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Preparedness and Responses to the 2015 Earthquake Disaster in Nepal: Remittances and differential vulnerability by Caste system

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List of Abbreviation

VDC- Village Development Committee

CA-Capability Approach

Mw-Moment magnitude

NGO-Non Governmental Organization

INGO-International Non Governmental Organization

NRs-Nepali Rupees

Abstract

This study examined the accessibility of remittances and their effect during a disaster in Thumpakhar VDC. It employed mixed method of data collection to examine the inequalities in a society. The inequality of wealth and savings at household level was found highly shaped by Caste system which privileges high caste and disadvantages low caste in migration opportunities. The result showed that poor and low Caste people are least included in the migration process which revealed many socio-economic barriers they encounter in choosing migration as a livelihood strategy. Further, the role of remittance in disaster preparedness and post-disaster response was empirically tested in the context of various amount of remittance from different destinations. Most interestingly, the selection of these destinations domestically, in the Middle East, and in Western countries was found to be dependent on Caste they belong to. These selections impacted the remittance outcome, and correspondingly the resilience during aftermath of disaster. This study found that low caste people besides being socially rejected in normal times become most vulnerable during the natural disasters due to poor social network and low access to remittance. Therefore, this thesis suggests that low caste people need special programs to help reinvent themselves as a capable workforce to be included in the migration process.

Keywords-Remittance, poverty, caste, differential vulnerability

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1. Introduction

Natural disasters might be occurring worldwide, but its long-term impacts are much greater in developing countries (Alcántara-Ayala 2002; Mechler 2004). In countries located in geologically and geographically vulnerable regions of the world, both the risks of natural hazards such as earthquakes and weak socio-political and economic systems can contribute to the adversities of the impacts (Alcántara-Ayala 2002). Whereas geographic and geological risk factors cannot be avoided, by improving socio-economic systems, risks to the impacts on societies for long-term can be reduced. Among the developing countries, a major response to natural disasters in the long-term is labour migrations and remittances for improving livelihood strategies of the affected families (Mohapatra et al. 2009). There are two contrasting views on the roles played by migrations. On one hand, there are those who suggest that labour migration constitutes a brain drain that will ultimately paralyse the economy of a nation on account of the huge loss of energetic youths (Adams Jr 2003). On the other, the emigration earns a significant amount of remittances for the family members left behind at home. The result shows that due to the international migration and remittance, there has been a significant decline in level, depth and severity of poverty in the developing countries (Adams & Page 2005). Similarly, Le De et al. (2013) mention that there have been noticeable increases in amounts of cash transferred as remittances over the last few decades. The World Bank estimated the global flow of international remittance to the developing countries in 2015 to be 435 billion USD, which was 2% more than in 2014 (Ratha et al. 2015). Besides, enabling the household to get access to education, nutrition, and good health, remittance also plays the role of self- insurance during natural disasters (Yang & Choi 2007).

Indeed, at national levels, countries seek financial and development support to rebuild and recover again, while at family level, people get engaged in rehabilitation of their dwellings, farmlands, and other food sources. This process may take longer time depending on social welfare systems of both domestic and international remittances. Although remittance is recognized as an important tool to respond to disaster, it is likely that it breeds inequality and reproduces vulnerability if the flow of remittance is more to the rich people than the poorer people (Le De et al. 2015). Also, this inequality would be sustained due to the difference in the destination of migration where potential of earning varies significantly. Thus, there will be differential disaster preparedness and post disaster response. I will in this thesis examine

these viewpoints using a case example of earthquake disaster of 2015 in Nepal in terms of differential responses through remittances. The study needs to be seen within the context of the Asian socio-cultural systems where there is an apparent correlation between poverty, vulnerability and the caste system.

My hypothesis is that in these systems, there are differential remittances between high and low caste, and the higher caste has opportunities for greater remittances than the low caste. This topic is important because although remittance would be insurance for the poor and low caste people, it is again those same people who face more hardships in joining the international migration due to socioeconomic barriers. Further, during natural disaster, all the people appear to be victims, so there is a challenge of identifying the most vulnerable groups who desperately need protection and promotion from government. Inability to do so could advantage people who are less vulnerable and disadvantage the most vulnerable people. Previous researches have treated poverty and caste separately in the analysis and therefore, there have been very few researches that examined if the caste system may breed poverty and affect the migration outcomes. Thus, this thesis aims to contribute to better understanding of remittance dynamics in a society that practices Caste system by taking a case study of Thumpakhar, a Village Development Committee (VDC) in Sindhupalchowk district of Nepal that suffered a devastating earthquake on April 25, 2015. In the aftermath of the violent M 7.8 earthquake in Nepal, a total of 8856 people lost their lives and the damage to homes and properties were enormous. The affected people were still found struggling to get back to normal lives after eight months following the shock.

1.1. My case and earthquake histories in Nepal

Nepal is one of the most earthquake prone countries in the world (Zhao 2016). According to the most accepted earthquake models, the Himalayas of Nepal had formed due to the shifting of the Indian plate towards the Northeast and colliding with the Eurasian plate. The Indian plate still continues to move at the rate of about 5cm/ yr (Bilham et al. 1997; Gupta 2015). The friction that takes place releases energy in the form of earthquakes. In addition to frequent smaller ones, the Himalayan region has so far suffered four great earthquakes (Mw = 8.7, 1897; Mw = 8.1, 1905; Mw = 8.4, 1934; and Mw = 8.7, 1950) in past two centuries (Ram & Wang 2013; Seeber & Armbruster 1981). Nepal has suffered five major earthquakes exceeding M7.5 (1255, 1408, 1505, 1833, and 1934). Out of these earthquakes, the deadliest

one was Nepal-Bihar earthquake of 1934 (M8.4) that killed more than 8000 people. The other destructive earthquakes came in 1980 (M=6.6), 1988(M=6.8), and 2011 (M=6.8), which had cost a significant loss of life and livelihood in Nepal(Ram & Wang 2013). These records of violent earthquakes disclose the repeated life risks and economic strains for the vulnerable Nepalese people.

The socioeconomic status of the people plays a key role in determining whether they will be vulnerable or be resilient during natural hazards (Cutter et al. 2006). Thus, differences in socio- economic status of the people give rise to differential vulnerability. Differential vulnerability exists in many regions of Nepal on account of their socio-economic differences, mostly based on caste system. Caste titles which are inherited and linked to the intergenerational occupational division of labour defines the differential status of the caste groups in the given society (Chokshi 2014; Tamim & Tariq 2015). This thesis explores if the caste system that has existed in Nepal for centuries still influences their occupational choice and if that restricts low caste people to low paid jobs. Indeed, the society is transforming, but still Caste of the people could be one of the major socioeconomic indicators in choosing livelihood source. This is because the unequal access to entitlements among the people has more or less justified and encouraged the caste system over the time. There are four Castes of people in Nepal by occupation: Brahmin, Chhetri, Vaisya, and Shudra, in the descending order of their hierarchy of respect and prosperity in the society. Both, the caste and social network impact in opportunity of migration however, there is no consensus on which is more important between the two. Thus, in this work, I examine the relationships between remittances at two levels (a) Remittance and caste system and (b) Remittances and social-networks.

a) Remittance- caste

Remittance according to (Wagle 2012:189) can reduce both poverty and inequality if this income also goes to lower income groups, including low caste people and other marginalized groups. Wagle argues that the remittance is solely responsible for the reduction of poverty headcount ratios by over 2% in 1996, and by 4% in 2004 in Nepal. At the same time, surging remittance might have produced inequality in some societies within Nepal. The caste system may be a significant socioeconomic variable that could explain this inequality in remittance distribution. In the context of Nepal, I hypothesize that the access to high remittance is limited to high caste people.

b) Remittance-social network

According to Hatlebakk et al. (2010), households with better social network have more probability to get government jobs and even jobs abroad due to their connection with manpower agencies and access to loans required. They argue that the entry of the rural households to lucrative job market is limited, and it is not only due to the traditional markers of status, such as caste, education, and wealth but, mainly due to feeble social network. However, I argue that the caste of the people also affects the range of social networks in the context of Nepal. The network of low Caste people may not be diverse, and their acquaintances and friends circle too may belong mostly to low Caste who are struggling themselves, and who can hardly help them in migration. Their poor social network could be due to their social exclusion for centuries in the name of low caste. This thesis will explore if the low caste people have a feeble social network that could really help them to migrate by information, cash, or other means.

Low caste people are the most deprived, however, there are limited empirical evidences on how much they remit to their families during disaster in relation to other Castes. I hypothesize that the low caste remits the least and the high caste the most because high caste people fulfil most criteria like education, social and political network, which are critical for high paying jobs. Similarly, there is no debate that remittance decreases vulnerability of the people to natural disasters, but it is poorly understood how remittance behaves with the differential vulnerability of the people due to the caste system. Many studies have confirmed that some caste of the people migrate quite more often than the others. Yet, there is poor understanding about how the caste enables or hinders the migration (Deshingkar & Start 2003). I argue that poverty and the caste system are very much associated with each other in the context of Nepal, and double exposures of the people to these factors could have a synergistic negative impact on migration and remittance outcome. This research aims to find the hidden nexus between Caste, poverty, and migration in the context of Nepal. The study will address the following objectives to demonstrate the effect of remittance in equality, explore the role of remittance during the disaster, and verify the hypothesis of close relations between caste and poverty, and between caste and remittances.

a) To examine inequalities based on savings, and wealth and explore the effect of remittance on inequalities

1) Who has access to remittance? Does remittance distribution have relations to pre-existing wealth distribution and savings of the households?

2) Does remittance breed equality in a society? Which groups benefit and which are adversely affected?

3) Did all the migrants send remittance after the earthquake to their families? What were the constraints to these processes?

b) To explore the role of remittance as a means in preparedness and response to natural disasters

1) What are the differences between earthquake preparedness and post earthquake responses in remittance receiving and non-receiving households?

2) What are the differences between post earthquake response among the people receiving remittances from the Domestic cities, Middle East countries and the Western countries? How does remittance impact the resilience of the whole community?

c) To explore the relationship between Caste system and choosing emigration as an alternative source of livelihood and its impact in vulnerability during disaster

1) Which Caste dominates in choosing emigration as a source of livelihood? Which caste remits the most? Is caste a significant variable determining the selection of the destination for migration?

2) How effective is the social network in various castes for the migration? How is the situation of Caste-based occupation in the study area?

3) Which caste people lost the most properties in this earthquake?

4) How is the overall figure of vulnerability when double exposure: poverty and the caste system is considered together with regard to remittance inflow?

I will next examine the objectives and the questions in a context of a conceptual framework that relates the different components, such as caste, remittances, destinations and social networks, disaster preparedness, and disaster response explained earlier.

1.3. Theoretical framework and Literature review

1.3.1. Conceptual framework

To frame the problem and answer the given research questions, I introduce the following flowchart (Figure 1). The flow chart shows the relationship between the inequalities in various entitlements like wealth, savings, and social network on the migration outcome and vice-versa, and correspondingly on remittance flow during a disaster. Similarly, the social attributes of the Caste system have implications in the variability of migration opportunities. This is due to privilege to some Caste over others in attaining the qualifications needed for migration, and limitations on caste based occupation. These differences in qualifications further impact selection of the destination of migration, which results in a variation in remittance inflow during a disaster from non-remittance to high level of remittance. As a consequence, it will result into the various levels of disaster preparedness and post-disaster response. This study has measured disaster preparedness using some indicators like food reserve, housing, livelihood diversification, and knowledge of safety measures during earthquake. Similarly, for measuring post disaster response, the indicators like health, food, water accessibility and speed of constructing temporary shelters have been used.

