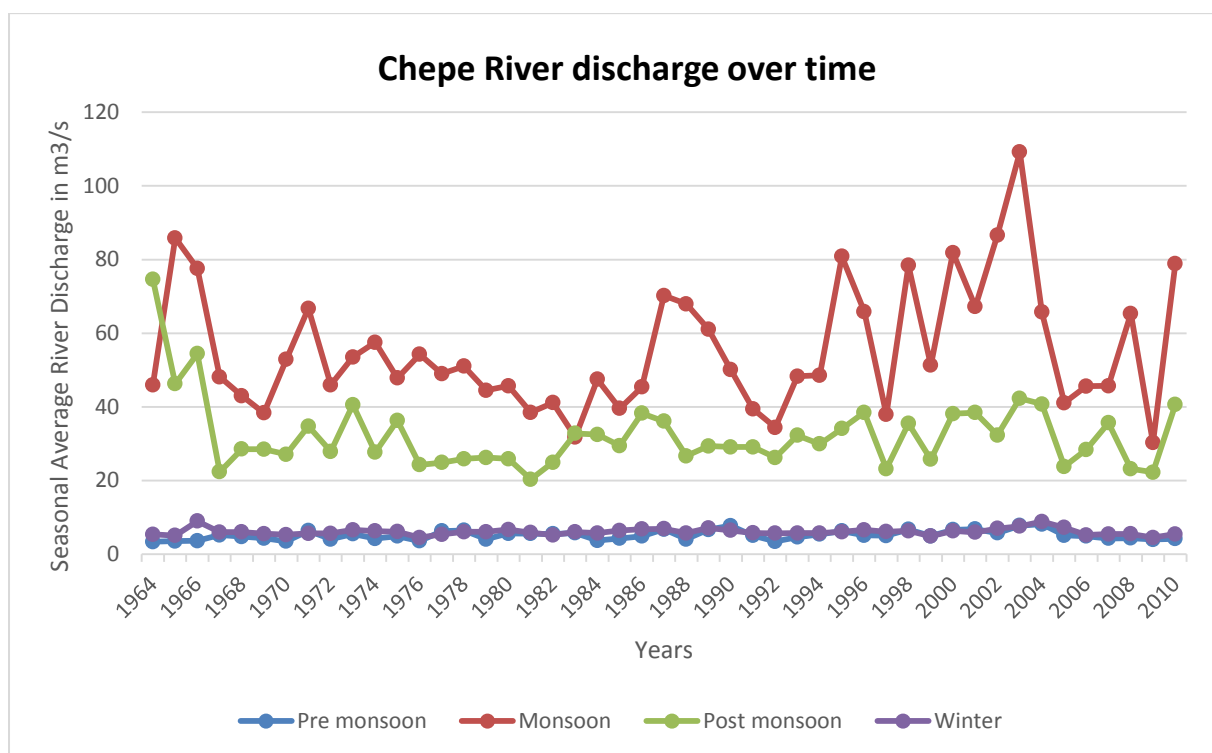


**Map 1: Map of Nepal with study area.**

The name of Chepe River is historically linked to Nepal's politics and the formation of the nation state, which offer a rich context for the study of institutional responses to landslides. In the eighteenth century and before, it was a political boundary between the two princely states - Rainaskot in the west and Ligligkot in the east. Later King Prithvi Narayan Shah founded the modern Nepal in 1768 by uniting many other small states including the Rainaskot and Ligligkot. Chepe River is a mid-sized river (with water flow of 36.2 to 15.3 liters per second)

which people can easily cross during the dry and winter seasons. The size of the river thus acts more as a symbolic divider of the boundary and at the same time, a connector among communities on either side. In the past, it was a divider as it separated two princely states and in the current time too, it separates two districts Lamjung and Gorkha. It is equally a connector as people from either side of the river come together to share rituals and livelihood generation activities such as fishing, grazing and traditional sporting (especially among the kids and youths). As we will show in the subsequent section, the perception of river as a social boundary has important implications on disaster responses.

In 1940, the Department of Hydrology and Meteorology (DHM) set up a river flow monitoring station at Chepe Sangu settlement - a small settlement in Ward number 1 of Dhamilikuwa VDC (DHM 2015). During the fieldwork, we saw the calibrated pillar inserted at the river-bank for the measurement of river flow. We also interviewed a local person, approximately in his sixties, who had worked as a local staff for the DHM to read the meter and record the data. The river flow has thus been monitored continuously over the past seven decades. The local staff had the impression that river flow has been fluctuating more recently than in the past, with higher peaked flow during the rainy season in the recent years<sup>1</sup>. His impression is consistent with our preliminary analysis of the river flow data as shown in Figure 1.



**Figure 1: Chepe River discharge in different seasons over time (1964-2010)**

The fluctuation in the flow of river discharge as demonstrated in figure 1 indicates that pre-monsoon and winter seasons have low with almost constant discharge whereas discharge level is high during the monsoon period. There is a high and erratic fluctuation in discharges from 1995 until 2010. Local people also perceive that the patterns of rainfall have changed in Dhamilikuwa both temporarily and spatially since 1995. Similarly, farmers also reported that

<sup>1</sup> Interview with Bishnu Dumrakoti, 15<sup>th</sup> March 2012.

in the recent years, rainfall occurred more in some places while less in other places in the same locality—a phenomenon locally referred to as ‘*Khanda Bristi*’.

A series of landslides in Dhamilikuwa VDC occurred in the slopes along the Chepe River. The lower (*besi*) and upper (*pakho*), part of the Dhamilikuwa VDC constitute the part of upstream of the Chepe River and it flows along the eastern border of the village and merges with the Marsyangdi River few kilometers away in the downstream (see map 2). As the villagers recalled, the village has had a series of landslides over the past six decades along the river on the slopes facing the Chepe River. Villagers traced back the history of these landslides to 1954.

For the study purpose, we selected the area that lies in the Ward Number-1 of the VDC, locally known as Garambesi, where most diverse ethnic and caste groups reside. We identified four landslides: Patapati (first started in 1984), Simpani (first started in 2001), Chepe Sangu (first started in 2011), and Bagar/Tamang tole (first started in 2012). The largest of all is Simpani (and still active), which spans to an area of about 200m\*150m. Simpani is experiencing continuous fall of landmass, and the last episode of landslides took place during August/September 2014 when a large chunk of landmass crumbled from the top and slid over the previous landslide area down to the Chepe River<sup>2</sup>. During our field visit in July 2015, we could verify the landmass movement. For this reason, we considered Simpani landslide as a detailed case study site because it remains active, started not too long ago and the villagers still remember the successive landfalls and there are still ongoing debates on the rehabilitation. In the study, the other three landslides were also taken in to consideration but not in the same level of depth as Simpani landslide.



**Map 2: Google earth Map showing study area**

<sup>2</sup>Field observation in October, 2014

## 4. The socio- economic context of landslide risk

### 4.1 Socio-economic dynamics of Dhamilikuwa VDC

Dhamilikuwa represents a high level of diversity in terms of caste and ethnicity. The ethnic composition of VDC population comprises of 33.3% *Brahmin/Kshetriya*, 33.5% *Dalit* and 30.2% -different ethnic groups (CBS 2012). The major ethnic groups in the VDC include *Newar, Gurung and Tamang*. In Dhamilikuwa- 1 (the study site), there are total of 174 households (HHs) who settled migrated from the neighboring districts - Lamjung, Gorkha, Tanahun - and settled during the 1960s. As the local people reported, the reason of migrating was for search of better agricultural land and easy access to the road network<sup>3</sup>. The majority of the population settled on the bank of Chepe River (near the Bridge) so that they can run different off-farm income opportunities – such as teashop and fishing in the Chepe River.

Among the total households residing in the study site, 31 are *dalits*, 69 from ethnic groups and 74 belong to *Brahmin/Kshetriya/Giri*<sup>4</sup>. *Brahmins* are traditionally considered ‘high caste’ and are active in the political and intellectual domains. *Kshetriya* are traditionally warrior group, and are next to *Brahmins* in the caste hierarchy. *Newars* are the merchant class traditionally, and they still have greater financial assets and entrepreneurial skills as compared to other caste groups. *Gurung* and *Tamang* mostly follow Buddhist religion, and have their own languages and follow different cultural practices than those of Hindus. Such a diverse cultural practices and associated livelihood strategies means that people have common as well as unique relationships with the environment and the occurrences of landslides as natural risks. Accordingly, the impact of such risks is differentiated by the degree of dependency, of different groups of people, on the environment.

Dhamilikuwa is predominantly an agrarian village with mostly rainfed (*bari*) land in the upper slopes (*pakho*), some rice-growing irrigated land in the lower elevation with fairly flat land (*besi*). However, the degree of dependency on agriculture varies based on their landholding size and other livelihood opportunities. About 60% of the villagers are food secured whole the year from their own production (VDC 2010). Some families are resorting to cultivating vegetables as a source of cash income. In terms of crops, farmers in the study site grow paddy in the lower elevation, while less fertile and non-irrigated upland are used for peanuts or thatch grasses<sup>5</sup>. People of the site are managing *Champawati* forest, which is primarily a community forest, and covers an area of 37.7 ha with beneficiary households of 165<sup>6</sup>. The community forest has been providing the farmers with different forest products i.e. fodder, fuel-wood and timber for domestic use from.

With increased road access in recent years, (*Chepe Ghat to Borang Khola*), some farmers have started commercial vegetable cultivation as a means to increase their income. Yet, majority of the population still depend on subsistence farming for their livelihood. In recent years, there is an increasing trend of men's outmigration for foreign employment. Majority of the households have at least one member out migrated for jobs, mainly in the Gulf region and Malaysia. Hence, in recent years, remittance has become a major source of household income

<sup>3</sup>Interview with Ram Prasad Bharati, 15 March 2013.

<sup>4</sup> Focus Group Discussion 27<sup>th</sup> January 2015

<sup>5</sup> Interview with Krishna Shrestha, 17<sup>th</sup> March 2013.

<sup>6</sup> Second Revised Operational Plan of Champawati Community Forest- 2014, Dhamilikuwa-1, Lamjung

in these villages. Two of the interviewees who came back recently from overseas employment (Gulf countries) claimed that a major part of the village economy comes from remittance<sup>7</sup>. In the meantime, outmigration of a significant number of youths for foreign employment has had significant implication in agricultural production and locally generated off-farm income. The scarcity of agricultural labour in peak seasons is reported as a major issue in agricultural production. During one focus group discussions among the village leaders, an elderly man commented ,

The youth in this village went to foreign countries for employment and those who left behind (wives), went to cities/town and stayed there to educate their children in boarding schools and in search of an easy life. Some youths went to Kathmandu for higher education and the group of people who stayed back here in the village perceives agriculture as a menial job and is not much interested to engage with. People in this village have started to purchase land (house plot) in nearby towns i.e. *Narayanghat/ Damauli* with plans to move there in the future. Such situation has led to the underutilization of agricultural land in the village and decline in the overall food production<sup>8</sup>.

#### **4.2 Irrigation canal and its impact on landslide**

An irrigation canal popularly known as *Rainastar Sinchai Nahar* (irrigation canal) was initiated by the Government of Nepal (GoN) in 1984 (2040/41BS) with the technical and financial support from the Irrigation Line of Credit (ILC), World Bank (WB) and the International Labor Organization (ILO), which was completed in 1996 (2051/52)<sup>9</sup>. In relation to the distribution of cost, ILC contributed 93% of the cost and the local people contributed the remaining 7% (6% labor cost and 1% cash investment)<sup>10</sup> for the construction of the irrigation canal.

The water for the canal is supplied from the Chepe River, 26 Km up from Dhamilikuwa. The canal serves three *tar* areas- *Sahilitar, Alkatar and Rainastar* of three VDCs- *Bhalayakharka, Chakratirtha and Dhamilikuwa* respectively. Of the total 16 blocks of the irrigation canal, eight blocks lies in Dhamilikuwa VDC. According to the report of the District Agriculture Office (DAO) staff, the canal serves 15,000 farmers in total. The command area of the canal is 850 hectares of land spread across three VDCs and the total length is around 21 km. This is the longest canal in the entire hilly region of Nepal (DoI 2014). In the past, the canal was affected by series of landslides<sup>11</sup> and the communities and government agencies have struggled to maintain the steady flow of water from the canal. The villagers also perceive that the construction of the canal might have triggered the landslides.

Chepe, a perennial river, feeds the irrigation canal. The canal's command area consists of a mixture of undulating terraces and hillocks along the Chepe River. More specifically, the command area mainly consists of streams, gullies, terraced farmland and steep slopes. In the initial years, the estimated water flow in the canal was 90 litres per second but in recent years, it has gradually dropped down to 30-40 l/s<sup>12</sup>. As reported, households from Ward no 1

<sup>7</sup> Interview with Rishi Ram Parajuli and Thakur Giri, 15<sup>th</sup> March 2013

<sup>8</sup> Focus group discussion in Dhamilikuwa, 15<sup>th</sup> March 2013.

<sup>9</sup> Interview with Navkumar Shrestha, 28th Jan 2015

<sup>10</sup> Focus Group Discussion in Dhamilikuwa, 27<sup>th</sup> Jan 2015

<sup>11</sup> Interview with Navkumar Shrestha, 28<sup>th</sup> Jan 2015

<sup>12</sup> Focus Group Discussion in Dhamilikuwa, 27<sup>th</sup> Jan 2015

and 2 of Dhamilikuwa VDC are not getting sufficient water as per their need. The situation is even worse during the rainy seasons. For instance, the beneficiaries from ward no. 1 and 2 of Dhamilikuwa VDC had no access to irrigation water in the last year mainly because of the flood/landslide, which blocked the canal in the upstream (in *Syaule*)<sup>13</sup>.

During the initial phase of its operation, the canal was managed by the Department of Irrigation (DoI). After some years, the management responsibility was transferred to the local community by forming an irrigation committee called *Rainastar* Irrigation Water Users Committee. Under this committee, there are 16 sub-committees to manage 16 different blocks. The key responsibilities of the irrigation committee and sub-committees include regular operation and maintenance of irrigation system, and conflict resolution that may arise among the water users.

The irrigation canal has had a significant contribution to increase agricultural productivity in the area. Several of the interviewees reported that with the help of irrigation, not only was there increment in the production of cereals (especially paddy) but also started to cultivate vegetables which they were not able to do earlier because of the lack of irrigation facility. One of our interviewees from Dhamilikuwa reported that,

These days we do not need to go to the market outside of the village to buy vegetables, as we have practiced vegetable farming ourselves. In addition, some of our neighbors have already started fish farming for income generation. Before the construction of irrigation canal, we could harvest only two seasons, but these days we harvest three seasons.

Though there is no major conflict observed in the management of water system, during our interview, the members of the irrigation committee indicated some issues related to the collection of regular fees for the water use and maintenance of the canal. Pusparaj Bisural (68), Chair of the Block -10 reported that the water users are reluctant to pay the water use fees, which is Nepalese Rupees (NRs) 50/year/Ropani. In general, the fee is collected according to block.

These days the main problem of the canal is water leakage/ seepage, which require regular maintenance. Likewise, plantation of broom grass or similar type of plants on both sides of the canal could be another option to deal with the leakage problem. Sometimes the canal needs to be cleaned thoroughly which the uses have to do it.

## **5. Landslides as a disaster**

### ***5.1 The landslide, its effects and local responses***

In Dhamilikuwa VDC, series of landslides has occurred along the banks of Chepe River and Simpani landslide is the prominent one in terms of the scale. The sketch map (Map 3) shows the four landslides that happened at different times in various locations of the VDC including Simpani. Description of the effect of those landslides in the study site is presented in Table 1. When asked to recall the history of landslide events in Dhamilikuwa, local people could trace back to 1980s. A big landslide took place in the early 1980s near Thakur Giri's house. It was

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<sup>13</sup> Interview with Bhava dutta Chiluwal, 30<sup>th</sup> Jan 2014

called Patpati landslide or '*Thulo Pahiro*' (big landslide). The second biggest landslide took place in Simpani in 2001.

**Table 1: Household affected by 4 major landslide in ward no 1**

SN	Name of Tole in ward 1	Household	1=directly affected	2= land displaced only	3= Partially affected	4=Not affected
1.	Bagar gaun	44	0	0	0	44
2.	Chepe sangu	7	0	2	1	4
3.	Simpani	12	3	4	2	3
4.	Sal danda	14	2	0	0	12
5.	Padebesi	6	0	1	0	5
6.	Thulo bargaicha (talogaun)	91	0	0	0	91

*Source: Field Visit January 2015*

Simpani landslide is the biggest among the four landslides in *Dhamilikuwa* ward no 1. This landslide first occurred in July 24, 2001 (Shrawan 8, 2059). On the night before the landslide, there was a continuous rainfall for the whole night. In the morning of 24<sup>th</sup> at around 7 am, a big mass of land fell down in the Chepe River from Simpani settlement, causing the river blockade for about 10 minutes. People from the other side of the river (Gorkha district) saw the land sliding down and they informed the settlement on the other side. Three households ('Bharati' families from Simpani community), which were built on the edge of the area, were badly affected by the landslide. Fortunately, the household members were able to clear out their belongings and their cattle from their houses right before it collapsed. The three households became landless as their land and houses collapsed along with the landslide. A man from one of the affected Bharati family recounts the event in this way:

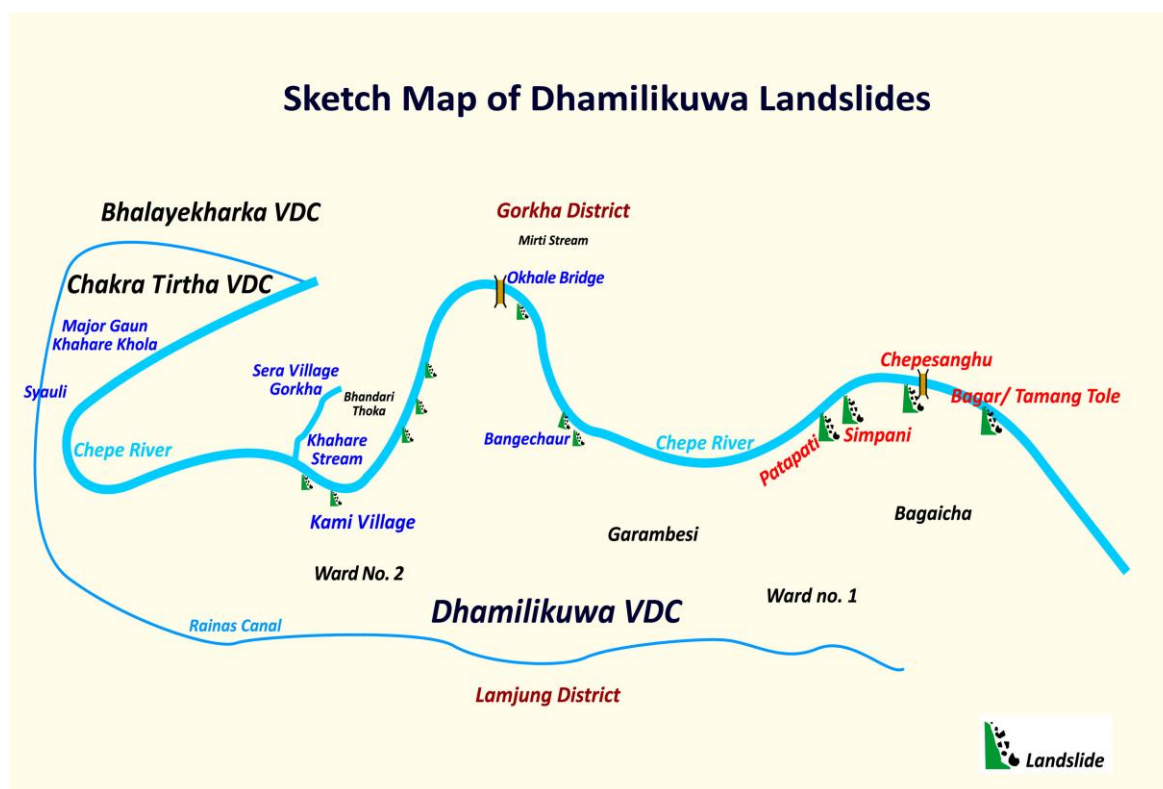
In the morning of 24<sup>th</sup> July (Shrawan 8), I woke up at 6 am and went to the nearby well to wash my face. Until then, everything was normal except it was raining for the whole night. After washing my face, I visited Chepe Sangu, a small market center to have a cup of tea. Suddenly, I noticed people from the other side of the river (Gorkha) started shouting. They were pointing out to the land sliding in Simpani nearby my house. I immediately ran to my house and saw that the land had already started to form crevasse. During that time, in our agriculture land we had Ghaiya paddy and fruit trees, which within a short time were destroyed by the landslide. We took out all the materials from the house and took all our cattle's and goats out of the sheds and kept them in a safer place with the help of our neighbors. It just took two hours for the land to slide down to the river. Our houses finally slid down to the river on the third day<sup>14</sup>.