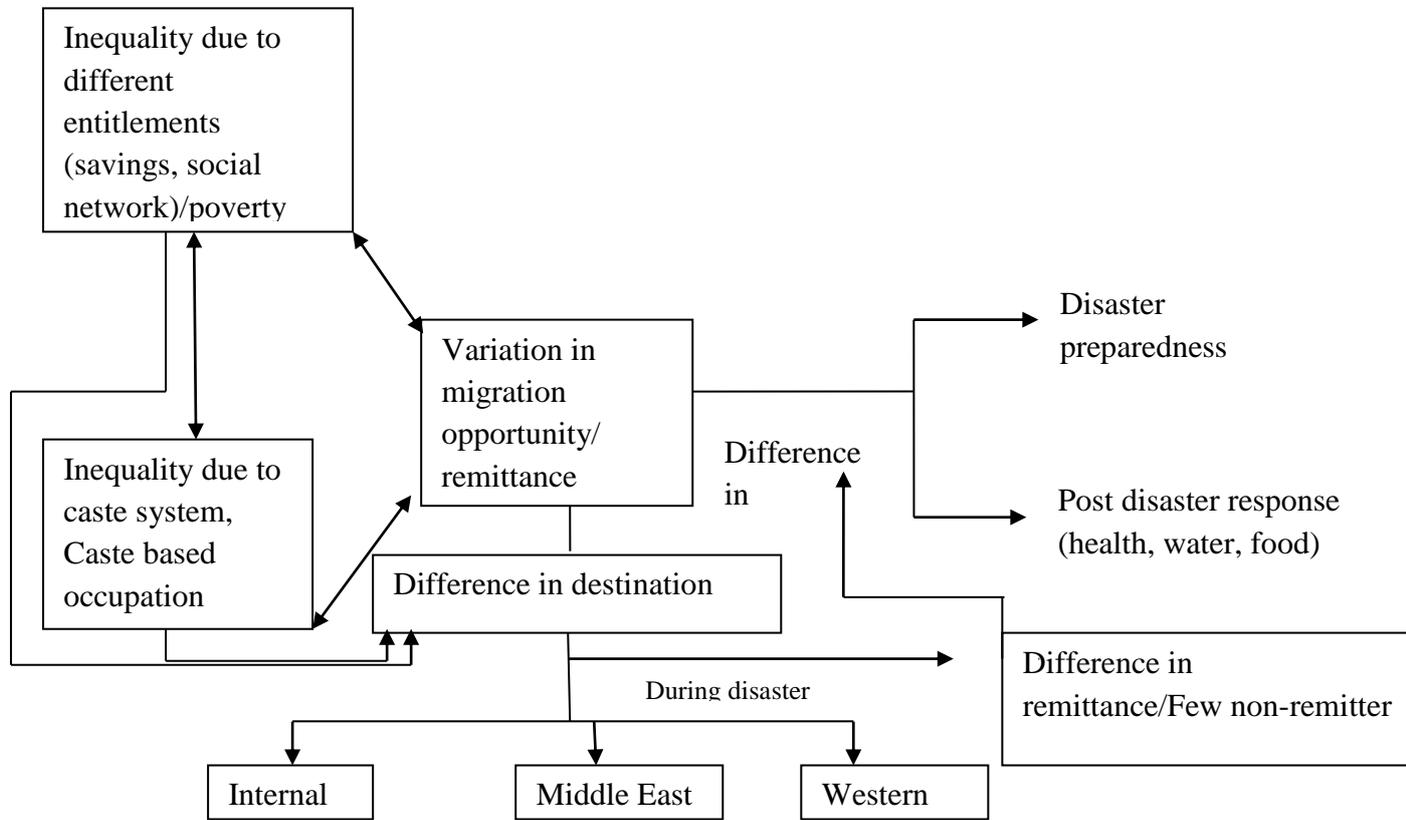


Figure 1 Flowchart showing relationship between poverty, caste system and remittance

I need to define some of the terms used in this thesis for more clarity throughout the thesis.

Box 1: Definitions of terms as used in the thesis

1. **Remittance**- Although remittance generally refers to all materials including cash and goods sent from the destination to his/her family members back home, this thesis strictly takes into account only the cash.
2. **Caste system**- Caste is presented as an inherited title that powerfully institutionalizes the classification of an individual to offer his/her position in the society (Bourdieu 1989). Caste determines the respect in the society and is easily traceable by the surname of an individual in Nepal.
3. **Poor/ Rich**- Poor are conceptualized as having a little source of income, and who works harder to earn less. On the other hand, the rich are conceptualized as having relatively more sources of income, and capable to hire others for the manual household works.
4. **Savings**- This includes either the amount they save in the bank or co-operative each month, or the amount they are left with after spending on all basic needs.
5. **Income**- It is the total money collected from different sources, such as agriculture, livestock, skill jobs, etc.
6. **Wealth**- Wealth is the sum of all the household entitlements, such as house, land, livestock, bank savings, Scooter, bikes, and machineries.
7. **Local migration**- It is a rural-urban migration in the search of opportunities. It is normally the migration to Kathmandu in this research.
8. **International migration**- It is a migration from one country to another in the search of better income sources. Middle East countries refer to Dubai, Malaysia, and Qatar. Similarly, Western Countries refer to America, Australia, and other European countries.
9. **Profitable migration**- Migration which generates good amount of money to support the family of the migrants.

This thesis interprets unequal access of migration opportunities to people as a result of social exclusion. Further, social exclusion is conceptualized by using capability approach (CA) of human development as suggested by Sen (2000) to evaluate the equal access in the space of capabilities. The space of capabilities refers to the range of profitable mitigation opportunities and choices available to the lower caste groups in relation to high-caste groups. The same approach was used in Tamim and Tariq (2015) who examined the relationship between educational opportunities and social structures in rural Punjab. The main feature of capability

approach is that it values the resources only as the means to an end, and it depends on the capability of an individual to convert the resources into achievements. However, such conversions vary in an individual level due to social conversion factors, such as 1) personal (existing or perceived competency) 2) socio-cultural (social positioning in power hierarchies) and 3) institutional (policies, such as state policy, market forces, educational arrangements) (Otto & Ziegler 2006; Robeyns 2005:99). Social exclusion is given an important place in capability approach, because sense of belonging is extremely important for a human being, and it may be the reason for the other deprivations (ibid). Due to the broadness of this approach, it has been used in multiple cases in literature (Robeyns 2005), and this thesis tries the same thing to discuss the findings of the research.

1.3. 2. Natural disaster and vulnerability

Most earlier research on disasters focused on the nature of extreme events. There were primarily two aspects of the disaster studies. The first one was the trigger role of geotectonics, climate and biological factors (Alexander 1993; Tobin 1997; Wisner et al. 2004) for the disaster. The second one was the human responses, psychosocial, and traumatic effect of a natural hazard (Dynes et al. 1987; Lindell & Perry 1992). Both approaches had a common standpoint that natural disaster occurs with the departure from normal situation (Wisner et al. 2004). Wisner et al. (2004) report that hazard occurrence converts to disaster due to the presence of vulnerable population created by various social processes.

There is a clear distinction between the two aspects of vulnerability: physical and social. The former focuses on the assessment of the natural hazards, environmental stress, and the impacts associated with it. The latter relates to various structural components of human society that generates differential vulnerability, and the capacity of the people to respond to a disaster (Wisner et al. 2004; Wisner et al. 2012). The concept of social vulnerability has resulted into shifting of policy attention from macro level causes of natural hazards to more micro level processes, such as people's coping strategies and socio-economic structures (Yamin et al. 2005). However, natural aspect of disaster has remained dominant in disaster research.

As a consequence of a stronger focus on the natural science or physical aspect of a disaster, many technological interventions like engineering improvements, building codes and norms, and development of insurance systems were made to mitigate the effect of the

disaster (Freeman 2003; Gurenko 2004). On the contrary, the social aspects of the disaster came into notice only after the introduction of vulnerability in 1970s. Eriksen et al. (2005) argue that it is due to the poor attention to the social aspect of vulnerability that our so far achieved knowledge is still insufficient to understand the root causes of the disaster and coping strategies of the people. Clark et al. (1998) argue that the impact of natural disasters differs according to the country, community, regions and individuals depending on their exposure, sensitivity and their coping capacity. Developing countries have to struggle more than developed countries to recover after natural disasters due to limited budget, poor infrastructures, and political instability. The poor and marginalized group of people are always more likely to suffer during natural hazards because they possess less coping capacity against natural disasters (De Haen & Hemrich 2007). De Haen and Hemrich (2007) propose that the development policy and disaster risk management should mutually support each other in order to improve the vulnerability of poor people. Further, they stress that in the disaster prone regions, the campaign of resilience building program should be an integral portion of a food security policies and strategies. There remains no doubt that in the disaster risk reduction research, both the natural risk and the human created differential vulnerability have to be given equal weight.

The vulnerability research is important because though natural hazards cannot be stopped by human effort, human intervention can minimize the vulnerability of destitute people (Zakour et al. 2013). People themselves have developed various coping strategies during disaster over a period of time, which most of the aid agencies and relief teams from national and international communities usually undermine (Mercer et al. 2007). However, there is growing recognition that to reduce vulnerability to natural hazards, it is important to build on the resources that are endogenous to a community, in ways they are culturally, socially, and economically acceptable (Gaillard & Mercer 2013). This new approach of appreciating coping strategies of people situates them in a driving seat to influence their recovery speed. If we ignore physical vulnerability, most other vulnerability of the people is associated with their livelihood options (Scoones 1998:5). The option examined in this work is remittance.

1.3.3. Remittance

Remittance is one of the most stable livelihood sources during disaster because the senders are unlikely to be affected by the disaster as the recipients since they are in the other parts or outside the country (Savage & Harvey 2007). However, there are still debates about its pros

and cons in overall economy context (Kireyev 2006). By definition, it is generally “gifts and incomes from migrants to the communities of origin”(Adger et al. 2002:4). In agricultural societies, it is evident that remittances are invested in human or physical capital to augment production, whereas it is also debated for its negative role in change of consumption patterns at household level (Adger et al. 2002). However, there is an emerging consensus about the positive impact of remittance for recovery in the aftermath of natural disaster. Suleri and Savage (2006) has found that after the devastating earthquake of 2005 in Pakistan, people who had remittances as their part of livelihood were less vulnerable than others, and they had better access to other resources, such as health care and relief distribution points. Mohapatra et al. (2009) found that the Ethiopian households receiving remittances were relying more on cash reserve and less on selling livestock and other assets of home to cope against drought. Evidence has also shown that remittances have a significant role in preparing the households to fight against natural hazards such as cyclones, earthquakes and volcanoes for the affected families to cope with the losses. In Ghana and Burkina Faso, international remittance receiving households from the developed countries had more well-engineered and concrete houses in comparison to remittance non receiving households (Mohapatra et al. 2009). This thesis will argue that the preparation for the disaster would depend on how much remittance they receive, frequency of the natural disaster and awareness about the disaster.

There are two kinds of remittance depending on where it comes from: local and international remittance. Local remittance comes home when migration is internal (within a country), whereas international remittance are from foreign countries. Kimhi (2010) finds that local remittance has more equalizing effect than international remittance. There is growing evidence suggesting that the migrant remittance increases intensively in the aftermath of natural disaster (Le De et al. 2013). This growth of migrant remittance following the disaster could be due to three reasons: first, migrants send money which they had collected for few months or more, second, migrants ask for salary in advance with their employers explaining them about the disaster, and third they could get help from their network. Mitrut and Wolff (2014) studied about the inflow of remittance in Indonesia following the Indian Ocean Tsunami of 2004, comparing that with the other non-affected countries in terms of inflow of remittance before and after the disaster. He found that in the following year after the disaster, Indonesia received 1.35 additional points in share of remittance compared to the other countries, but these decreased in the following years.

Most literature conceptualizes migration as an undoubted source of remittance and a strong tool to alleviate poverty. Thus, remittance is projected as the implicit contract between the migrants and their families (Ikuomola 2015) for purposes of responding to general poverty and rehabilitations after natural disasters. However, literature discusses very little about the migrants who cannot send remittance after a disaster due to low salary and repayments of earlier loans. It is also not clear how remittance receiving households prepare themselves for the future possible disasters. Manandhar (2016) studied the effect of remittance in earthquake preparedness in Nepal and found that they do not correlate to each other. Rather, he warned that remittances are fuelling the unsafe practice of construction in Nepal. At the same time, a few literatures have pointed out that remittance may reproduce the inequalities in a community of origin (Lipton 1980; Mazzucato et al. 2008; Taylor et al. 2005). The reproduction of inequality is due to the flow of most of the remittance to the richest population, and very small proportion to the poorest section.

1.3.4. Caste system, vulnerability, and remittance

Bosher et al. (2007) studied the influence of Caste among four key socio-economic determinants of vulnerability of the people, such as access to assets, access to public services, access to social network and access to political network. Their finding resonates with the fact that lower caste people are most vulnerable to disaster since they lag behind in all these resilience building indicators. To look at whether caste of the people plays a significant role in obtaining lucrative job opportunities inside the country and even abroad, Hatlebakk et al. (2010) studied 3 Village Development Committees VDCs of Jhapa district in Nepal. They concluded that it is primarily a social network, not Caste that helps people get lucrative jobs. However, they admit that Caste is still a major factor that determines the selection of the occupation. I examine these relations in this thesis.

2. Study Area

The study area was one VDC of Sindhupalchowk district-Thumpakhar (Figure 2) which was one of the worst hit regions by the violent earthquake on April 25 of 2015. There were no any special reasons for selecting this region for the research, other than the fact that I knew some local people of these regions, who would assist me during the data collection process. The Government reported that the total death toll of Sindhupalchowk was 3,532 which was 39.8% of the total casualties¹. Apart from this, about 80% of the 60,000 houses were

¹ For further loss information from the earthquake, visit <http://drrportal.gov.np/ndrrip/main.html?id=0>

damaged (Lee 2015). Further, most people whose main occupation was farming could not go for cultivating crops following the earthquake, as they were struggling to find the proper place to live. Yet, despite the adverse situations, some households were returning to normal life much faster than the others in the study area.