After this incident, three Bharati families re-settled to new locations on their own, without any assistance from the state or development agencies. Four other households were partially affected, but they were relatively well-off families - with business and jobs outside the

<sup>14</sup>Interview with Ram Prasad Bharati, 15<sup>th</sup> March 2013.



community, and had good income sources. For the poor families, support from neighbors was crucial. A woman member of the Bharati family noted that they had received some support from one of their neighbors, Krishna Kumar Shrestha (also a leader of Nepali Congress Party of the area), who helped in securing a common land for rehabilitation.



**Map 3: Sketch map of four landslides in Dhamilikuwa along with settlement**

Following the landslide event of July 2001, the affected households also sought support from the village level organizations including the VDC. Considering weak financial conditions of those families, the local community allowed the landslide affected poor to resettle in the nearby public land. A local leader from Gurung community reported that the community support to the victim was strong. He further added:

When the landslide swiped away the houses of some of the neighbors belonging to Bharati families, all the villagers agreed to allow the displaced families to rebuild their house in the public land. But, it was not easy as people are divided into different political parties and have different thoughts. If a party brings a new idea, other parties always object to it, no matter how good the idea is. They are always in conflict about everything<sup>15</sup>.

Though the affected family got public land for immediate shelter, yet they are still living in uncertainties as they cannot live there for long. The three Bharati families are yet to get legal ownership of the land where they have built their houses. They have tried multiple times to get 'Lal Purja' (land registration certificate) from the government but in vain. We checked the issue with a government official in Besishahar (DSCO official) and attempted to know if these families were eligible to obtain landownership certificate. The official responded that the new government rules are very stringent and if this case is reported to

<sup>15</sup>Interview with Kul Raj Gurung, 16<sup>th</sup> March 2013.

the government, they are likely to be evicted from the land instead of getting land registration certificate.

The issue of allocation of community land for resettlement has not been easy and supported by concerned agencies. For instance, the support from other village organizations particularly VDC has been limited. The only thing that the VDC did was to issue a recommendation letter for any applications the affected families would like to make. Besides, there was no evidence of any additional support by the VDC to the victims, nor was there any follow up with the district level authorities. One of the reasons of why VDC is being less sensitive to the issues of landslide victims is that those who are actually affected are usually financially weak and do not have much access to government agencies. In contrast, well off and powerful people live in safer places often away from the landslide prone areas. The small numbers of poor households who live near the landslide prone areas have neither been able to influence village level politics, nor have they been able to make their voices heard.

In addition to that, the ineffective village response to the affected households has also to do with unaccountable village politics in the absence of elected representatives at the local level. The villagers seem to be divided across three major political parties – Nepali Congress, United Marxist-Leninist and Maoist. As one of the villagers reported, “these days the political party-based division is becoming worst. Even to provide very basic humanitarian support (i.e. immediate shelter) to the landslide victims, these parties were not united”<sup>16</sup>. She further added that in some cases even if the village leaders forward our application to the district offices there is no one to actually follow up and report back to us.

Eventually, this has implications in terms of undermining local collective action to deal with the disaster risk. Some of the local practices are not supportive to minimizing the risk of landslides. For instance, open grazing has triggered soil erosion and destabilization of fragile hilly landscape by destroying vegetative cover. This is an indication of serious institutional failure at the local level. In some of the landslide areas, the local people have planted *Khair* (*Senegalia catechu*), which could help stabilize the land as well serve as a good income source<sup>17</sup>. Another interesting local process surfaced during our interview is on the reduced level of interest in agriculture, where majority of the locals place little efforts towards landslide control.

#### ***5.4 Response from district organizations***

The post July 2001 landslide witnessed diverse responses among the local communities as well as local institutions. The affected households made several attempts to seek support from different district level organizations. The immediate support offered by the district level offices i.e. relief grant of NRs 5000 was not helpful as the cost of the travel while it was much higher than the materials they received from the support agencies. Therefore, seeking support from the government agencies was actually not a preferred choice for the victims<sup>18</sup>.

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<sup>16</sup> Interview with Kul Man Gurung, 17<sup>th</sup> March 2013

<sup>17</sup> Madan Babu Giri's wife, who used to be the chairperson of a women led CF Champawati, claimed that she is the one who brought the khair saplings in 2052, from the nursery and planted in her land. It got matured and the seeds were dispersed around and in the landslide areas. From these seeds new saplings of Khair started coming out in the landslide area. (meeting 16 March 2013)

<sup>18</sup> Interview with Kausila Bharati, 17<sup>th</sup> March 2013.

After the major landslide event in 2001, government officials from District Administration Office-CDO and District Soil Conservation Office (DSCO) visited the place to assess the damage. According to the locals, DSCO provided nine nets to be used in the landslide area though other materials and cost were not provided. The locals opined that if the government had also provided necessary materials and cost to cover the construction, the risk of subsequent landslides could have been minimized. The DISCO officials had promised the locals to provide them with more nets and other materials in the following year, nevertheless they never came back.

People from the study site reported that it has not been easy to live in the area, as there was still risk of more landslides. Despite their several attempts to get support from the government, yet there has been no support in terms of minimizing the risk of landslide in the area. One of the residents of Chepe Sangu said:

Two years back, we had submitted an application to the VDC. In response, VDC officials said that as the landslide is too huge for the VDC to cover with its existing resource. They said that they would forward the request to the DSCO. Until now we have not heard anything back about the progress made by both VDC,DSCO and DDC. We have lost our hope to get support<sup>19</sup>.

The local account on the limited response from district organizations brought us to explore a bit in detail about district organizations and their mandate on disaster response. As detailed in Annex 3, we have identified several institutions responsible for and played some roles to respond to the landslides in the study site. Ministry of Home Affairs (MoHA) is the focal ministry for disaster management throughout the country and the Disaster Management section under Ministry is responsible for managing the operational work. For providing immediate relief to the victims, the Ministry and its disaster management section collaborates primarily with Nepal Police and the Nepal Army. In addition, under the ministry, there is Central Disaster Relief Committee (CDRC), which is the national apex body of the disaster response system in Nepal. The committee controls a Central Disaster Relief Fund (CDRF), which is occasionally supplemented by the Prime Minister Disaster Relief Fund.

At the district level, the District Administration Office headed by the Chief District Officer (CDO), acts as the line agency for the MoHA in all the disasters related decisions and support. In every district, there is a District Disaster Relief Committee (DDRC) to coordinate the rescue and relief work. The DDRC is chaired by the CDO and comprises of representatives from the district government line agencies, non-government organizations including the Nepal Red Cross Society and local political party members. In many districts, the DDRC has prepared a District Disaster Relief Plan (DDRP) with support from the donor agencies. In the case of Lamjung district, World Vision and DPNet supported for the formulation of the disaster plan in 2011. Our analysis of the plan from Lamjung shows that it focuses more on providing rescue and relief measures immediately after the disaster but limited attention is being given to disaster preparedness, mitigation and resilience.

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<sup>19</sup> Interview with Madan Babu Giri, 15<sup>th</sup> March 2013.

The DDC formulates five-year district development plan, which guides the activities of the VDCs in the district. VDCs are also an important local institution in relation to development, climate change adaptation, and disaster risk management. When it comes to landslides and soil erosion, DISCO is the focal government organization to provide technical assistance to stabilize and rehabilitate landslide-affected areas mainly through small infrastructure and bioengineering works.

In contrast to the stories of the people affected from landslides that has taken place at different time periods, the heads of the district level government organizations perceive that there has not been major disasters in their constituency. To our surprise, during interviews, the officials from DAO consider that the whole Lamjung district is 'politically, socially, culturally and economically self-sufficient and the people are happy with level of support these institutions have provide so far. The differences in their opinion with that of the local people implies that these institutions have paid very little attention to small scale disasters from which people are suffering for years. The Chief District Officer remarked-

Until now, there are no such big cases of disasters in Lamjung but we do need to be prepared for the future. For example, if Madhya Marsyangdi dam is destroyed, we will not be able to provide preparedness and relief work at a large scale, but we can warn people to go to the safer places during the time of the disaster. In such cases we need to put our efforts on coordination with all the offices in the district. For instance, the DAO can focus on rescue operations while the DDC can focus on mitigation related activities<sup>20</sup>.

DDC is another important district level organization that deals with disasters. An official of DDC Lamjung reports that they have allocated a separate budget to deal with river cutting but it doesn't directly work to deal with the landslides. In the case of Dhamilikuwa, the DDC officials are not even aware about the case of landslides occurring in the VDC. As remarked by one of the planning officers in the DDC:

Until now we have not noticed any cases of landslides from Dhamilikuwa. In fact the DDC focuses on structural work and majority of our work is related to construction and maintenance of road, irrigation and drinking water supply systems. Land conservation/erosion control is our second priority and even if can, we do only small scale immediate relief work<sup>21</sup>.

In the district, there is another office called the District Technical Office (DTO) that looks after infrastructures and development works. The office too allocates funds to support landslide victims in the respective districts. Considering the seriousness, the DTO can provide support equivalent up to 0.5 million rupees to the landslide victims. However, its support is limited to gabion boxes, which they usually handover to the victims. It is the victims who have to actually fill the stones in the boxes and place them in appropriate places to control further landslides/erosion. These boxes can be utilized both for stabilizing the landslide area and preventing from further occurrences of landslides. However, there is lack of monitoring mechanism in place either by the DTO or any other entities on the usefulness of these gabion boxes in the ground. A staff member of DTO agreed that they spend the entire allocated budget within 1.5 to 2 months' time just before the end of the fiscal year. One of the officers in DTO seemed aware of the problem of Rainaskot irrigation canal, which is

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<sup>20</sup>Interview with Baburam Bhandari, 14<sup>th</sup> March 2013

<sup>21</sup>Interview with Anjan Neupane, 13<sup>th</sup> March 2013

allegedly considered to be the major cause of Dhamilikuwa landslide. However, he thinks that the problems could be resolved under the current budget limit. Krishna Shrestha, a technical officer noted the financial deficit for regular maintenance of the canal. The regular water uses fee collected by the water user committee and the government support of around 0.2-0.4 million (NRs) is not enough. As per his estimate, the total money required comes to be approximately around 7 million NRs to fully repair the canal<sup>22</sup>.

DSCO, a district level government line agency, deals with soil erosion and landslide problems in the district. It prepares sub-watershed plans in consultation with other district level government agencies and local farmers. The main works include the gabion wall formation and re/afforestation on the landslide prone area. However, their work is focused only in selected sub-watersheds. DSCO staff of Lamjung has admitted that they have not been able to address the problem in Dhamilikuwa.

Besides these organizations, several other government and non-government agencies work in Lamjung. The major project running currently in the district is USAID funded Hariyoban Project, which involves a consortium of WWF Nepal, CARE Nepal, National Trust for Nature Conservation (NTNC) and Federation of Community Forestry Users Nepal (FECOFUN). The project basically provides support in preparing community adaptation plan of action (CAPAs) to deal with climate change induced problems. It works through Community Forestry User Groups (CFUGs), thus strengthening the capacity of the local level institutions to address the issues of climate change and natural resource management. However, the project does not have any specific programs in Dhamilikuwa.

District coordinator from CARE told us that, they work with community forestry groups as the local institutions through which they can also work on disaster and adaptation issues<sup>23</sup>. According to her, they have not come across any specific risks or disaster events such as landslides that they can provide support through CFUG. However, it is not necessary that landslide risk be distributed across the CF boundary. This indicates that development organizations take a convenient approach to work with established institutions rather than engage in catalyzing institutional innovations in communities more directly affected by the risks.

Despite these many organizations with mandate to work around the issue of disaster response, the support to people from Dhamilikuwa affected from landslide was scanty. We found two key reasons behind this. First, observation showed that one of the reasons behind the slow or lack of response to the landslide victims was because of the decade long Maoist insurgency. Because of this situation, District Disaster Relief Committee (DDRC) was not as active as it should have been and Chief District Officer (CDO) had to put his priority to security matters. One of the landslide displaced persons visited Basisahar, the district headquarters, in order to seek some support from the respective line agencies but the support he received was very meager. Phulmaya Bharati recalled as-

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<sup>22</sup>Interview with Krishna Shrestha, 13<sup>th</sup> March 2013

<sup>23</sup> Interview with Bhawana KC, 13<sup>th</sup> March.

One of my brother-in-laws went to Besisahar to ask any support that he could get. After his several attempts, he got NRs 500 from which he could hardly cover his travel cost. After this we stopped going anywhere and seeking any help. Later, we were informed that if we go to the DDC, we will get gabion nets. We did not go to collect these gabion nets, as we didn't have enough money to bear all the cost to visit Besisahar and transport the nets to the landslide area<sup>24</sup>.

Second, support from district organizations are scattered and in many cases, the process is tedious and bureaucratic. Dhamilikuwa case exhibits that even to get a small support they have to complete a tedious bureaucratic procedure that involves excessive paper works (from VDC to DDC level offices) involving lots of time and other resource. In such situation, the victims rather avoid visiting district headquarters for support. However, those who are powerful and can influence politicians and bureaucrats are able to extract resource from the district line agencies or VDC. Unlike the poor who are struggling to cope with the disaster, the powerful households can avoid or ignore the risk either by migrating in other areas or by buying land in safer places in the village itself. One such example is presented in Case Study 2.

## 6. Production and distribution of landslide risks

The Simpani landslides and its consequences are linked to a number of socio-cultural, political, economic, and environmental factors. The village is highly heterogeneous in terms of caste and ethnicity and there are differences in terms of political ideology among the people, as well as in relation to economic status. This has contributed to complicate collective actions in relation to disaster risk identification, response planning and post-landslide rehabilitation actions. Due to political and economic differences, certain households are forced to live in landslide risky places, as it was in the case of Bharati family. The development of other infrastructures like roads and canals have also contributed to trigger landslides especially in sloppy terrain i.e. land instability and water seepage. The small-scale soil erosion started in agricultural land in the upstream i.e. *Bari* can ultimately trigger gully erosion and landslides in the downstream. The excessive tillage in the sloppy terrain and continuation of some of the agricultural practices i.e. regular slicing of the terraces are also linked to the occurrences of landslides.

People think that various factors have contributed to the occurrences of landslides in the area. The area has multiple spring water sources which villagers have used for long. The construction of irrigation canal itself is also perceived to have contributed to landslide. Collectively, these water sources and the water seepages occurred from the canal actually kept the land wet all the time and when there is big flow of water during monsoon, there was always a high chance of landslides. Local residents reported that during the rainy season, most of the landslide prone areas become a '*dal dal* (swamp)<sup>25</sup>. Because of the lack of any protection measures, every year the river cuts the edges of the slopes that triggers landslides. Jeet Bahadur Tamang from Garambesi village reported that the overflow of water during the monsoon from the irrigation canal eroded his land in 2012<sup>26</sup>. A woman, whose family was

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<sup>24</sup> Interview with Phulmaya Bharati, 29<sup>th</sup> Jan 2015

<sup>25</sup> Interview with Bishnu Neupane, 15<sup>th</sup> March 2013.

<sup>26</sup> Interview with Jeet Bahadur Tamang, 16<sup>th</sup> March 2013

displaced from a landslide from Ward No. 2 of Dhamilikuwa also reported that she lost three rapanies of land (approximately 0.15 ha) in 2012. As she recalled:

The landslide occurred in three steps within the two years intervals. On the third time, the landslide reached to the edge of my house and it was very scary to live there. I think it is all due to the irrigation canal that passes nearby my house. I have been here before the canal was constructed. There used to be a cowshed in the same place where the canal is<sup>27</sup>.

It indicates that despite its positive contribution to agricultural production and other water based livelihood opportunities, the irrigation canal has been a very much contested development in Dhamilikuwa. The contestation is observed not only as a factor responsible for the occurrences of landslides but also as a source of social conflict between the upland and lowland in terms of equitable use of irrigation water. The farmers in the lowland argue that the upland farmers, mainly the upper caste Brahmins, usually block the water in the upland to irrigate their own land while the lowland goes dry. When the water is surplus during rainy season, they let the water pass through the canal without considering its consequences downstream. This eventually results in flooding in the downstream and damages the crops. Kul Raj Gurung, a farmer in the lowland opines-

The Brahmins who live in the upstream sometimes block the canal for their own use especially during the dry season. Because of that we don't get enough water to use for our land. They release the water when we do not need it. We have discussed this issue in several meetings, but they always make excuses, saying that plants/branches/debris blocked the water course of the canal and it was not them. There has always been discussion on using the water in rotational basis but it has never happened in practice<sup>28</sup>.

The unregulated river is another factor that local people think as one of the causes for the landslides. As they observed, every year the Chepe River cuts its bank in several places that has triggered soil erosion and landslides. The DISCO also reconfirms this as an issue. They think that protecting the river bank with check dams and other structures would be an immediate solution to prevent further landslides and to recover the eroded land. Unfortunately, such protection measures have not taken place in the area.

Likewise, rural road construction is a contested development programme, especially among the local politicians and the government officials. The local people in Dhamilikuwa consider it as the most important development activity but the road engineers argue that an unplanned road construction has been one of the major factors contributing to landslides. The DTO prepared a 'district transport master plan' in 2010, which targets to construct 900 km of rural roads across the district. By now the road track for 400km has already been cleared. The engineers have however tried to stop the expansion of tracks but the VDCs have been consistently trying to open as many tracks as possible depending on their budgets. In Garambesi, every year until 2012, the road construction project has consumed the major part of the VDC budget<sup>29</sup>. Unlike bigger road construction projects with more than NRs 1.5 million budget, there is no need of carrying an Initial Environmental Evaluation (IEE) in the

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<sup>27</sup>Interview with Kausala Bharati, 17<sup>th</sup> March 2013

<sup>28</sup>Interview with Kul Raj Gurung, 16<sup>th</sup> March 2013

<sup>29</sup>Interview with Ex-Secretary of VDC on 18 March 2013.

case of rural road construction projects. However, the IEE report indicates on likely negative environmental impacts and the ways to avoid and mitigate such impacts. Therefore, rural road construction projects which do not exceed NRs 0.5 million need IEE. The excessive use of dozers to excavate the land and open road tracks without giving due attention to the surroundings ultimately resulted in landslide<sup>30</sup>. However, these were the only proximate causes of landslide in Dhamilikuwa. There are some underlying causes that explain how Dhamilikuwa landslides were an issue for some families while not to others.

Various organizations in the district have identified landslides as one of the major disasters in Dhamilikuwa. However, there are differences among the organizations about how to address the landslide problems. The effects of landslides are also not the same for different households in the area. These variations sometime are seen as result of the geographic positioning of the households. For example, the households situated closer to landslide prone areas are more affected than those residing far away. Nonetheless, this explanation is rather apolitical. At the deeper level, our analysis shows that socio-economic variations based on economic class, caste, gender and social status of the households is largely responsible for the uneven distribution of the effects caused by the landslide. The interviews and focus group discussions revealed that the economically poor, Dalit and women headed households were mostly affected by the landslides. A Bharati woman, whose house and property were swept away by landslide, ultimately re-settled in a public land with support from the local people. Her condition has been more vulnerable since she can neither acquire an entitlement of the land where she lives now, nor can she reclaim the land swept by the landslide. She told us that she does not have money to travel to the district headquarters to request the government agencies for help.

The Bharati family went through difficult times during the post-landslide and they have strived a lot to make their living. Nowadays remittance, wage labor, share cropping has been the major source of their livelihoods. Among the three households of Bharati family, two of them have sent their sons to foreign employment by taking loan from the villagers. Dillu Bharati (elder son) said that “we are landslide victim so we need a land ownership certificate of the land where we have been living but government is not taking any action. By now, with the remittance, my family receives, we have invested some money to lease agricultural land and my youngest son goes to college”

The section below discusses these factors as emerging issues of the case and provides more insights into how the landslides and other disasters are linked to complex political, social, economic and institutional systems.

## **7. Landslide risk production and responses: Key issues and lessons**

Simpani landslides offers a diverse learning in terms of the ways the institutions from local to district levels respond to landslides as disaster risks. The case is particularly interesting as the landslide continues to remain active till date, displacing three families and affecting several others. The case is typical in the middle hills of Nepal, in terms of scale and the intensity of

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<sup>30</sup> Interview with Shrestha, Technical Officer of DTO, March 13, 2013.



the damage, with no casualty but displacement and significant loss of property. Clearly, as we demonstrated in the previous sections, the landslide has posed risks to some but not others at the same level.