The fieldwork was accomplished amidst many political and natural upheavals. The situation was highly tense due to Madheshi agitation that had started right after the promulgation of constitution in Nepal. Further, the fuel shortage created problems in mobility during the whole data collection process. Compounding the problems caused by political and social upheaval were numerous aftershocks, often with epicentre in Sindhupalchowk. This affected the fieldwork a couple of times. However, despite these challenges, the self motivated volunteering by the local contacts simplified the work. In Sindhupalchowk district, 29,725 Brahmins, 52,455 Chhetri, 11,178 Dalit, and 130547 Indigenous people (only including Tamang and Newars) were living (Statistics 2013). Similarly, according to the latest record kept by VDC officials, Thumpakhar VDC had the population of 6769 people, and the dominance of particular caste-ward was: Dalit-4, Tamang- 6, Brahmin and chhetri- 3, Newar 2. The caste diversity was distinct in the study area. There were the households belonging to different castes, ranging from high caste Brahmins to a lower caste, Dalits. Each caste had their own area. One would realize a virtual border in different wards of the VDC that would characterize the dominance of a particular caste.



Figure 2 Map of Nepal showing the study area, Thumpakhar (source: Google Maps 2016)

3. Method

This study was conducted during November 2015 in the community of Thumpakhar VDC. Participatory approach was adopted during the process which demands the research team to live in the village and in the people’s home to understand the core of the problems. The daily life of the villagers was closely observed to see how people were conducting their affairs after the earthquake.

Mixed method of data collection was adopted, where both the qualitative and quantitative research are integrated within a single project (Bryman 2008). The qualitative methods like face to face interview and focus group interview, and quantitative methods like surveys were employed for the data collection. This method was followed as the research questions demand both in-depth analysis and testing the hypothesis, which would not be possible by choosing only one of them. Further, mixed method triangulates and gives more validity, credibility, and comprehensiveness, by offsetting the weakness and drawing on the strength of both. In addition to it, it may provide a better understanding of the problem than if only one of the methods was used (Bryman 2008).

Focus group interviews were used to quickly and conveniently collect data from several people through discussion and interactive process. The main reason of choosing this method of interview was that it permits to gather a lot of information from a large number of people in a short period (Berg & Lune 2012). This was extremely important for this research given the limited time period for the volume of tasks to be completed. In addition to it, it allows researchers to understand how different respondents come to the same conclusion or alter the conclusions about the same topic. As a focus group interview method suggested, a moderator from the same VDC was selected and he was assigned to follow the moderator's guide. This included a) introduction and introductory activities b) statement of the basic rules or guidelines for the interview c) short questions and answer discussions d) Guidance for dealing with sensitive issues (Berg & Lune 2012). However, there are limitations in this method that it does not offer the same depth of information as in long semi structured interview. To compensate this, face to face interviews were also carried with the key informants, which allowed discussing the issues in depth and also triangulating the data collected from focus group interview.

The surveys were written with attention to precision and clarity of the questionnaires, which would otherwise mislead and end up with unreliable data. To make sure, if all the questionnaires were clear and it truly reflected the curiosity of the researcher, a pilot survey was conducted in my hometown, Bhaktapur. This place was badly affected too during the earthquake. It was used as a warm up exercise, and was more importantly instrumental in better shaping the questionnaires before going to field work. Pilot survey gives confidence and experience to a researcher to smoothly work in the field, in addition to identifying questions that make respondents feel uncomfortable (Bryman 2008).

The sampling method was stratified random sampling, and it was taken care that the representations from various socio- economic groups were fairly made. Stratified random sampling is used to represent all the segment of a population in a sample when there are clearly defined strata in a population (Berg & Lune 2012). The research questions in this thesis look for remittance dynamics in the people with various level of income and belonging to different caste by birth, so the balanced inclusion of such distinct strata would be possible only through this method. In order to collect secondary data about the remittance in Nepal, the Central Bureau of Statistics, Government of Nepal was chosen. Data on the foreign and local remittance received by the people as per district in Nepal was expected from there that would give information about the flow of remittance in the study area in normal times and

after the earthquake in 2015. But, unfortunately, the officials there responded the research team that they had no such records. Further, the building of Nepal commercial bank branch of Sindhupalchowk that would keep the record of foreign remittance of that district also collapsed during the earthquake, so it was unlikely that records existed at all.

A total of 200 households was surveyed, 50 from each Caste: Brahmin, Chhetri, Indigenous, and Dalit. This was done using short semi-structured and structured questionnaires. The households were randomly selected after noting the names of the households from Thumpakhar VDC. However, it was taken into consideration that the fair inclusion of all: richer, middle income and poor households were made in the sample. The assistance of the key informants, such as former VDC chairman, Principal of the government School of the VDC, and senior citizens of the Village was instrumental to select the sample according to the research objectives. In addition to the survey, one focus group and five in-depth face to face interviews were conducted. The role of the facilitator was very important in smoothly running the focus group interview. The respondents became comfortable in the interview due to him, who was from the same village and was a familiar face to all of them.

Though it was proposed earlier to compare four different castes recognized by the Hindu religion, there were found an insignificant number of households belonging to the caste, Vaishya and at the same time very high number of Indigenous Communities like Tamang and Newars. Indigenous communities do not officially fall under any rank in the Hindu Caste hierarchy, however on the basis of their social respect and level of purity, they come somewhere in between highest and lowest ranks. Due to the very long history of ruling kings in Nepal, being from high caste Hindus, the model of Caste hierarchy also extended to Indigenous groups (Sharma 1978). Thus, the four different categories of the households considered while collecting data were Brahmin, Chhetri, Indigenous (Matwaali), and Dalits. The Brahmins are characterized by wearing sacred threads, and are considered the purest among the Castes, and they specialize as priest, teachers or the one to protect the religious learning across the generation. Chhetris are characterized by their warrior ancestry, and mainly working in Nepalese Army, Police, and Nepalese government administration. Similarly, Indigenous ethnic groups like Tamang work mainly as farmers and Newars as traders. And Dalits are distinguished for their low respected works like making shoes, sewing clothes, and making agricultural tools. Using the research methods, I addressed each of those objectives and questions as follows:

3.1. Objectives

3.1.1. First objective: *To examine inequalities based on savings, and wealth in the study area, and explore the effect of remittance on inequalities,* I determined if a) the remittance distribution has any relationship with the pre-existing distribution of family wealth, and monthly savings in the households, b) explored if the remittance further breeds vulnerability and inequality, and c) tried to understand the root causes of the inability of the migrants to remit to their families during disasters. For obtaining this objective, a set of semi-structured and structured questionnaires were presented to the respondents. This included their full names, gender, number of livestock and their monetary value, ownership of land and its value, monthly savings earned from all sources of income, and bank savings. The other questions included if they have means of transport such as bike or Scooter, and if they have access to local or international remittance. In terms of determining savings, this research assumes that people do not consume all of their resources in the present in order to consume more in the future (Kotlikoff 2008). Mathematically, it is the difference between the income and the expenditure. However, the savings could be increased both by increasing income and decreasing expenditure. It is possible to have very little saving, despite having high income due to high expenditure, and at the same time have relatively higher saving with low income due to low expenditure. The households could have run into debt. However, that is not considered in this thesis, and those households are considered to have zero saving. Though most literature presents the correlation between the income and the remittance, this thesis has taken monthly savings rather than income as an important variable to affect the migration. Also, the rich are conceptualized as having more savings rather than more income. I argue that more income does not ensure enough available money, while saving does during the needs. However, most of the times, the people with higher income have higher savings. While surveying, respondents were not asked their total income, and expenses. Rather, they were asked the amount of money they deposit each month in a bank or co-operatives, or the amount of money they would see every month left with them after spending in all the fundamental necessities, like food, clothes, school fees of children, and electricity.

To calculate the total wealth of the households, the following method was used-

Total household wealth = Value of land+value of house+value of livestock+value of bikes/scooters+savings in a bank or cooperative. The value was calculated in Nrs, and the unit of money used is lakh.(1 lakh=100000 Rs). The unit of land used was Ropani. 1 Ropani=508.72 m².

For addressing the second research question, Gini coefficient of the savings of the household and remittance received after the earthquake was used to compare the inequalities. The theory used was that if remittances were more accessible to the poorer households, the inequalities would decline, and the society would ultimately be progressive. On the contrary, if the remittance was accessible only to limited richer households, then it was bound to reproduce the differential vulnerability.

In addressing the third research question about the type of constraints faced by migrants, migrant households not receiving any remittance were identified during the survey. In-depth interviews were conducted with three such household heads. This part of the work was aimed to unveil various problems due to which migrants were unable to remit their families, even at the times when they desperately needed help.

3.1.2. The Second Objective: *To explore the role of remittance as a means of getting resilient during the earthquake*, the questions were linked to housing conditions, including the use of mud, cement, stones, concretes, or iron, and awareness about consulting engineers for making earthquake resistant houses. In this research, better housing is conceptualized according to the perception of the key informants. For them, better housing refers to making cement bonded brick house, which does not necessarily require pillar system. Similarly, poor housing is the house made of stone, clay, unbaked bricks, bamboo and thatched roof. In addition to it, one focus group interview was conducted with 20 participants from different households (Table 1). Among them, half were remittance receiving, and the other half were non-receiving remittances belonging to different castes.

Table 1 The Composition of the samples

Caste	Male	Female	Migrant
Brahmin	3	2	3
Indigenous	4	4	5
Chhetri	1	3	2
Dalit	2	1	1

Open-ended questions were asked in an interview because their broad answers, including their personal experience and the anecdotes related to remittance were expected. This was semi-standardized type of interview which allows the researcher to extend or shrink

the dimension of the questions according to the response (Berg & Lune 2012). It was explored if they used remittances to prepare for the future earthquake by making safe house, and as a tool for the recovery, for example, investing remittance in some businesses or diversifying the source of income. Further, they were asked how the remittance receiving households were different from the remittance non receiving households in facing the post-disaster situation, for example, in food availability, health, and if they had to sell their assets to meet their daily needs. Through the survey, the comparison between remittance receiving and non-receiving households were made with regard to their habit of keeping a food reserve for possible disaster, diversifying the sources of income, keeping knowledge about the safety measures during hazard, and the duration it took them to make a temporary house for living.

At the same time, the attitude of the remittance recipients towards the non-recipients was also examined. In other words, the relationship of remittance and its effect in the social unity was tested. The social coordination is one of the most important means in the community for developing resilience against any disaster, and the access of remittance to some groups, while not to others might affect their social bond. Further, the post disaster responses of the people who received their remittance from the Western countries, Middle East, and other cities of Nepal were compared on various grounds such as, health, loan credibility, amount of remittance received after the earthquake, and social network.

3.1.3. The Third Objective: *To explore the relationship between Caste system and choosing emigration as an alternative source of livelihood and its impact in vulnerability during disaster*, the key informants and focus group participants were asked about the role of in-caste and inter-caste social network for the jobs of the migrants. Also, they were asked about the role of poverty and their caste in their ability to migrate. In addition to it, key informants were asked about the inter-caste relationship before and after the earthquake. Similarly, survey participants were asked if they were still doing their caste-based jobs and if they felt any discrimination regarding their caste during the relief distribution by various organizations, like NGOs, INGOs, and the Government. In addition to it, education of the household head was asked. Further, they were asked about the property losses in monetary value during the earthquake.

3.2. Research ethics

The research ethics were seriously considered during the data collection process. It was difficult because the interviews were conducted during those tragedy hours, when many

people were living in temporary residence due to damage to their houses, and were in deep shock due to the loss of their dear and near ones in the earthquake. I myself as a researcher was aware that it would not be easy for them to take part in interview. The respondents were told in the beginning that those interviews would be solely for academic purposes, rather than the relief distribution. Whenever any outsiders came to the village, the villagers would expect some relief items including food and clothes which was quite understandable due to the intensity of the disaster. However, if I had taken on a role of relief distributor, it would manipulate data which was not desirable.

3.3. Limitation and scope of the thesis

This thesis has acknowledged the differential vulnerability of the people to natural hazards by gender, age, and disability, and correspondingly their different level of coping strategies. However, these issues are beyond the scope of this research keeping in consideration to the objective and the length of the thesis. Further, this work has not considered the migrants to India, as it would fall under international migration, but the income of the workers there is very much similar to that in the internal cities of Nepal. The other pitfall may be that I could not get any secondary data about the remittance in the study area from the Central Bureau of Statistics, Government of Nepal. Otherwise, the comparison of secondary and primary data could be made to increase the validity of the research.