Here, we draw key themes and generate new evidences while exposing the case of Simpani landslides to wider debates around disaster risk reduction in relation to environment and climate change. At least the following six themes are relevant to the case:

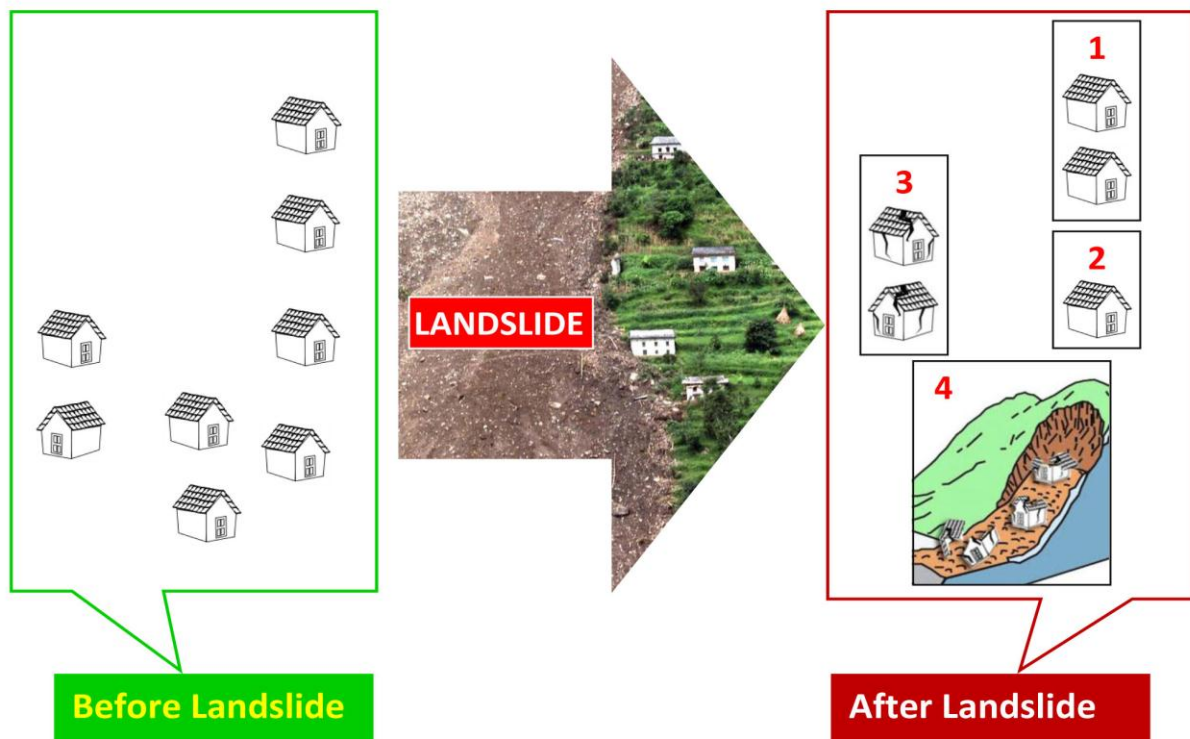
1. Differential vulnerability - who is affected by the risk and who is not
2. Community level responses including how the risks are perceived, identified the opportunities if any, and how the local assets are mobilized to reduce the level of risks and mitigate them;
3. Deterioration of political representation and accountability in local government bodies (VDC and DDC) the time of a decade long conflict led by Maoist
4. Increased male out-migration, especially youth, and consequent flow of remittance and reduced dependency on the agriculture based livelihoods
5. Development regime including technocratic focus on planning and construction of infrastructure such as roads and canals that hardly integrates disaster resilience in to development planning and practices
6. Institutional structure of government, path-dependence and institutional in/compatibility to address disaster risks
7. The changing mountain ecology and environment, including the changing flow of Chepe River, one of the key sources disasters.

We briefly outline these themes in relation to Simpani landslides and associated responses made by different meso-level organizations and demonstrate how the phenomena related to these themes shape and influence disaster risk management potential in the study sites.

### ***7.1 Differential vulnerability***

As we show in Figure 3, there are at least four different categories of households who live near by the Simpani landslide: those completely displaced and have no capacity to buy land and build new houses in the new area (4); those whose houses are at risks and land is already washed away, but still not much affected as they have adequate capital to shift to new locations (3); Households partially affected as parts of landslide away, but still have sufficient income to cope with the risk (not really bothering the risk) (2); households that are not affected and do not feel they are threatened, but are concerned with the neighbors being affected (1).

Such a differential impact of the landslide to different households residing in the same locality is largely the cause of unequal resource ownership structures. Often poor people buy the land in risk prone location as these lands are cheaper than the land located far from the risk prone areas. The ability to respond also varies as some have plenty of alternatives while the most affected have no or limited alternatives. This indicates that the effects of natural disasters are unevenly distributed among the population even if they share the same geographical location.



1. Households not directly affected but concerned with neighbors being affected.
2. Household partially affected but still have sufficient income to exit the risk.
3. Household at risk and land is washed away, but still is not much affected as they have adequate capital to shift to new location.
4. Those completely displaced/washed away and without enough capital and need rehabilitation /resettlement.

Figure 2: Simpani Landslide showing differential effect on Household:

## 7.2 Community level responses

Despite the fact that not all the households in the same settlement were equally affected, landslide victims perceived that the local community took care of them in a better way as compared to development organizations. The neighboring households helped the most affected families in the time of landslides by helping them save their property and also helping them to arrange the land for resettlement afterwards. In fact the local community took a risk by allowing the victims to build houses in the government owned forest land. Although the community leaders were aware of its illegality, they thought that if they act collectively as a community group and supportive to the landslide victims from humanitarian ground, government won't be able to harm any community members. What is interesting is that despite some ethnic rift and tensions emerging in Nepal, cooperation among the local people was not unduly influenced by these differences based on ethnicity or caste. However, there are reports of ideological divide (reflecting allegiance to different political parties) undermining cooperative action on the rehabilitation of the affected families from other parts of the country. In the case of the study site, the displaced families (of *Brahmin-Chhetri* caste) were supported mostly by other castes such as *Newar* and *Gurung*, while *Brahmin-Chhetri* groups of similar ideology were also supportive.

Despite few good examples, we also found that collective actions in disaster management through community forestry and irrigation groups (local institutions) appeared more complicated than any other community actions. A key example of such failure in collective action was seen in the open grazing inside and around the landslide areas. The CFUGs were unable to control free grazing in the area. The people who graze their livestock in landslide prone areas and those who do not have livestock to graze or their livestock do not graze on the landslide areas have different views. These differences among households made it difficult to foster collective action in understanding and responding to the landslides. Likewise, the irrigation group also faced challenges to organize collective action while making gabion wire walls even when the gabion net was supplied by external agency (DSCO) free of cost. While it's not sure whether the gabion wire wall was a right decision or not, what was clear from the interaction with the village key informants is that there was an issue about who benefits from such collective actions and to what extent, creating disincentives for those less affected by the landslide. The general level of community enthusiasm for the rehabilitation was found to be low, partly because there is a limited hope that the land can be reclaimed (and hence no interest on controlling grazing, for example).

How community voices are channeled to influence higher-level governance is also an important aspect of institutional capacity in disaster risk management (Ribot 2014). In Dhamilikuwa, although local communities are strongly represented in the district and national levels in relation to community forestry issues, no such channels exist to represent the voice of the landslide-affected people at the district and national levels. District FECOFUN in Lamjung is strong in terms of communication and coordination among the CFUGs in the district, and also to represent CFUGs with DFO and other government agencies at the district and higher levels. Community movements and networking have been highly specialized and sector specific, and there appear to be not enough demand for and push factors at play to prompt networking among landslide affected groups in the area. This difference has to be seen in the context of significant international aid that community forestry institutions have received over the past three decades.

An interesting community level dynamics that is found in Dhamilikuwa is about the way certain local intellectuals or '*budhijibi*' are shaping the local discourses and practices – in relation to more general issues about environment and development – such as school development, road construction, irrigation canal and landslides management. These individuals include current and former school teachers, who help fellow community members to analyze local issues in broader perspectives. We interacted with several such intellectuals, and one of them was a former teacher of well-known Luintel School from Gorkha district<sup>31</sup>, who has a good command over the national and political dynamics affecting local development and everyday life. He is highly regarded in the community for his informed opinions and views about the community problems and possible solutions. We also identified two professional peoples who have migrated out from the village but helping significantly in the village development – through financial, technical and advisory contributions. But these intellectuals shaping village level community actions are still not adequately aware of the need to link disaster risk management in local level development planning.

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<sup>31</sup>Interview with Khem Raj Pandit, 17<sup>th</sup> March 2013

The gender dimension in community action is also interesting, as a discourse of gender justice has had significant effects. Outmigration of male members is also at play. As a result, new forms of gendered practices have emerged – for example, women have formed groups – called *Ama Samuha* (mothers group) – to highlight gendered concerns in development. Community forest user group in the study site also has women in the key leadership positions, signifying the empowered status of women. As most of the male heads of the households have migrated out for work, women are also taking increasing responsibility for other community affairs. But we have not been able to identify any specific mobilizations by women in relation to the landslides.

Caste based division in the society is gradually declining, fostering better communication and collective action between Dalits and non-Dalits. As an old Dalit person recounted in response to our question on whether the caste based discrimination is still prevalent: “Well, these days, lots of changes have taken place as compared to the past. We do not feel discriminated as lower caste these days as we did in the past”. Yet another Dalit (active blacksmith) told us that he is denied to access charcoal production in forests, which have now come under community control as community forestry. While cultural distinction decline, the politics around access to resources still tends to resonate the caste-based distinction. This will have important bearing on the capacity of the lower caste to cope with the disasters, although we did not identify any lower caste affected by the Simpani landslide. This also produced a counter-intuitive conclusion that Dalits are not always the ones who are forced to occupy the most risky location – which is indeed inhabited by those who have least resources irrespective of the caste.

### ***7.3 Conflict and political transition***

Lamjung district and Dhamilikuwa VDC has seen tremendous political mobilizations over the past one and a half decades. The VDC was considered as one of the Maoist hotspots in the district during the conflict period, and several national level leaders or commanders descended from this VDC. During the conflict, households which did not believe on the Maoist were kept quiet and they even supported Maoist to avoid the fear of physical threats. The national level transitional politics and local political dynamics are seen as progressive development in Nepal, but these too have affected the capacity of local institutions to undertake development and cope with increasing climatic risks and disasters. Several dimensions are critical.

First, due to the absence of elected local government at both VDC and DDC, accountability has deteriorated in local governance, and this has clearly affected the capacity to respond to risks/disasters. Since there has been no local election since 2002, DDCs and VDCs are administered by the formal and informal alliances of the political parties. As the Local Development Officer (LDO) of Lamjung said, “we have faced problems due to non-election of VDCs and DDCs but we coordinate with the political parties in the district and discuss problems and opportunities”. In such situation, political party cadres and local elites influence the VDC budget decisions and Dhamilikuwa VDC has never made a decision to address any of the landslides in the area. Ironically, political party leaders have formed informal nexus to create ‘political consensus at the village level, through which they often misappropriate VDC budget for personal benefits.

Second, while the multi-party democratic processes have expanded the public sphere at local and national levels, party-based and ideological mobilizations and cleavages at local level (Dhamilikuwa) have affected institutional dynamics and capabilities to address risks, by undermining collective action at community level and cooperation and accountable practices at VDC and district levels. This view is shared by local level intellectuals who are inclined to all the three major political parties. As a result of this situation, the ability to influence decisions at community, VDC and district level is significantly related to the membership and profile in a political party. The landslide affected households did not have strong allegiance to any political party partly explains why local institutions did not respond to their concerns as expected. One of the affected Bharati family members joined Maoist political party but now they are also not happy with the way Maoists ignored their problem.

Third, there is a growing awareness among local intellectuals and ordinary people of the fraudulent practices of multi-party political nexus. In one of the events, some critical leaders of the major political parties prepared a parallel all party committee to bid a development project from the VDC, and demonstrated fairer use of the money in the planned development work. How such corrective politics emerge at local level remains crucial in enhancing local institutional capacity to live with disasters.

#### ***7.4 Male outmigration and remittance***

Although the LDO thinks that Lamjung has several economic potentials, relating to hydropower, tourism, agricultural commercialization and medicinal plants, the majority of youth population has left the district for employment, and Dhamilikuwa is not an exception. Madan Babu Giri, a leader in the study site, informed in a meeting that around 90% of the village income comes via remittance. The trend of going to foreign countries for employment started during the Maoist insurgency period (mid 1990s), when it was rumored that the Maoist party people forcefully recruited male youths from each houses in the party, hence people started sending their young male members to foreign countries to save them as well as earn money<sup>32</sup>.

An estimate shows that more than 70% of households in the VDC have at least one member living outside the village (VDC profile 2010). In a group meeting with school teachers and local intellectuals, we were told that as the remittance flow increases in the village, people have become 'lazier', spending less and less time working in the farm. Fields that were cultivated have now been abandoned, and the agriculture labor is also getting scarce, although the wage rate has gone up. Those with higher incomes have decided to move out of the village. Even one of the members of Bharati family has gone outside for work, but it is not clear to what extent and how this is contributing to the family to move out of the perils of landslides. Such a change in agrarian economy will definitely influence the ability to cope with disasters at household and community levels, although how that happens is not yet precisely known.

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<sup>32</sup>Interview with Madan Babu Giri, 15<sup>th</sup> March 2013.

### *7.5 Development regime and infrastructure*

Nepal depends significantly on development aids, and Lamjung district has received total 6,875,325 US\$ in FY 2013-14 as aid (MoF 2015). The government budget is also divided as 'development' and 'administration' – signifying the developmentalist state with a history of over six decades (after War II). The government organizations at the district level are organized according to the sectors of development – such as agriculture, physical infrastructure, irrigation, road and health. Development is planned and implemented with limited concerns for environmental sustainability and resilience. While the government has developed policy for Environmental Impact Assessment (EIA) for development interventions, these are not effectively implemented in practices<sup>33</sup>.

People in Dhamilikuwa VDC strongly believe that landslides along the Chepe River are caused by the leakage of water from the canal that runs along the ridge of the hill. The canal was built some 30 years back, and it is still functioning for part of the year. We observed that one household has been directly displaced by the canal – with landslides occurring a few meters below the house. The canal passes through the house. They have shifted their house some 300m away, where they own another small piece of land which is not affected by the canal. Although we do not have biophysical evidence on the links between canal leakage and landslides, it is clear that people living below the canal are worried about potential soil erosion and landslides impact.

Physical infrastructures like road are also being seen as a potential threat to the environmental resilience, especially when roads are built without considerations of environmental stabilization measures. As the district technical officer of Lamjung told us in an interview, "Haphazard opening of roads in the district is causing serious problems of landslides and soil erosions. He also offered a concrete example to us about a GTZ funded road in the upper regions of the district leading to landslides. The DDC seems to be serious about roads increasing the risk of disaster, and this is why they have brought a proposal to stop building new roads to the district council and rather focus on strengthening the existing roads. The council has endorsed the proposal"<sup>34</sup>. The politicians have also realized the importance of making roads sustainable, according to an officer of the DDC.

The LDO also identified a disconnection between periodic plans and annual plans of the government line agencies. He said, "The annual development plans prepared by different government offices in the district are not linked to the five year periodic plan of the national planning commission, although the government has instructed us to link local plans with national plans"<sup>35</sup>. Another important aspect, which the LDO revealed is the lack of use of evidence and data in planning and development decisions in the district. He said, "we always emphasize on data and hence prepare a database for our plans and programs. However the problem is that we never use them during the implementation.". This means that the district level agencies are aware of several landslides incidences in Dhamilikuwa VDC, but such information is not used to formulate effective disaster responses.

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<sup>33</sup> Interview with the district level technical officer at DDC, 13<sup>th</sup> March 2013.

<sup>34</sup> Interview with Shrestha, District technical officer (DDC), 13<sup>th</sup> March 2013

<sup>35</sup> Interview with LDO, Bishnu Dutta Gautam, 14<sup>th</sup> March 2013.

What came as a surprise to us is that despite of so much of climate change discourse and adaptation projects at the national and district levels, the district government organizations have very limited awareness of what this means to their work in the district. Climate change is seen as a new issue (LDO), and there is a limited sense of how climate change is a contextual and cross-cutting issue, instead of a standalone problem, separate from other environment and development challenges in the district. The LDO even responded that he is not sure whether climate change is their issue. At best, both LDO and the DDC technical officer thought that there is a need to consider ‘environmental’ aspects in development, and they referred to EIA related tools as useful to this end. Clearly, there is still a limited sense of climate being a part of the vulnerability factor, while climate change issue and disasters are framed as conventional environmental challenge. The works of projects like CARE are not linked to the way government line agencies and DDC do the development business.

The DDC and VDC although meant to be local governments are concerned mainly with development planning and administration. DDC seems to allocate proportionately higher amount of money on creating new infrastructures, while allocating too little resources for sustainability and environmental monitoring. A staff at DDC mentioned that the DDC lacks resources and staffs to undertake such projects, given the massive road works (of the 900km planned for the district, 400km tracks has already been opened). Likewise, the VDC budget is allocated mainly for infrastructure development and there is no consideration for environmental sustainability and climate change<sup>36</sup>.

Community associations are also shaped by wider development regime. This is evident in the ways in which FECOFUN’s activities are structured and shaped by the international organizations that support their work. As the general secretary of (Lamjung) district FECOFUN said that they have a plan to prepare 24 CAPs in 25 CFUGs in 2013<sup>37</sup>. He did recognize that landslide is among the major risks in the district, and the risk also not uniformly distributed. But their focus is on CFUGs, and not the groups affected by natural disasters like landslides. There is no associational action among communities to articulate disaster risks including landslides at the higher level of governance.

### ***7.6 Institutional structure and disaster governance***

At the district level, landslide is considered as one of the major ‘disasters’. CDO (Lamjung) Baburam Bhandari said: “we have 6-7 kinds of disasters in the district, landslide and fire are the major ones” but the government institutions are not clearly aligned with the typologies of disasters that have been experienced or foreseen. As mentioned earlier, the district level offices of the government are aligned with development sectors, and there is limited consideration of disaster risks management. The district level disaster relief committee is a coordinating body headed by the CDO who mobilizes police and army as needed, while many of the government agencies remain redundant in disaster risk management, or at least remain disengaged in any important disaster management functions.

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<sup>36</sup> Interview with Ram C Regmi, 14<sup>th</sup> March 2013.

<sup>37</sup> Interview with Ram C Regmi, 13<sup>th</sup> March 2013.

The CDO appears to be the most powerful institutions to respond to disasters in the district. CDO leads the district disaster relief committee (DDRC), and is in command of the military and police in the district. They also have a direct links to the Ministry of Home affairs without any departmental set up, as found in the case of Agriculture, or Forestry. In the case of Bhoje landslide, CDO is advising the Home Ministry to consider resettlement of the affected people if other remedial measures fail. The CDO also provides monthly report through District Emergency Operation Center (DEOC) to the home ministry which has National Emergency Operation Center (NEOC) – with all kinds of rescue facilities and open for 24 hours.

The CDO was found to be confident in coordinating the political parties and local civil society actors when there is a disaster. He said,

We all work through informal relations and formal mechanisms. We have two types of relations – personal and official. We have DDRC committee in which there is All Party Mechanism, Nagarik Samaj and other government and non-government organizations. I have personal relationship with army members, Red Cross and others, so I can ask for help personally too along with the DDRC coordination meeting. It has been a year since I am here and I have found the districts' organizations and APM very helpful in situations of problems. Whenever I call for an emergency meeting, everyone attends and cooperates.

A key institution related to landslide rehabilitation and to some extent prevention is DISCO, which was established in 1995 (2052) in Lamjung. It works on sub-watershed basis but the office has not been able to cover the entire district yet. Their sub-watershed approach could offer an advantage in managing environmental risks, but none of the other agencies seems to take note of this way of environmental management and development in the district.

Focus on community level adaptation planning in the work of CARE Nepal also misses out VDC and district scale processes which are essential in enhancing adaptive capacity and resilience. Moreover, their focus on CFUG as the convenient local institution, and FECOFUN as politically appropriate partner, may not be the best way to minimize disaster and enhance adaptive capacity in the district.

There has been some change in the functions of various government agencies. A water induced disaster prevention office based in the neighboring district of Kaski used to provide some materials support to communities facing disaster risk (such as providing gabion nets), but this function has been relocated to the concerned DDC<sup>38</sup>.

There is also a mismatch of scale between what government agencies do and what is needed or demanded. For example, as the technical officer of the DDC Lamjung further mentioned:

Some plans need more than 50-60 lakhs but we can only manage 3-4 lakhs. We cannot work on big landslides. In the previous years, we attempted some big projects on road stabilization but failed due to lack of budget. So, from this year, we have agreed to select small projects for which there is enough money and which could be completed within 3-5 years.