4. Data Analysis

Data were analyzed with the help of Microsoft Excel, and statistical software R. Questionnaire responses and qualitative information were coded, and transferred to Excel from where they were imported to R for the further analysis. As most interviews were voice recorded, qualitative data were first transcribed in the note copy. After that, different themes were introduced on the basis of repeated quotes of the respondents and then the colour coding was applied to figure out the possible trend.

Binary logistic and simple linear regression along with correlation was used to examine the relationship between the variables. Binary logistic regression is used to describe the relationship between dichotomous response variable and a set of predictor variables (Sarkar & Midi 2010). The relationship between independent variables such as monthly saving, wealth, and land ownership and the dependent variable, migration was tested with the

help of binary logistic regression. Similarly, a simple linear regression was used to examine the relationship between dependent variables, such as multiple livelihood strategy, food reserve, housing condition, earthquake safety knowledge with the independent variable, migration. Likewise, Chi-squared test was employed for testing dependency of the categorical variables. The categories of the castes were Brahmin, Chhetri, Indigenous people and Dalits, whereas those for the destinations were Domestic cities, Middle East and Western Countries. The chi - square test was done to test if the selection of the destination for the migration was dependent on their caste. The caste of the people was treated as ordinal variable and that was ranked as 4,3,2,1 according to their descending respect in the society (Brahmin=4, Chhetri=3, Indigenous=2, Dalit=1). Similarly, their access to developed countries like the US, Australia, and Europe was ranked as 3, Middle East countries such as Dubai, Qatar, and Malaysia as 2, and the internal cities of Nepal as 1. This rank was on the basis of descending order of salary the migrants could get in these destinations. It was also tested if the caste of the people was correlated to the migration. From the data, it was calculated which caste people remitted the most, and which the least after the earthquake. Also, the loss of the property was compared among the different castes of the people. Charts and graphs were generated from Microsoft Excel. The level of statistical significance was defined at 0.1, .05 and 0.01 levels.

Gini coefficient was used to measure the inequality in savings, wealth, and the remittance received after the earthquake among the sample households. The value of Gini-coefficient lies in between 0 (complete equality) and 1(complete inequality). The Greater value of Gini-coefficient implies higher inequalities and vice-versa. It is defined as the area between a given Lorenz curve and Lorenz curve for an economy in which every individual has the same income, and is expressed as a proportion of area under the curve for the equal distribution of income (Dorfman 1979). It was calculated by using following formula given by Druckman and Jackson (2008).

$$G = \frac{\frac{1}{n^2} \sum_{i=1}^n \sum_{j=1}^n |y_i - y_j|}{2\mu}$$

Where, y_i ($i=1,2,\dots,n$) is the saving/wealth/remittance of the i -th person and y_j ($j=1,2,\dots,n$) is the saving/wealth/remittance of the j -th person, μ is the average saving/wealth/ remittance and $y_1 \leq y_2 \leq \dots \leq y_n$, n =number of sample.

In order to test if migration is the function of pre-existing wealth and savings distribution in the households, logistic regression is run between these variables, where Independent variables= Monthly saving(B1) in Rs and owning land (B2) in Ropani.

Dependent variable= Migration (If the household had migrants- it was coded as 1, If the households did not have migrants, it was coded as 0)

5. Findings and Discussion

5.1. Objective 1

To examine inequalities based on savings and wealth and explore the effect of remittance on inequalities

5.1.1. Who has access to remittance? Does remittance distribution have relations to pre-existing wealth distribution and savings of the households?

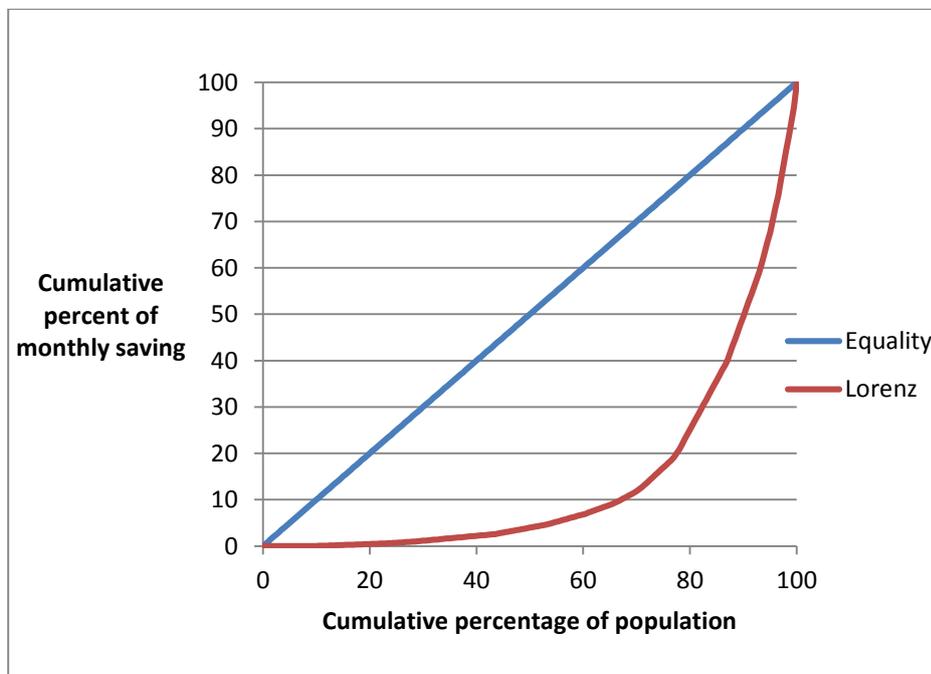
The people of the study area were predominantly poor. However, few were well off, some self-sustaining and a huge proportion of people still struggling to meet their basic needs. The economic status varied from monthly saving of 0 Rs to 50,000 Rs, and the family wealth of the people varied from 2.9 lakhs² Rs to 327.2 lakhs Rs. The richest 10% had the average family wealth worth Rs 1530.82 lakhs which was still 78.83 lakhs more than that of poorer 50% respondents. Similarly, monthly saving of the richest 10% was Rs 475000 which was still 8600 Rs more than the lower 90% of the total respondents. This clearly marks the huge discrepancy in the wealth and income distribution among the respondents in the study area.

The major components of the wealth of the respondents were their houses and land. The good thing was that everybody had owned their private houses. However, majority of respondents had lost them which covered 39.42% of their total wealth. The saving disparity and wealth disparity are vivid in the Lorenz curve (Figure 3) plotted with the data of the sample. However, from the curve, it can be inferred that the inequality in saving behaviour or capacity (Gini index=0.71) of the households is more severe than the inequality in distribution of total family wealth (Gini index=0.34). This may be because wealth is the function of many components such as house, land, livestock, machineries owned, and bank savings. Many households indifferent of their poverty status had kept some livestock at

² 1 lakh Rs= 939 USD, 1USD=106 Rs

home, and almost everybody had owned land which they view as the property of their ancestors. However, the cost of the land near the main road was extremely high in comparison to the other land far from it, and the distribution of such lands was probably equal contributing less inequality in total wealth as a consequence. In contrast, the income of people varied greatly. The wealthy people had many sources of income, for instance, agriculture, vehicles, growing vegetables, livestock and poultry sales and correspondingly they had high savings. On the other hand, poor people had limited sources of income, most often limited to subsistence farming and casual labour.

However, this finding of more saving inequality than the wealth inequality in the study area contrasts to what the literature generally suggests. Piketty and Saez (2014) report that the bottom half of the population owns non-significant wealth, but they earn appreciably high income. His finding is that the bottom half of the total population (wealth –wise) possess less than one tenth of the average wealth, whereas the bottom half of the population (income-wise) earns half the average income. However, it could be inferred that the distribution of both savings and total family wealth were unequal in the study area. And without the proper intervention, this inequality will further increase in the future. In this context, the intervention of migration and remittance was tested if this contributed in reducing or further deepening the inequalities.



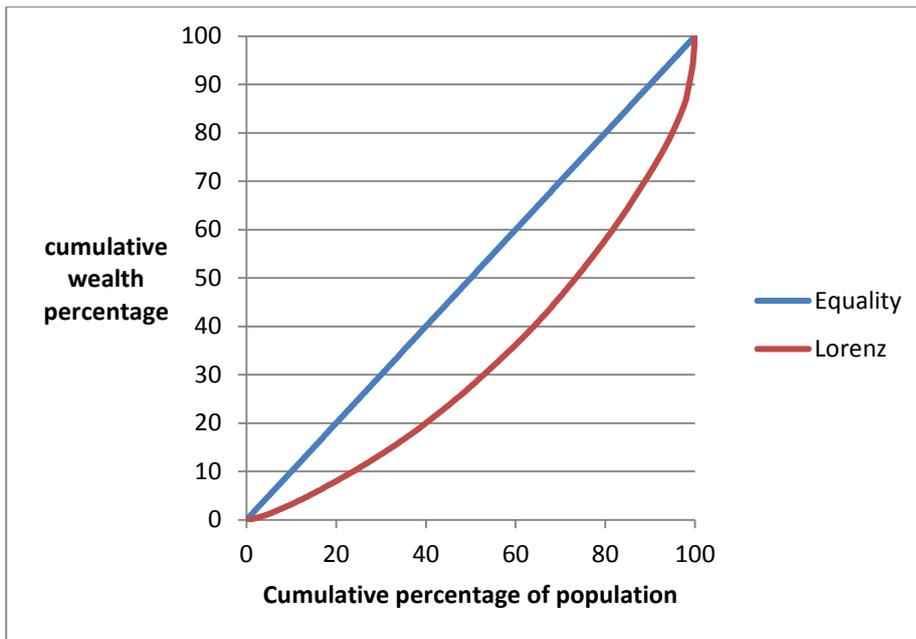


Figure 3 Lorenz curve showing inequalities in saving and wealth distribution

The regression shows that the independent variable, savings of the households is statistically significant, whereas land ownership is non-significant at 95% of confidence interval (Table 2). Further, there is a positive association between the savings of the households and migration, meaning that the increase in savings of the household correspondingly increases the probability of migration. The result of the logistic regression in R can be explained as, for every 1 unit increase in monthly saving of the people, there is a change in the log odds of .00004854, or there is a percentage increase in odds of migration by 0.0048 for every 1 % increase in the saving of the people. This means the people with better sources of income are more likely to migrate than the others. The bottom 10% households in savings had no migrants in their households, whereas topmost 10% households in savings had 16.4% of total number of migrants. Fajnzylber and Lopez (2008) reported similar results in nationwide remittance analysis in Peru and Nicaragua, where the remittance was flowing to the richest. In Peru, only 6% and in Nicaragua 12% households who receive remittance belonged to the lowest quintile. Likewise, 40% households in Peru and 33% in Nicaragua who receive remittance belonged to the top quintile.

Table 2. Binary logistic regression of the economic factors affecting migration

Independent Variables	β coefficient	SE	P-value
Monthly savings	4.78E-05	1.96E-05	0.0147 *
land ownership	1.68E-02	1.71E-02	0.3281
Signif. codes: 0 '****' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1			

Independent variables	B coefficient	SE	p-value
Monthly savings	4.85E-05	1.96E-05	0.0133 *
Signif. codes: 0 '****' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1			

Independent variable	β coefficient	SE	p-value
Total wealth	6.28E-03	5.71E-03	0.271159
Signif. codes: 0 '****' 0.001 '**' 0.01 '*' 0.05 '.' ' 0.1 ' ' 1			

The results show that wealth has a positive association with the migration, but it is non-significant at 95% of confidence interval (Table 2). Therefore, the incidence of migration and the wealth of the people are independent of each other. The two results of regression with monthly saving and the total wealth of the people are unexpectedly different, while they were supposed to have a similar impact on migration. The difference in the results may also be due to the difference of inequalities in savings and wealth. The result seems to be suggesting that the increase in good income sources influence the people to migrate more than the ancestral wealth they possess (Table 2). In the light of capability approach, savings is the easier resource than income to convert into migration due to its liquid nature. Nevertheless, literature has treated both, savings and ancestral wealth merely as a investment for migration, for example, (Gurung 2012; Kothari 2002). In contrast, the result point out that though they look similar, they could have differential impacts in decision of migration that would require further research. Few narratives during the field work also substantiated this result.

One focus group participant said that his son worked as a private school teacher for two years after studying Bachelors degree, where he made a little saving, and he used that saving as a capital to go to Korea. He further stressed that most youths of the village were willing to migrate, but they were holding back due to lack of investment. However, they

wished to invest their own savings on migration rather than their family wealth. This is because there were many complexities to use family wealth such as house and land due to the obligation of dividing the parental property to siblings equally by law.