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<sup>38</sup> Interview with Shrestha, District technical officer (DDC), 13<sup>th</sup> March 2013



### **7.7 Mountain ecology and environment**

There is generally a perception among the villagers that the river environment has become more susceptible to landslide risks. A series of five landslides have been found within 1 km length of the river. The only suspension bridge within a stretch of about 15 kilometer is at risk due to a newly triggered landslide by the side of the bridge anchorage. The data from the river flow measurement over the past 30 years suggest increased variability in the river flow.

The mountain topography also distributes risks and opportunities to residents differently, depending on the place of habitation. Accordingly, people also have different livelihoods strategies and pre-disposition to disaster risks: people relying primarily on upper slope *Bari* land, people relying on irrigated *khet* land, people living at the bank of rivers and relying on fishing, families with children using the river for swimming. The environmental risk spreads differently to these people for example, children swimming in the river have sometimes been washed away by unforeseen floods in the summer.

The river is seen as a strong boundary between the two districts, and there are conflicting claims over the land that is reclaimed from the riverbed. In this way, the dynamic nature of the river has also led to conflict and tension among the people in the local society.

## **8. Conclusions**

The series of landslides that occurred along the bank of Chepe River in the mountains of central Nepal demonstrates how vulnerability is produced by climate-related disasters in specific political economy and institutional contexts. We gathered and analyzed evidences related to a series of landslides, with in-depth explanation of one of them, to understand how the landslide risk was experienced and how local actors responded to the risks. Although small scale, the landslides have differential effects among different households in the village; those households, families and individuals who are forced to occupy risky locations were the ones to be hit the hardest. Those people have limited say in the community decision-making processes, have limited assets to adapt to the risks, and have no channels to articulate their voice in the district and national level political institutions. Those displaced are the ones who are among the poorest in the village, and it is interesting to find that some well off households, despite being physically affected, do not bother even if the landslide occurs, as they have plenty of assets to move out of the risk prone zones (e.g. in safer towns away from the village).

While landslide risks have been found to create differential vulnerability to different groups, we have found the evidence of community wide collective action helping the displaced households to cope with the risks. However, the responsiveness to risk fades away as we move up to the institutional scale – people living in the local community have relatively better sense of monitoring and responding to the forces of environmental change, albeit in their own local ways of knowing (not necessarily scientific). While people's perceptions indicate changes in rainfall and river flows commensurate with national level projections of climate change in Nepal, there is a lack of systematic evidence and analysis to inform the decisions at the district level. As the district headquarters is populated by national government agencies and Non-Governmental Organizations (NGOs), which are keen to

obtain formal evidence of climate change and the risks associated with landslides, there is a lack of systematic and robust knowledge base to help formulate disaster risk responses. Limited efforts are made to downscale climate change science, and this means that local institutions (at VDC and district levels) have to rely on the perceptions of people and political articulations of climate risks and development needs by local leaders.

Our analysis of Dhamilikuwa landslides suggests that both science and political voice are too weak to influence district level development planning and disaster risk reduction efforts associated with pervasive but small scale risks such as landslides. Indeed, the conventional development approach – focusing on infrastructure such as roads – often ignore the disaster risks associated with landslides, as roads are aligned with political interests with limited consideration of how environmental risks will be produced and distributed in the localities.

It is no surprise that responses of local institutions to landslides vary significantly. International organizations like CARE, USAID and others have started facilitating ‘community based adaptation planning’. What is found interesting is that such responses are based on the strategy of convenience – such as working with CFUGs rather than the landslide affected groups, inviting FECOFUN and DFO as a service provider so that there wouldn’t be any difficult moment if/when FECOFUN takes tough stance in relation to community rights. There is also a lack of harmony and collaboration among various government agencies – a most obvious case observed is the exclusion of DISCO in adaptation and disaster risk management activities at the district level, despite their mandates on soil conservation and landslide prevention. Donor funded projects are moving more on the NGO side, compared to the past when government offices were the main channels to deliver development activities. This has changed the partnership equations, channels of aid flows and relations of power, all reshaping the ways in which development practice is conducted. While NGO involvement has the potential to catalyze early action, over reliance on NGO at the expense of government institutional reform can potentially undermine local democratic government without which inclusive disaster management is almost impossible.

The Nepal case also demonstrates a particular context of social conflict associated with Maoist war. Because of this conflict, the functioning of local and district level government institutions was seriously affected and this is one of the key reasons (or excuses) for the limited responses to the landslides disasters in the area. Local governments lacked elected representatives since 2002, and All Party Mechanisms (APM) and government officials worked together to plan, decide and disburse budgets through political negotiations, rather than on the basis of any evidence of disaster effect or development needs. Government officials also felt insecure to visit and discuss plans in the area in the conflict period. The Government budget is mainly focused on physical infrastructures like roads, schools and irrigation canals, while NGOs led investment has emphasized activities related to empowerment, planning and awareness. Consideration of climate and disaster response as overarching concern is lacking on both fronts – as institutions have their own legacies of the past and a tendency to see climate change as just another issue to be mainstreamed into their existing portfolio of programs. While NAPA and other national policies do suggest that climate and disasters are important considerations in local development planning, this has hardly been realized in the actual practice.

Almost no discussion was found on questions about the suitability of existing institutions to help people and communities to adapt to the risks associated with climate change. Preexisting institutions are picked up for adaptation related intervention for reasons of convenience. Whether the existing institutions like CFUG, however strong, are the best option to catalyze adaptation in relation to climate-induced risks such as landslides is open to debate. Dhamilikuwa case clearly shows that CFUGs are indifferent to the landslides challenges faced by some of the households in the community.

Finally, in the current institutional landscape, the voice of the disaster-affected people hardly find its way into the decision-making process at the community, VDC and district level, across the government and non-government organizations. The irony is that the leaders of all these organizations are the ones least affected by climate change and the associated disasters like landslides. However, those most affected are neither represented in the decision-making bodies, nor have effective channels to articulate their concerns. There is also a lack of scientific activity that could have exposed the potential risks of landslides among the disadvantaged groups in the community. The case shows that the capacity of mountain people to respond to the risks like landslide is determined by their socio-economic status in the society as well as their representation in the decision-making and planning processes across scales, from local community through district to national levels.

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## Annexes

### *Annex 1: List of Interview and Focus Group Discussion at Dhamilikuwa:*

Date	Activity	Name of the person	Organization
13 <sup>th</sup> March, 2013	Interview	Bhawana KC	CARE Nepal/ Field Officer
13 <sup>th</sup> March, 2013	Interview	Devendra Parajuli, Devendra Paudel	Maoist Party
13 <sup>th</sup> March, 2013	Interview	Ram Chandra Regmi	FECOFUN/ General Secretary
13 <sup>th</sup> March, 2013	Interview		DDC/ DTO
13 <sup>th</sup> March, 2013	Interview		DDC Planning officer
13 <sup>th</sup> March, 2013	Interview	Sita Dhakal	Parropkar CFUG/ Secretary
14 <sup>th</sup> March, 2013	Interview	Anand Raj Adhikari	DISCO
14 <sup>th</sup> March, 2013	Interview	Bishnu Datt Adhikari	DDC/LDO
14 <sup>th</sup> March, 2013	Interview	Baburam Bhandari	ADO/CDO
14 <sup>th</sup> March, 2013	Interaction	Yuvaraj Parajuli	Head master of Sharada Secondary school, Dhamilikuwa
14 <sup>th</sup> March, 2013			Surveyed Simpani Landslide
15 <sup>th</sup> March, 2013	Interview	Madan Giri and Bishnu Shivakoti	Local leader and Local youth
15 <sup>th</sup> March, 2013			Chepe landslide visit
15 <sup>th</sup> March, 2013	Interview	Ram Prasad Bharati and Dumrakoti	Locals
15 <sup>th</sup> March, 2013	FGD	Peoples from Dhamilikurwa-1, 2	Sharada School
16 <sup>th</sup> March, 2013	Visit		Simpani landslide
16 <sup>th</sup> March, 2013	Interview	Thakur and Kausila Bharati	Ward-2 Dhamilikuwa
16 <sup>th</sup> March, 2013	Visit		Chepe river walk
16 <sup>th</sup> March, 2013	Interview	Tamang man, Kulman Gurung, Bishnu BK	
17 <sup>th</sup> March, 2013	Visit		Landslide visit with DISCO officer
17 <sup>th</sup> March, 2013	FGD	Madan Giri, Kul Man Gurung, Ram P Bharati Jeet Bahadur Tamang, Bhim B Gurung, Bishnu Sivakoti, Bishnu P Dumrakoti, Maskey (DISCO officer), Krishna Shrestha	Interaction meeting at Chepe Sangu
17 <sup>th</sup> March, 2013	Interview	Ex ward chair Sivalal Shrestha – (during Panchayat period), ex VDC ward chair - Ram B Dhungel, ex headmaster Khem Raj Pandit	

17 <sup>th</sup> March, 2013	FGD	Krishna K Shrestha, K Pandit, Ram P Bharati, Ram B Dhungel	
18 <sup>th</sup> March, 2013	Interview	Harka Nepali (Oldest person), ex VDC secretary (Nakhola), canal displaced woman (Chapagain)	
27 <sup>th</sup> Jan, 2015	FGD	Janak Raj Bhatta, Khishor Bdr, Tankalal Shrestha, Khil Bdr Shrestha	Member of Rainastar Canal
27 <sup>th</sup> Jan, 2015	Interview	Dhurba Akela	UML Secretary
27 <sup>th</sup> Jan, 2015	Interview	Ramchandra Pandey, Kheg Raj Nakhola	Member Canal
27 <sup>th</sup> Jan, 2015	Interview	Rukmini Shahi	Ward No-9
27 <sup>th</sup> Jan, 2015	Interview	Dhamanti Pariyar	Ward No- 7
27 <sup>th</sup> Jan, 2015	FGD	Rohinilal Chilwal Puspa Raj Bhisural	Ex Technical officer Chair Block 10, canal
28 <sup>th</sup> Jan, 2015	Interview	Nav Kumar Shrestha	Member Irrigation committee
29 <sup>th</sup> Jan, 2015	FGD	Bimala Nepali, Lal Bdr Nepali, Rukmaya Nepali and others local	Bange chaur landslide
29 <sup>th</sup> Jan, 2015	Visit		Ward No -2 landslide
29 <sup>th</sup> Jan, 2015	FGD	Kausila Bharati, Phulmaya Bharati and local	At Bharati House
29 <sup>th</sup> Jan, 2015	Visit		Simpani and Chepe sangu landslide, ward-1
30 <sup>th</sup> Jan, 2015	Interview	Ram Kumari Tamang	Champawati CFUG Chair, ward 1
30 <sup>th</sup> Jan, 2015	FGD	Milijuli Women groups	Ward -2
30 <sup>th</sup> Jan, 2015	Interview	Bhava data Chilwal	Ward -2 Ex ward Chair
31 <sup>st</sup> Jan, 2015	Interview	Gita Chilwal, Pabitra Chilwal	VDC Social Mobilizer
3 <sup>rd</sup> July 2015	Interview	Dillu Bharati (Elder son of kausila Bharati), Yam Prasad Bharati (son of Kausila Bharati)	Dhamilikuwa-1, simpani