The relatively richer in terms of savings are more likely to migrate also because they have enough resources to hire labour, which allows family labour to seek lucrative jobs outside (Deshingkar & Start 2003). One poor respondent substantiated this notion as he said that he wished to migrate to Dubai since a long ago, but he was afraid that his land would remain barren by doing so. He did not have the capacity to hire labour for that purpose. Though most of the reasons to migrate are directly linked to economy, some reasons could be non-economic too. Labour scarce households seem to migrate less, as they have to take care of their own property rather than going for international or domestic migration. The likelihood of migration increases along with having one extra member in the household (Deshingkar & Start 2003). One old woman said that they had enough land for the cultivation of different crops, such as rice, wheat, maize, etc., which needed huge labour, and there was insufficient family labour for this. Therefore, she herself denied her son to go to Dubai when he had asked for this. She would have sent her son if she had less land for cultivation. Therefore, it shows that the family assets like land, besides being an investment for the migration sometimes discourage it demanding their physical presence for farming.

Further, more likelihood of richer to migrate seems to fit also in the capability approach of Sen. This is comparable to an example suggested by Sen as mentioned in Wells (2012) that the fasting and starvation of the people result into the same nutritional state of the people, but the first one is done with choice and the second one is done due to no choice. The first can switch to no fasting if they wish, whereas the second one cannot. Similarly, richer people have a choice of not migrating to lead a self-sufficient life in the country of origin, because migration could have a heavy cost of distance with families and kins. On the other hand, poor people have no other choice than avoiding migration mainly due to lack of financial capital. However, rich people can switch to a decision to migrate if they come to meet with more push factors and find the opportunity cost higher than staying back. This would be a suitable explanation in the case of poor countries like Nepal, where maximum people are willing to migrate to richer countries due to many push factors like conflict in the name of ethnicity, corruption, political instability and unemployment.

5.1.2. Does remittance breed equality in a society? Which groups benefit and which are adversely affected?

The equality depends on the magnitude of remittance in relation to the income from other sources and upon the position of remittance receiving households in the distribution of income (Fajnzylber & Lopez 2008; Stark et al. 1986). They argue that for the incipient migration, the migration cost, and related uncertainty is very high. As a result, migration may be accessible to only richer section of the community, thereby increasing inequality. However, along with time, the cost of migration and uncertainty may diminish due to spread of contacts and information which also increases the accessibility of poor people to migration, thereby increasing the positive impact on poverty reduction and equality (ibid). The result shows that the study area belongs to the first phase of migration because the distribution of the monthly saving of the households including the remittance ($G= 0.719$) seems to be more unequal than not including it ($G=0.712$). However, most Latin American countries, for example, Bolivia, Honduras, Mexico and Paraguay showed positive effect of remittance on equality meaning that if remittance is eliminated completely, inequality would increase (Acosta et al. 2008; Fajnzylber & Lopez 2008).

The Gini index of the remittance distribution in the study area after the earthquake is very high (0.58). This means that the access of the remittance to households is very unequal and so is their capacity to mitigate the disaster. The finding that the people with higher savings are more likely to migrate challenges the notion that people migrate due to scarcity and poverty. It rather reinforces the other fact that poor people do not qualify much for migration, for example, loans, social contacts, and capital for investing in migration. Thus, rich people were found to benefit more than the poor on account of remittance.

5.1.3. Did all the migrants send remittance after the earthquake to their families? What were the constraints to these processes?

Though it is expected that all the migrants send remittance to their homes, especially after a disaster, there were still a few migrants who did not manage to do it. 11 out of 73 migrants did not send any remittance to their home after the earthquake. And, 8 out of 11 non-remitting migrants belonged to internal migrants. Almost all the non-remitting households belonged to an extremely poor group with the monthly savings of below 500 Rs.

Out of the total 73 migrants among the sample of 200 households, 48 had migrated to the other cities, mainly in Kathmandu, 17 to Middle East countries and 8 to US, Australia and other Western countries (Figure 4). This disproportionate distribution of migrants in various destinations was influenced by their wealth, caste, skill and social network. It was clear during the interviews that non-remitting migrant households of the internal migrants were living in more scarcity than others, and they were not easily trusted for loans during the earthquake. The migrants to the Middle East and the western countries, although they did not have ready money to remit during the earthquake, they could easily get loans.

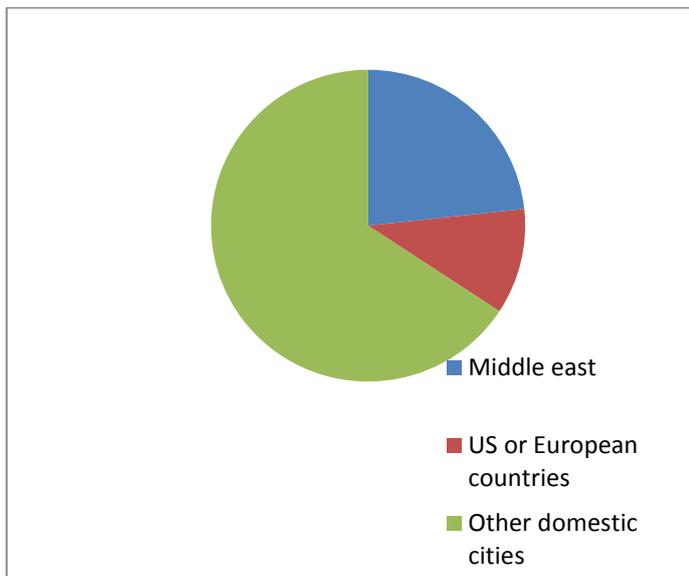


Figure 4 Migrants' destination distribution

The interview with the households which did not receive any remittance after the earthquake revealed many problems associated with migration. Many people reported about the unpaid loans, low salary, and in few cases family member separation as the main reasons for not being able to send remittance. The loans they took from their friends or bank often dragged them into poverty trap. The unpaid loans would further increase their vulnerability to economic shocks due to poor returns from the employment at destination. Some even reported that due to the fear of further entrenching in indebtedness, they had themselves denied their migrant members to send remittance who were planning to send money by taking loans from their friends. Providing remittance could be a heavy burden for those who are themselves struggling hard to make ends meet (Savage & Harvey 2007). One Indigenous woman with four months old baby told us:

I still have a 200,000 Rs loan to be cleared, that I had borrowed to invest when my husband went to Dubai. How could my husband send me money to make a new house? He wants to send money, but that will only increase loans. We cannot pay back those loans with interest.

Further, the irregular and low paid jobs, and lack of social security are the key elements affecting the remittance from the internal migrants. As one Chhetri woman reported,

My husband used to paint walls in Kathmandu, but this was seasonal work, and unfortunately he fell off the building while at work three months ago. The earning has completely stopped now. Nobody believes us for the loan either. Life is extremely hard for the daily wage earners like us.

Besides these, another emerging reason is the fragmentation within families that results into selectively sending remittance to the certain family members, for example, wife, or children while not to others. This is evidenced in reporting by one of the Dalit migrants household members (Old women, age 65). She said “I have not got a single rupee from my son. May be he sent all the money to his wife who lives in town. He used to care for me only till he was unmarried, now he is more a husband of his wife than my son.”

This fate of no remittance to the households during the earthquake was not limited to the internal and the Middle East migrants. A few migrants to the western countries share the same status, but the stories were quite different. Migrants who try to settle in these countries took heavy loans from the bank to buy an apartment which they have to pay in several instalments, so their money is not readily available for their households. However, they have better credibility to get loans from other villagers due to their family members living abroad and earning dollars. Thus, the problem of no remittance seems to be most severe for the internal migrants.

The negligible remittances from the migrants do not mean that their family members do not have any expectation from them. Rather, their expectation has further increased after the earthquake. Some even reported that they themselves asked their migrant members not to come back for a few more years and work harder to support families with remittance in coming days, as they need a lot of capital for the rehabilitation. Savage and Harvey (2007) reports that disaster may make it necessary for the migrant to come back home, leaving behind their jobs to take care of the family members. However, the costs and difficulties for the migration are so high that it becomes impossible for the ones who come back home to re-migrate. This is evidenced in the deadly earthquake of Pakistan in 2005, when many migrants who went home following the earthquake could not afford to migrate back. This resulted into

the permanent loss of their families' major source of income, and they ended up with debt from the first migration (ibid). It seems that many households in the study area were well aware about the complexity of migration. One respondent woman said that her husband was willing to come home back after they lost their house along with her only daughter. However, she pressed him to hold as she thought that the lost things could not be returned and they still have many things to settle, from building another house to paying the interest of the loans.

Despite such an adverse situation, most households not receiving remittance, except internal migrant households, were not as panicky as they were expected to be due to the cooperation among their networks. This shows their internal resilience towards coping with the disaster. It was quite surprising to see most of them taking the situation normally unlike the escalation by the media. It may be because they had been used to living in economic deprivation for so many years since long before the earthquake. However, Classification of the non-remitting migrants by destination revealed internal migrants as the most deprived. This calls for a serious strategy to identify and support non-remitting internal migrants by helping them to get more access to loans.

5.2. Objective 2

To explore the role of remittance as a means in preparedness and response to natural disasters

5.2.1. What are the differences between earthquake preparedness and post earthquake responses in remittance receiving and non-receiving households?

In order to examine if there is a significant difference in the earthquake preparedness between the migrant and non migrant households, some hypothesis were tested, such as migrant households were better off in housing, had multiple livelihood strategies, had enough food storage for possible disaster and had better information about the safety tips during the earthquake. The housing condition ($P < 0.05$), and livelihood diversification strategies ($P < 0.05$) both are individually correlated with the independent variable, migration of the people (Table 3). Migration is found to be statistically significant predictor for both these dependent variables.

Similarly, the logit regression shows a positive association between food storage and migration. Further, migration is a statistically significant predictor variable ($p < 0.05$). But, the logit regression with safety information about the earthquake shows that migration is

statistically insignificant ($p > 0.05$). Following Table 3 and 4 summarizes the statistics, and analysis as well as regression results for the significant predictors.

Table 3 Independent Variable, migration for the dependent variables housing condition, and livelihood diversification

Dependent variable	Independent Variables	correlation with migration	β coefficient	P-value
Housing condition	Migration	0.05	0.15972	0.000771 ***
livelihood diversification	Migration	0.133	0.38021	6.34e-08 ***
Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1				

The positive sign of β coefficient and p-value less than 0.05 for both the dependent variables housing condition and livelihood diversification means that there is a positive and significant association between migration and the two variables. This means the migrant households had better housing condition, and they had adopted more livelihood diversification strategies to increase their resilience against disasters, unlike non-migrant households. β coefficient means the increase in the mean of housing condition and livelihood diversification when there is a change in migration from 0 to 1. In the study area, most preferred alternative livelihood strategies were rearing cattle, poultry farming, opening a shop of household accessories, opening a small restaurant, etc. Most literature rejects the utility of remittance in diversifying livelihood sources as they argue remittance would rather induce recipients to abandon traditional occupation and be more dependent on it (Ballard 2005). Wouterse and Taylor (2008) find that diversification of livelihood sources was significant when there was inter-continental migration, whereas there is no effect on livelihood diversification when the migration is within a continent. Deininger and Olinto (2001) argued that migration did not ensure the migrants' ability to enter into higher paying jobs, thus having no surpluses to invest in different sectors. However, it was found in the study area that remittance-receiving households were doing both farm and non-farm activities that required nominal investment to reinforce their sources of income and spread the risk.

Table 4 Independent Variable, migration for the dependent variables Food Reserve, and knowledge on safety

Independent variable	Dependent variables	β coefficient	p-value	
Migration	Food reserve	1.61	0.00133 **	
Migration	Knowledge on safety	0.209	0.665	
Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1				

The positive β coefficient in the table 4 means that the increase in migration results into increase in dependent variable, food reserve. β coefficient means that for every one unit increase in migration, the odds of a food reserve increase by 400.28%. However, there is no meaning of having food in reserve when the whole house collapsed with all the materials inside it. Similarly, migration is not significant to the knowledge on safety since the p - value is very high ($P>0.05$). This means, knowledge of safety during the earthquake is independent of the fact whether the households have migrants or not. People reported to get such information from their radio and television, which were accessible to most people in the study area.

In the focus group interview, remittance receiving households claimed themselves better prepared for the earthquake. However, their definition of preparedness could be questioned. A couple of households shared their story of plastering their houses with the remittance they received from their migrant family members, which they thought was a good preparation for the earthquake. However they did not consider the engineering aspect of building houses, and it was no surprise that those households lost their houses during the earthquake. Though the housing condition correlated to migration, it did not ensure structurally advanced and earthquake resistant housing. Improving housing condition meant to them only decorating the house, or just making it look modern and attractive. As a result, many cemented house which had no strong foundation collapsed during the earthquake. This was evidenced in the focus group interview as one Chhetri woman stated:

My husband has been working in Malaysia for two years. We plastered our old house made of unbaked brick with Rs 200,000 sent by my husband and Rs 50,000 borrowed from Cooperatives. But, the earthquake took my house along with my mother-in law without showing any mercy. It had only been four months we had finished plastering. We are left with nothing now, neither house nor the money my husband sent to me. The only thing we ended up with is big loan.

Surprisingly, there was not a single household, which consulted engineers or architects for making earthquake resistant houses. Few remittance recipients emphasised that the remittance they get is not enough to make structurally advanced houses and also they thought it is useless to prepare for an earthquake that is not certain. Further, they reported that their houses were made many years ago when they even did not know whether engineering exists. However, the houses that were made recently were not made by consulting engineers either. They just used the local people, and locally available stones, mud, and bricks. The cemented houses were without pillar system. This gives the notion of 'bounded rationality' (Gigerenzer & Selten 2002) that refrained people from making earthquake-resistant house. However, one notable point was that the study area was a typical village with scarce infrastructure and poor access to markets. This might have discouraged even the migrants in the western countries to make the earthquake resistant house in the village. All of them were dreaming of buying a small piece of land and making a house in Kathmandu, and shifting there permanently. Thus, the ruralness of the village was also one of the major factors that explain why people did not prioritize earthquake-resistant housing. This shows the poor linkage between the remittance and disaster preparedness on the ground of their awareness about the engineering aspect of the houses. Manandhar (2016) found the similar result and argues that remittance has significant contribution in building practices, but it does not ensure the use of building code for safe construction. In light of the capability approach, remittance is only means requiring the awareness or capability of the people to convert this into a functioning (Sen 2000), i.e., making earthquake resistant home in this case. This has a policy implication especially in the context when there is a growing consensus in the literature about the positive relationship between disaster preparedness and remittance. This study finds that the remittance is not enough for increasing disaster preparedness, rather it is more important to spread awareness about the earthquake-resistant housing, specially due to the geographical vulnerability of Nepal.

Although the linkage between migration and disaster preparedness was found to be poor, migrant households were found clearly better off in the aftermath of the earthquake. Unlike most of the non-migrant households, migrant households reported that they had some ready cash with them to purchase basic things for their families. Moreover, they were not solely dependent on the relief support provided by the government, and many NGOs and INGOs. Additionally, households with migrants, especially Middle East and Western countries were easily trusted for the loans from villagers since migration status itself acted as

collateral. Few migrant households reported that they had gained new assets, such as land, ornaments, and livestock with the remittance. These assets were vital for the survival after the earthquake. For example, with the help of remittance, some respondents had bought ornaments, which they could protect during the earthquake as they had worn them in their bodies. However, the other households could not protect their accessories, such as TV, computers, and furniture bought with remittances, which were completely damaged and lost within the rubble. The households who could protect their assets bought with remittance were relatively feeling more secure about their future, as some of them were thinking of starting a new business, and some migrant returnees were thinking of going to the Middle East again by selling these assets. One Chhetri man who had returned from Malaysia two years ago stated,

I had bought half Ropani land in Bhaktapur with the money that I earned in Malaysia working for two years. I will go back to Malaysia selling the same land, and earn enough money for making new house for my family. My other friends, who had come back with me two years ago from Malaysia, have already started poultry farming and commercial goat farming.

In terms of availability of drinking water and access to relief supplies, there were no differences between the two groups: remittance receivers and non-receivers. However, neither of the groups was found aware of purifying the water before drinking, especially after such a hazard which killed many people and the dead bodies were not taken out from the rubbles for many days. Both the groups admitted to have equally received the relief items distributed by the government, many voluntary organizations, and the representatives of diaspora communities. Though all the households got access to medical camps for their free health check up, remittance receiving households were found more capable to go for follow checkups when they had to pay doctors' fees.

Regarding how long it took them to make the temporary house for the settlement after their houses were destroyed, there were no distinctions among the remittance receiver and non receiver households. The survey result showed that it took an average of 25 days for remittance receivers, and 28 days for remittance non-receivers from the day of earthquake to make small shelter. Most of them lived under the tarpaulins distributed by the government and Red Cross for minimum two weeks. They were scared to start making house due to a series of aftershocks. However, after two weeks they started making a temporary shelter of corrugated zinc sheets with 10,000 Rs provided by the government and with voluntary labour of villagers and many self motivated youths from Kathmandu and even abroad. During the construction of temporary shelter, remittance receivers were clearly in a better position

because they had additional cash available for this purpose besides the amount given by the government. On the other side, most non-receivers had to seek the loan which was hard for them. One Dalit man said,

Who would believe me and give me loan as I do not believe myself that I could pay them back? What I earn is even not sufficient to feed my family. I, therefore, did not expect any loan and made this small shelter with the stones of my collapsed house. I used money given by the government only in buying zinc sheet.

5.2.2. What are the differences between post earthquake response among the people receiving remittances from the Domestic cities, Middle East countries and the Western countries?

The efficiency of the post disaster response of the remittance recipients varied quite significantly according to the destination of migrants. While disaggregating the post disaster response of the households with internal migrants, the Middle East Migrants, and Western Countries migrants, it was found that the internal migrant households were worst off. (Figures 5) They ranked lowest in all indicators such as amount of remittance after the earthquake, health, and reconstruction of the houses in the aftermath of the earthquake. It was found that the already poor health of such households had further deteriorated after the earthquake mostly because of their inability to spend the doctor and medicine costs. Few internal migrant households admitted that they did not go for regular check up despite having many health problems following the earthquake due to insufficient remittance. One Indigenous woman said,

I am fed up of taking medicines. I am a diabetic patient, and during the earthquake, I broke my legs while trying to jump out of the windows. I cannot go to labour work as I used to do before. The only breadwinner is my husband working in Kathmandu as a mason. I have to buy a lot of medicine every week, and often I have to think what to buy: medicine or the kitchen stuffs out of a small amount of money. Sometimes I think I had better die during the earthquake than this life full of scarcity.

The Middle East migrant households and Western migrant households, however, did not have to abandon the health service after the earthquake at least due to the economic reasons. However, they had problem of least prioritizing health over other things in life. Many admitted that they did not visit health personnel unless it was an emergency.

The average amount of the remittance received by the internal migrant households after the earthquake was nearly half that by the Middle East and one-third that by the Western Migrants households. The following graph presents this difference in the remittance from various destinations (Figure 5).

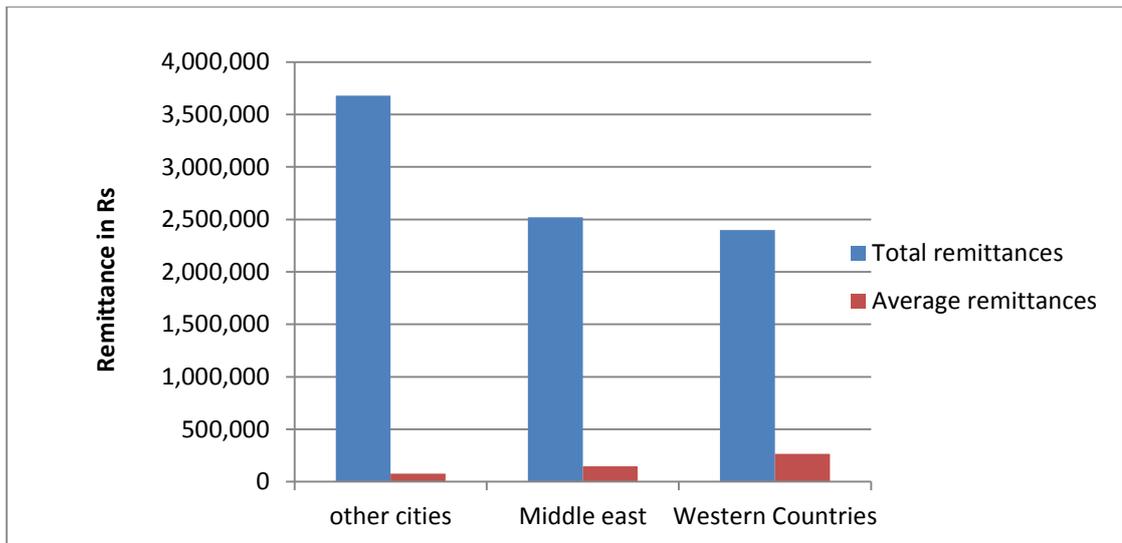


Figure 5 Distribution of remittance by the destination after the earthquake

The graph clearly shows that the total amount of remittance from the internal migrants was highest. This has an implication that internal remittance is significant during the disaster which is ignored in most literature related to remittance and disaster. However, the average of it is the least meaning that the high value of total remittance was due to the high number of internal migrants rather than their high individual earnings. Further, the number of migrants in each destination: 48 internal, 17 Middle East and eight Western Countries also manifest the notion of ease for the internal migration as opposed to international migration.

There were significant differences in the characteristics of the migrant households, according to the destinations. Most households with western migrants were found to have more than one house, so they had a choice of living in another undamaged house after their one house got damaged. On the contrary, the internal and the Middle East migrant households did not have this option. At the same time, most internal migrant households responded that the remittance they received after the earthquake was not purely from the earning of their migrant members, rather most part came from the loan. Some also reported that though migrated, they were unemployed so, they were helpless after the earthquake. On the other side, the employed migrants were earning too little to be able to send money to their family members. However, the advantage for the internal migrants was that they could reach their home right after the disaster and help the family with their physical presence in rehabilitation. In contrast, most migrants of the Middle East and Western countries could not manage this due to contract with the companies and the expensive plane fare. The Middle East migrants were able to remit more after the earthquake also because of well connected friend circle

working in the same company. One Chhetri respondent who had returned to Nepal from Dubai after the earthquake stated,

My salary there in Dubai was 25000 Rs, but after knowing that I had terrible losses in Nepal due to earthquake, my friends from different parts of Nepal in Dubai collected 200,000 Rs, and I came back with that amount. This is still not enough, but I can think of small house out of it and start a tea shop soon. I am extremely thankful to those great people helping me when I was in dire need.

The fund support for the affected families was existent in Western Migrants as well. In addition to donations by many NGOs working in Nepal from the collective funds, Nepalese diaspora in western countries also helped directly to the individuals in the respective countries whose family suffered a huge humanitarian and physical loss due to the earthquake. One Chhetri migrant to Norway told us,

As soon as my friends in Norway came to know that my both parents lost their lives during the earthquake, Nepalese society in Norway immediately collected about 300,000Rs and gave it to me before I travelled back home. The money I saved there and that by my friends now should be enough to build an average house here.

It was realized that remittance receivers belonged to different categories as the amount they received varied according to the destination of migration, and their social network. Thus, all the remittance receivers should not be weighted equally. Although the households belong to the category of remittance recipients, they may turn out to be still deprived due to negligible remittance and loan repayment, for example, internal migrant households. This challenges the growing consensus in the literature that remittance receivers are better off. However, it is interesting to see that a few of the internal migrants were remitting very similar amounts to the Middle East migrants, which will be discussed later.

5.2.3. How does remittance impact the resilience of the whole community?

The gap in the economy of the remittance recipients and non-recipients after the disaster was more or less bridged with their emotional feeling of brotherhood and neighbourhood. It was expected that the well-off remittance receivers would have isolated themselves from the poor non-remittance receivers due to difference in their status. But the reality was different. The culture of sharing and caring one another helped many deprived non-remittance recipients to get rid of the worst situation of getting hungry, and hit by the extreme weather phenomenon like rain, sun, and wind. It was a kind of positive consequence of a disaster that brought different households together to further build on their social capital. Though before the earthquake, many households had an ill relationship with each other due to many reasons like

land issues, herding and family matters, the earthquake brought them closer. Remittance receivers helped non-receivers in many ways. One Chhetri man said,

My son works in Malaysia. I have a small restaurant and had stored food materials for two weeks before the earthquake. Poor people who lost their homes, and family members and got their food buried in the rubble were in a dilemma whether to cry for their losses or go somewhere to fetch food for their living family members. It was hard for me to see all these things. Luckily, my restaurant and food material were safe. Then, I voluntarily cooked food for about 40 people for three days until I had anything left in my store. Not only me, everybody helped each other after the earthquake.

Sometimes, the remittance was circulated to the non-remittance receivers in the form of a loan. However, it was poorly evidenced if such dispersion of remittance crossed the boundary of Caste, as most dispersions reported in the sample were within the same caste. The man with a restaurant also admitted that Dalits did not come to eat in his restaurant, but there were few Indigenous people. Another Malaysia returnee Indigenous migrant said,

I managed to build a small temporary shelter for us, and was also able to give a 100,000 Rs loan to my neighbour who had left nothing after the earthquake. Currently, one family of our caste who could not make their house live with us in our home.