## *Annex 2: Timeline of landslide and response of Dhamilikuwa Garambesi, Lamjung*

<b>Timeline</b>	<b>What happened</b>	<b>Effect</b>	<b>Who did what</b>
2022 (1965)	Chepe Sangu iron bridge construction	Used to be 'Hulaki Marga' (messenger's way) Connected Lamjung to Gorkha	
2040 (1983)	Landslide in the Maila's Land	Family left the place, Khair's tree grew up, no grass under the tree, Land is stable at the moment	
2058 (2001)	Canal construction finished (it is not formed according to original mapping of the canal route)	Government gave compensation only to the Chakratirtha and Bhalahekharka VDC people, no compensation was given to the Dhamilikuwa VDC even if they requested right from the canal construction time	
2058 Srawan 8 (23rd of July, 2001)	Simpani Landslide, Continuous rain for 2/3 days, Sunny on the day of the Landslide, Landslide occurred in the evening, On 8 <sup>th</sup> Srawan, at around 7 am Landslide blocked Chepe river for about 15 minutes	Some part of land of both Krishna Kumar Shrestha and Thakur Giri is taken away by Landslide, Bharati's land no more exists, Three houses of Bharati were displaced, Active Landslide, Water coming out from Landslide area, Small trees of Khair and Sisau is growing up, Cattle graze in the Landslide area, Human walking trail made by villagers on Landslide, Cracks seen in the land above the canal	<ul style="list-style-type: none"> <li>• District Officers including CDO came to see the LS</li> <li>• Small land given by community in community area (CF) to Bharati families</li> <li>• Bharti's third brother who is a Maoist leader tried to get some compensation from district, got some money- but did not share with other members</li> </ul>
2067	Chepe Sangu Landslide	Landslide washed away two of the houses Threat to nearby iron bridge and houses to be collapsed	<ul style="list-style-type: none"> <li>• Community gave an application to VDC, but no response by VDC</li> <li>• No further inquiry by the community</li> <li>• HH residing nearby started buying land in other places</li> </ul>
2069	BK Landslide, Tamang Landslide		<ul style="list-style-type: none"> <li>• No response</li> <li>• No response</li> </ul>
	Near to Canal Landslide	HH replaced to above land Water coming out of Landslide	<ul style="list-style-type: none"> <li>• District technicians came and ask them to move the home</li> <li>• Wife went to CDO office and got Rs. 5000 compensation to rebuild the house</li> <li>• She got logs from CF</li> </ul>

### Annex 3: Actor Analysis Matrix

	Actors	Role in event	Actions vis-a-vis institution	Strategic interests	Climate change discourse
Central	Central Natural Calamity Relief committee (CNCRC)	Formulate and implement the policy and program relating to the natural calamity relief work and undertake other necessary works	Top down state led adaptation	Control citizens and resources	Policy formation
Regional	Regional Natural Calamity Relief committee	Suggest CNCRC regarding the function of regional level policy on natural calamity relief work and preparation of the progress, Pass the information to central committee	Implementing above	Implementing above	Implementing above Implementing policy formation by central
Landscape/corridor level	Hariyo ban programme	Coordinate 4 partners, WWF, CARE, NTNC and FECOFUN and support to prepare Community Adaptation Plans of Action and guide the adaptation actions of local communities against disasters including landslides	Guided by trickle down approach of projects, but the local plans/community plans are prepared by local actors	Implement locally made plans within the broader framework of Hariyo ban strategic directions	Formation of community adaptation plans of actions at community level and capacitate local people to pull leverage to implement the CAPs
District level	District Administration Office	Coordinate District Disaster Relief Committee (DDRC) regarding relief work, formulate district plans on natural calamity and submit it to regional committee, monitor local committees work, provide information to regional committee about natural calamity relief work	Look after the overall administration of the district	Implement central orders	Preparation of District Disaster Relief plan
	DDC	Provide secretariat work for District disaster relief committee (DDRC), overall district management/Development work		Implement central orders	Formed Disaster relief fund at district
	DISCO	Provide nets and necessary technical assistance to locals according to demand	Mitigate work to decrease the effect of disaster	Highlight their activities	As climate change is perceived as a big issue, work of DISCO is now considered important and it is emerging out as one of the major actors
Village Development Committee	Secretary	Coordinate village council meetings and forward the village issues to the DDC,		Control and manage village	



(VDC)		Keep records of the village level activities and events		activities	
Community Based Organizations (CBOs)	Women groups, CFUGs, Community Development Group (CDG) (Soil Conservation)	Women groups implement women empowerment programmes, particularly trickled down from District Women and Children Office, CFUGs manage community forests and also contribute to community development, CDGs are more concerned for landslides and soil conservation activities. CDG is a common term applied by DISCO for any CBOs, such as CFUGs which also works for watershed, soil conservation related works	To make women save money	Collection of money, and easy availability of loan	No work

## *Annex 4. Case study*

### **Case study1: Bharati household case study**

Climate change appears to have direct effect on river flow, flooding and the scouring of river side slopes by the river, all creating risks to settlements close to the river.

But the poor ones like Bharati family are vulnerable more due to the societal factors than the biophysical anomalies associated with climate change. The landslide hit Bharati family the hardest (Landslide 1) than others because they were too poor to buy the land in a safer place away from the river. They had moved to this place when they had difficulty to earn a living in their previous settlement. They chose this place for water, availability of land for sharecropping, and above all, for the cheap land they could buy.

They received no support from the state as they struggled to rebuild their house. They went to Besisahar the district headquarters several times, to request various government offices for help. They spent some of their own money traveling but received nothing in return.

In around 2004, the country was at the peak of Maoist conflict. Much of the rural landscape was under the Maoist control. Government officials did not feel safe to inspect his residence, even when some of them appeared sympathetic. The area was too sensitive politically for the officials and outsiders. Even the district Red Cross chapter did not pay a visit.

As the government turned deaf on them, Bharati family cried for help within the community. Some villagers sympathized and did not oppose when they moved their house to a local public land. There were, and still are, a few small patches of shrub and forest land owned by the government but used by the local community. Some of these were in the safe place connected to the newly constructed earthen roads, and hence the most preferred place for the Bharati family to rebuild the house. But many fellow villagers, who graze cattle and goats on these scrublands, did not want him to occupy those areas. None helped in rehabilitation except one neighbor who offered some bamboo clumps and also encouraged to use a public forest land. The poor displaced people continued to negotiate the public land for rebuilding the houses.

Meanwhile, one of the Bharati family members joined the Maoist army that had growing influence in the country. This was probably the only option he had at that time. Those who had some education and money to invest went abroad for work - to avoid being caught between the government and the Maoist armies. After 10 years, the UN mediated peace process has made many strides, and the Maoist came to lead the national government. Dillu Bharati (elder son) now exposes his anger: “the leaders come to the village only at the time of election to make promises but then never come back”. Bharati is not alone to suffer such lapses in the government accountability.

Some of the Bharati family's neighbors are very rich and well off by local standards. With wealth, they have chosen to stay away from the community, as the landslide began to scour a part of their land too but they have been able to escape the disaster. Bharati family did not get any substantive help from their rich neighbors. It seemed like they were not concerned of what the family is going through.

The community has become not only diverse in terms of caste and ethnicity, but also have been differentiated economically, and politically. Intense rivalry exists between the major political parties. Some leaders told us “there is a huge trust gap among leaders of various parties in the village, and as a result, even some development activities that are meant to be genuine are highly politicized.”

Cooperative actions have remained limited within clans (especially Gurung and Tamang families) but not across heterogeneous groups. Bharati family was caught between such deep cleavages in the community as they struggled to cope with the disaster.

Nepal has a history of local governance. Within 30 minutes of walk from the landslide, there is a VDC office. Bharati family visited this office too many times for help to reconstruct the house but got no help. The VDC receives nearly \$30,000 annually for development and social welfare from the national government but was unable to lobby for budget which is appropriated on political negotiations.

The district of Lamjung receives over \$30m annually for the development and management of the district from the government and donors. But much of the development funding is being used to exacerbate disasters rather than minimize. As a government engineer of District Development Committee admitted- 'Much of the 60km of the newly built roads in the hilly areas of the district are aligned without any engineering analysis. The recent political change has empowered local politicians to drive the development projects in their interests. This is bound to create more number of disaster-displaced families like Bharati in the future - as faulty road alignment exacerbates the risks of landslides.

Of over 30,000 development NGOs in Nepal, none has come to the area to talk to the landslide victims.

Asked why the office did not help, the District Soil Conservation Officer said that he has not received any applications for assistance.

Worst of all, the family is more vulnerable to the rules of the government. The problem is not that the government did not help the displaced people; the government can further evacuate the family from the place if the land is not the registered as a private land. The society did not offer private land. The government does not offer public land. The family did not have their own land. The space they have occupied is itself politically vulnerable.

## Case study 2: Gangate Phat landslide area

The ex-VDC secretary of Dhamlikuwa VDC and local inhabitant of ward no.3 served the VDC in 2047 BS. He is now working as VDC level secretary of Maoist party.

His land is in Tarule phat area and since his land is near to the river area, he has to suffer most from the landslide. Hence, to control this landslide of his area, he put application for nets in the Water induced disaster prevention office in Pokhara. Bhava Datta Tripathi, the then *Pradhan Pancha*- head of the *Dhamlikuwa* village (during *Panchayat* time) helped him and approved the application for him, due to this he got around 100 nets from the office. He filled the stones in the nets and also got some money from VDC budget to fill the nets. Later, he also brought nets from DISCO office to control landslide. He has been getting 9-10 nets regularly from the DISCO office every year or two. He also helped other people to get nets from the district office.



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