The creditors were obviously a bit insecure, and doubted if they could hold the loan for a long period of time because they too were more or less affected by the earthquake. The interview with the former VDC chairman revealed that the remittance was somehow dispersed in the village rather than accumulated to limited households. Savage and Harvey (2007) reports that the tendency of remittance recipients to share it with their extended family, and even neighbours would also benefit the non-recipients. Further, the use of remittance in buying local goods and services specially for the recovery and rebuilding process mean that the positive effect of remittance is extended to the rest of the community, not only the recipients.

The respondents also said that many people from Western countries had come there with relief materials, and medical teams to help them. This showed that not only remittance but also the philanthropic support of the NRNs of the Western countries along with the volunteers of youths from Kathmandu was crucial during the earthquake. The power of social capital and altruism during the crisis was clearly observed in the study area that to a certain extent mitigated the intensity of the disaster.

5.3. Objective 3

To explore the relationship between Caste system and choosing emigration as an alternative source of livelihood, and its impact in vulnerability during disaster

5.3.1. Which Caste dominates in choosing emigration as a source of livelihood? Which caste remits the most? Is caste a significant variable determining the selection of the destination for migration?

The linear regression shows that monthly saving of the people in the study area highly correlated with their caste ($p < 0.05$) (Table 5) This means higher caste people are richer, and have better savings. This statistically explains the notion of Caste bred poverty in the study area.

Table 5 .Regression result of caste (independent variable) vs savings of household (dependent variable)

Independent variable	β -coefficient	corelation	Sd	p-value
Caste	2709.2	0.14	455.2	1.19e-08 ***
Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1				

The logit regression shows that the migration of the people increases with the rank of the caste, however it is not statistically significant ($p > 0.05$) (Table 6). This means that access to migration is not dependent on the Caste. Nevertheless, the destination of migration would determine their ability to remit efficiently during the disaster which was evident already in Figure 5. The inter-relationship between monthly saving and migration, and the impact of caste system on both of these variables is illustrated in figure 6.

Table 6 Regression result of caste (Independent variable) vs. migration (dependent variable)

Independent variable	β -coefficient	Sd	p-value
Caste	0.21	0.133	0.115
Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1			

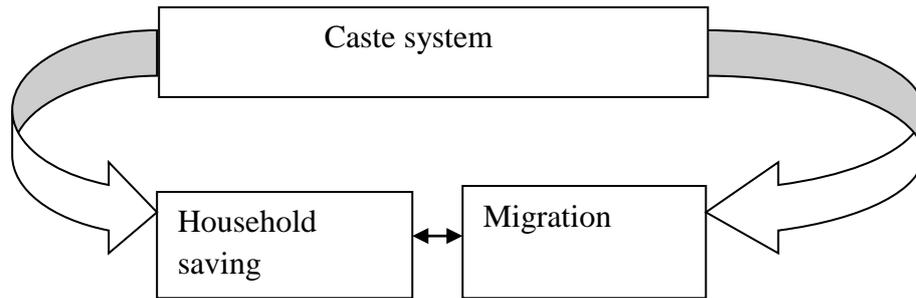


Figure 6 Diagram showing relationship between caste system, household saving, and migration

On the basis of the survey carried out in the study area, Dalits ranked lowest, and Chhetri and Indigenous groups were at the top in choosing migration as a livelihood strategy. Brahmin ranked third in this order of emigration. The number of Dalit emigrants was half that of Chhetri and Indigenous group.

Table 7 Remittance distribution after the earthquake and number of migrants by caste

Caste of the people	Remittance after disaster	Migrant number
Dalit	790,000	11
Indigenous	2,000,000	22
Chhetri	2,260,000	22
Brahmin	3,350,000	18

Table 8 Linear regression between the remittance after the disaster (dependent variable) and the caste (independent variable)

Independent variable	β -coefficient	correlation	Sd	p-value
Caste	16260	0.04	5245	0.00222**
Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1				

The linear regression shows that Caste is statistically significant predictor for the amount of remittance received after the earthquake, meaning that Brahmins are most likely to get highest remittance and Dalits are most likely to get least remittance (Table 7). It was observed that the remittance received after the disaster by Dalit was about one third that by Chhetri and about one fourth that by the Brahmins. Though the remittance received by Chhetri exceeds Indigenous people by some amount, they are comparable to each other. However, Brahmins hold top position in receiving remittance after the disaster despite their lower number of migrants. In order to explain this discrepancy, the destinations of the

migrants by caste were compared and found that there was dominance of Brahmins in western countries with 62.5% and followed by Chhetris with 38.5% (Table 9). Since they have relatively higher salary in western countries, they outweighed others in remittance after the disaster. Surprisingly, there were no any migrants to western countries from Indigenous groups and Dalit group, which have implication of socioeconomic differences.

Table 9: Distribution of migrants by destination and Caste

	Brahmins	Chhetri	Indigenous	Dalit
western countries	5	3	0	0
Middle East	1	7	6	3
local cities	12	12	16	8

Similarly, the migration of the Brahmins to the Middle East was non-significant in comparison to other castes. However, their number was appreciable in domestic migration. The most striking point about the domestic migration of Brahmins was that the remittance their families received after the earthquake was comparable to that by the families of the Indigenous migrants in Middle East³. This means that though Brahmins migrated internally, they were privileged and earned a higher salary in contrast to the general finding that internal migrants face more scarcity than the external migrants. The result shows that Brahmins were advantaged in both the internal and international migration, as they were dominant in lucrative jobs in both the destinations. The numbers of Chhetris and Indigenous people were comparable in Middle East, whereas the number of Dalit was very poor in all three destinations.

To see if the choice of the destination is dependent with the caste of the people, chi square test was done. However, at 95% confidence interval, the alternative hypothesis that the relationship is dependent is rejected. But, at 90% confidence interval, the alternative hypothesis that they are dependent is accepted due to lower p-value than 0.1 (Table 10). This dependency of choice of destination was further elaborated and substantiated during the focus group interview with the local people from various castes.

³ The average amount of remittance received by Brahmins from domestic migration was 135000 Rs, and the amount received by families of Indigenous migrants was 150,000 Rs.

Table 10 Chi-square test result

	χ^2	df	$p(>\chi^2)$
Likelihood Ratio	15.644	6	0.0158
pearson	12.416	6	0.053305

The migration to western countries was not even thought of as a possible thing in life for Dalits. They thought it was made for somebody else not for them at least. Most Dalit households had their view that western countries were the rich peoples land and only rich people go there. As a Dalit woman said,

Sir, we make leather shoes in the village, and hardly earn our two times bread. Going to America and Europe even doesn't come in our dream. I can't think of that. With this small earning, I am sure I will remain poor throughout my life, so I do not think I will ever reach to a point where I think like rich people.

This shows that their mind was preoccupied with immediate survival, already differentiating themselves from the rest of the caste regardless of what other people think about them. The argument of Sen whether or not people adopt options they have is dependent on if they have valuable options available (Wells 2012) is relevant to explain why the number of Dalit migrants was extremely low. It could be that the option of migration was not easily available to them.

Not even a single Dalit in the western countries in the sample shows that they were barred to Western countries by socio- economic barriers. As expected, the numbers of Brahmins in these countries were significant because they are the most privileged caste in Nepali society. On the other side, they were found to avoid Middle East countries by themselves as much as possible. This is because it was widespread and well known to all the people that the kind of jobs in the Middle East for the people of the developing countries were mostly of labour type, and they get paid too low given the work load. However, they were aware that the nature of jobs was not of higher standard in Western countries too, but they thought that the high salary would neutralize the pain of low standard jobs. Further, with the qualification and the social networks they had, most of them had been able to get well paid jobs in Kathmandu.

The comparable number of Indigenous people and Chhetris going to the Middle East found from the survey was confirmed during the focus group interview. The Indigenous people seemed to have no any reservation in the selection of destination. Their major concern was to build up their economy no matter what type of work they have to do. This respect and readiness for any sort of work could be attributed to their tradition of manual work, for example in agriculture (Jyapu⁴ in Newar), and manual labour (in Tamang community). However, their number in the western countries were null, which might be due to the relatively lower level of education and their inability to invest for the skills which these countries need. The similar number of Chhetris in the Middle East would be due to their similar attitude towards the job. However, their higher access to education and better economic condition allowed them to go to Western countries as well as a student and as a skilled worker. This would be supported by the remark of one Chhetri participant as he said,

My son studied till class 10 in the village school, and he did his higher studies in Kathmandu. He is courageous enough to take the risk and challenges having been born in Chhetri family. To pursue a Masters degree, he went to Australia by selling the land and he is helping home too with good remittance, without which we could not have fixed our house that had collapsed during the earthquake.

The statement that Chhetris are courageous comes from the notion that Chhetris were warriors by history, and they were conceptualized as brave and determined to their ambition. This gave the slight influence of the caste system on choosing livelihood strategies which are not usual for them, but guided by their role in the history. Brahmins were traditionally learned caste, and they occupied decent jobs, such as priests and teachers. Further, key informants conceptualized Brahmins as very intelligent caste, who would somehow fix themselves to high paid jobs by either social network or with their wisdom. These historical attributes for the Brahmins is also reflected in their migration pattern in this study, where they have shown dominance in higher paying western and internal jobs.

5.3.2. How effective is the social network in various castes for the migration? How is the situation of Caste-based occupation in the study area?

From the focus group discussion, the social network was marked as a major factor to impact on migration and the kind of jobs they will get on arrival. Social network assessment was done on the basis of a few factors. These included their involvement in the political parties, closeness to political leaders, participation in Women's group of Village, and the state of

⁴ This is the working class within the Newar community. Newar too have many castes within it, though in broader terms, it comes under Indigenous group of Nepal.

their relatives whether living abroad or in other cities of Nepal who have lucrative jobs. It was vivid that the Brahmins had the privilege of being very close to political leaders, who would provide them lucrative jobs within various cities of Nepal. This was quite obvious, especially in Nepali Politics where maximum top leaders come from Brahmin caste. Boshier et al. (2007) also found that high castes have most access to political network that would influence their probability of job. The key informants and focus group participants confirmed that Brahmins had the most extended social network, which helped them to pursue abroad jobs. The notion of 'cleverness' in Brahmins was frequently cited in the focus group interview, which meant that Brahmins were extremely forward in lobbying the people through whom they could get benefits. While on the opposite pole, Dalits were mostly limited to their own caste people, and therefore have a poor social network that would be of no help in their migration.

The more participation of women from backward castes was seen in the Women's group⁵, which primarily collected small amount of money monthly, and gave loans to the needy household in minimal interest. This was also evidenced in Coastal Andhra Pradesh in Southern India where low caste and powerless people, especially women utilized informal social network, such as CBOs (Community based Organizations) and NGOs to increase their resilience against disaster (Boshier et al. 2007). Few of the Indigenous people appreciated the role of Women's group in helping the migration of their family members. Unlike Indigenous people, Dalits were found to use the money from such a group in household activities rather than in migration. However, all the participants acknowledged the importance of such groups to enhance the social network, which could be instrumental for helping in migration and during the disaster.

Most migrants were highly induced by the earlier migrants, primarily their siblings and friends of the village. The social media like Facebook and Instagram were instrumental to keep in touch with the earlier migrants. It was well accounted in the interviews that the migrants to the Middle East and Western countries were highly attracted by the pictures kept by earlier migrants in social media. The responses by the focus group participants revealed that the social media had created a kind of virtual world that pulled their sons or daughters to those countries. However, only the pulling factor was not enough because they needed several criteria like education, skill, and financial strength to go to the Middle East and

⁵ Focus group participants reported that 70% members in womens group come from Dalit and indigenous groups.

Western Countries. Because many Brahmins and Chhetris fulfilled these criteria, this was no surprise that their number was higher in well paid jobs in best destinations.

In local employment opportunities, the inter-caste network was found encouraging. Though most Chhetris had their own business such as driving taxis and tractors and contracts of building constructions, they had mostly employed Indigenous people like Tamangs and Newars for working there. However, rather than due to tolerance to other castes, Chhetris seemed to employ them due to cost benefits as they would work in lower wages. Nevertheless, Indigenous people were not sure if they got lower wage from their employers merely due to their lower caste. But, the status of being historically marginalized section would certainly have developed prejudice in Chhetris to dominate them in some ways.

It was found from the survey that most migrants sought some assistance of friends, relatives or man power agency during the migration. Only 13% migrant households responded that they had migrated independently, and that too exclusively fall under domestic migration (Table11). The migrants with nobody known in the destination seemed to have more challenges in finding jobs and a place to live. These belonged mainly to Indigenous groups and Dalits. These migrants were also among those who remitted least after the earthquake. Similarly, most migrations to the west took place with the help of their relatives, who had been living there for a long time. They motivated the new migrants, and counselled about the processes and assured them that they will be supported on arrival in abroad. Thus, the Brahmins who were dominant in this migration seemed to be safer both financially and psychologically. Similarly, the Middle East migration took place mainly with the help of friends, who informed the migrants about the vacancy in the company they were working, and the name of Manpower Company they had consulted for the migration. According to the former Chairman of VDC, the Middle East migrants, more importantly, took the help of Manpower agencies, and it is mainly medium educated Chhetris and Indigenous people who were dominant in this destination. Thus, the strong regulation and invigilation from the government seemed to be important in making these agencies more responsible, especially in the context of the mushrooming manpower agencies which are more business oriented than service. Thus, it was found that all the migrants had a good social network, which created an environment for the migration. However, the network of Brahmins seemed to be more reliable than others. The network of Indigenous people and Dalits was found not as extended as Brahmins, and they were not capable themselves to help them. This limitation of the

network would be attributed to their historical isolation from the rest of the communities in the name of lower caste.

Table 11 Different social networks used by the migrants

Friends help	25%
Relatives (early migrants) help	36%
Manpower agency	26%
Self	13%

The limitation to caste-based occupation could be one of the reasons why people hesitated to choose migration as an alternative livelihood strategy. Mohmand and Gazdar (2007) found that occupation of the individual did not only correlate with the status of their caste, rather also with their political power in the village. Most political leaders in the village belonged to Brahmins, so the voices of low Caste could not be heard. We found that the occupation at recent times is determined by the available resources and profitability, rather not only by the caste and political power. About 30% Brahmins were still following the caste-based occupation of Priest, and teaching, 20% Chhetris in Nepalese army, and government service, 48% Indigenous people in traditional farming, labour, and small business, and 30% Dalits in tailoring, and making agricultural tools⁶. The high percentage of Indigenous people in caste-based occupation would be attributed to their fairly high ownership of land in the village, and almost all the households had farming as a common occupation. Most Chhetris seemed to have abandoned their caste based occupation. However, many had adopted farming as their main occupation which could be called as an apparent demotion of the jobs. The in-depth interview with the former VDC chief reveals that many Brahmins had adopted tailoring occupation which would traditionally be the occupation of Dalits, and fairly good number of Chhetris had remained teachers which would be the traditional occupation of Brahmins. Therefore, switching from one job to another, depending on resources, education, and skill was common in the study area that falsifies the doubt that people did not migrate due to sticking on their caste-based occupation. Further, there were many migrant households which run their families, mainly with the remittances, and also adopt traditional occupation merely to protect their tradition, and earn extra income. Although Dalits tried to switch to

⁶ Caste separation was historically based on the occupation they were involved in. Their occupation according to the caste is already mentioned in pg.16

other occupations, they were also a poor return type due to poor education and limited skill. One Dalit man stated,

I started poultry farming being inspired by many villagers who did pretty well with that business. But, I was extremely unlucky that many hens died. May be I did not know how to take care of them. We people meet with only problems whatever we do. I do not understand why?

5.3.3. Which caste people lost the most properties in this earthquake?

Table 12 Loss in monetary value during the earthquake by caste

Caste	Brahmin	Chhetri	Indigenous	Dalit
Average loss in lakh	8.83	5.502	4.46	6.562

Table 13 Linear regression between the loss during the earthquake (dependent variable) and Caste (independent variable)

Independent variable	β -coefficient	Correlation	Sd	p-value
Caste	0.5886	0.02	0.2575	0.0233*
Signif. codes: 0 '****' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1				

The linear regression shows that Caste is statistically significant at 95% level of confidence to explain the variation in loss during the earthquake, meaning that Brahmins are likely to lose the most, whereas Dalits the least (Table 13). While comparing the losses of people from various castes, it was found that the losses reported by Brahmins were highest and that followed by Dalit, Chhetri, and Indigenous (Table 12). This was quite expected as Brahmins, being relatively richer had more to lose, and they were not prepared for the disaster on account of their housing. However, the apparently high loss of Dalits was quite surprising despite their ownership of less expensive houses which were collapsed. This might be due to reporting of extremely high loss by few Dalits, so increasing the total loss of Dalits close to Brahmins. Further, this might be the pitfall in the methodology of asking them the loss value, rather than estimating it by the researcher himself on the basis of the type of houses they owned. It might also be due to their expectation of compensation from the

government and guided by the conscience that more the loss shown, more will be the compensation.

Nevertheless, though it looked like the discrimination based on the caste - system became latent, it got clearly manifested during the relief distribution from government and Social organizations. The interview with the key informants revealed that few Brahmins were asking for more relief supports than Dalits since they had lost much more than them, who had hardly any significant property to lose. However, Dalits remained silent at such a discriminatory behaviour due to fear of Brahmins. Despite few such problems, most respondents were satisfied in distribution of the relief packages which was volunteered by local youths and the officials of Thumpakhar VDC.

5.3.4. How is the overall figure of vulnerability when double exposure: poverty and the caste system is considered together with regard to remittance inflow?

In Nepalese context, Caste may broadly be considered as a proxy of socio-economic status and poverty. It was evident also during the data collection in the field that when the local people were asked to identify the poorest, they would automatically think of the names of Dalits and Indigenous people. Since they fall under socially disadvantaged group, they are more likely to live in adverse conditions and poverty (Nayar 2007). The differences in migrating status and the entitlements for the profitable migration on these groups evidences their social exclusion, and this also gives an idea of the linkage between poverty and migration. The broad linkages between caste and migration/ migration qualifications were examined in this thesis. The migration qualifications like economic assets/resources such as household monthly savings, wealth, land ownership; human capital, for example, education; cultural and identity, for example, caste; and social capital, for example, social network were examined among different castes in the study area. These poverty related capitals for migration were considered based on the work of Kothari (2002).

Table 14 Descriptive statistics on various migration qualifications of Various Castes and average remittance after earthquake

Castes	Average monthly saving(Rs)	land ownership(Ropani)	Average wealth (lakh)	Average years of schooling of household head	Migration	Average Remittance after the earthquake(Rs)
Brahmin	9134	7.12	38.04	13	18	71000
Chhetri	6678	8.195	35.48	12	22	45200
Indigenous	2830	3.16	18.45	8	22	40000.006
Dalit	786	3.115	18.99	5	11	15800

There are remarkable differences between Dalit and other castes regarding the number of migrants. Dalit seems to lag behind in all the criteria for the high return migration (Table 14). However, the exciting thing is that though being underprivileged class, the number of migrating Indigenous people is unexpectedly high. Gurung (2012) found the similar result and concluded that Indigenous people are much included in the migration process though they are considered as the excluded group. However, if the migration is profitable or not would highly depend on the destination, skill, and education of the migrants, which has disadvantaged Indigenous people according to the chi-square test done earlier. Low level of education in Indigenous people refrain them from being high quality work force in the job market, and at the same time increases their risk of abuse by the employers. The differences between Dalits and other castes stand out in the table in most of the above variables.

Regarding the criteria or qualification for the migration, Brahmin and Chhetri are better off regarding capital for investment, monthly saving, average wealth, and education, while the proportions of the two backward castes not availing these qualifications is significantly higher. The proportions of Dalit and Indigenous people with fairly low monthly savings, low land ownership, low education and low wealth stands out in the table which clearly indicates the problems of accessibility and availability to these sections that belong to poorer sections. However, landholding is debated for its non-linear effect on migration. Tsujita et al. (2012) found that probability of migration of landless and small landholders is high. However, it decreases as the size of landholdings increase.

On the whole, the data shows that marginalized sections, such as Dalit and Indigenous people who are also poor in Nepal suffer from a social gap regarding profitable migration.

According to the key informant, though those marginalized people had to face a number of socio-economic hurdles before international migration, they earned equal to the migrants from other caste in the destination for similar jobs. This evidences no discrimination in the destination in the name of the caste system. However, the caste system still seems to be a major determinant of earnings in the job market of Nepal. Borooah (2005) showed that at least one third of the average income difference between high and low caste in India was due to the unequal treatment or discrimination. Regarding domestic migration, it happens quite often that the earnings from the non-manual jobs is significantly higher than the manual jobs which differ in their recruitment fashion. Most vacancies in non-manual jobs are filled through advertisements, and manual jobs through local contacts. This would be the example of institutional conversion factor that limits the capacity of poor, uneducated and low caste people to get non-manual jobs. Banerjee and Knight (1985) found that two-third of the clerical workers and almost all professional workers had responded to the advertisements to the vacancy announcement. In contradiction to it, 58% production workers, 47% unskilled workers, 53% skilled workers, and 31% service workers admitted their recruitment through contacts, who are most often from within a same caste group (ibid). This finding is coherent with the finding from the focus group interview in this research. The migrants who were doing clerical and professional works in Kathmandu and other cities like Bhaktapur and Chautara knew about those jobs via advertisements in the newspapers. However, they reported some help from the political leaders in their contacts for the recruitment. The backward castes like Dalits and Indigenous group, due to lacking contacts in the occupation sought, are more likely to be at a disadvantage. Therefore, it is quite certain that their poverty will persist despite their effort to come out of the unskilled manual jobs. Further, in the jobs recruited through the contacts, Dalits, and Indigenous people are more likely to be discriminated due to their inability to hide the caste (Banerjee & Knight 1985). The other reason of the low return jobs in the destination may be their low expectation that is shaped by the discrimination they faced for years in the village, and the lower education, that would bring them confidence and assertiveness. Further, Boshier et al. (2007) found that the people with higher than primary level of education has more political network that would increase chances of lucrative jobs. Data shows that all the capitals, such as financial, social, human (skill) and political were least owned by low caste people. Therefore, these have negative consequences on the remittance outcome during the disaster, and thus retard their coping capacity in comparison to high caste people.

6. Conclusion

This study investigated the remittance dynamics by different caste systems during an earthquake disaster in a rural society of Thumpakhar in Nepal. The society of Thumpakhar is characterized by inequality in saving and wealth distribution, which is exacerbated by caste system. The study found that people with more savings and more wealth were more likely to migrate. However, there was no significant correlation between the ancestral wealth and migration. This could provoke new debates on the different roles of savings and wealth in migration outcome, which are normally expected to act likewise. Further, the difference in Gini-coefficient of the savings, including and not including remittance was found to be 0.007 (0.719-0.712), which means that remittance further increased their inequality rather than only decreasing the poverty head counts.

The inequality that existed in the study area worsened during the earthquake, as the differential response of the people was based on the access to the remittances. The overall flow of remittances during the disaster was unprecedented. The social capital remained as a bridge to connect remittance receiving and non-receiving households to disperse the benefits of remittances, thus mitigating the intensity of the disaster. Accordingly, it could be said that though inequality rose statistically after the remittance, it was still an effective tool for recovery after the disaster for both the recipients and nonrecipients. However, it was not evidenced that such transfer of benefits of remittance occurred significantly across the caste as well.

This study challenges the general myth that remittance-receiving households are better prepared for the disaster since none of the remittance receivers were found to construct earthquake resistant houses or to consult with the engineers and other geological experts. However, rather than blaming them not to have made earthquake resistant houses, it would be more important to understand reasons for their decisions, which were noted as insufficient remittances, lack of knowledge, and desire to leave the place permanently. This has a policy implication need for increasing the skill of the migrants to be enrolled in better-paying jobs in the destination, educating people about the earthquake resistant houses, and prioritizing rural development. Unlike many other studies showing that remittance is not used to diversify the sources of income, this study found that remittance receivers have diversified their sources of income, such as driving, personal business, poultry, rearing goats, etc. But surprisingly, they were the ones to lose more in monetary assessments during the earthquake, as their investments were equally vulnerable to earthquake and they lacked property insurance.

The remittance recipients were better off regarding the response to the earthquake, as they had the cash available to buy new things and they had relatively better access to health services and credits due to higher credibility. But, internal migrants were worst off in all the indicators of post-earthquake response, such as health and amount of remittance received. Yet, the enormous total internal remittance suggests that internal remittance must not be overlooked. Unfortunately, most studies do not take internal remittance into account when studying its role in disaster. But, the fact that the average internal remittance per household was extremely low in comparison to other destinations suggests their inadequacy, requiring the government to act on creating better paid work opportunities in the nearest destination, such as Kathmandu, Chautara, and Bhaktapur.

As a historically excluded caste, the numbers of Dalits were least both in internal and international migration, whereas an Indigenous group was more included in this process falsifying general assumption that they are excluded group too. Though caste and savings of the households correlated indicating caste bred poverty in the study area, caste is not significantly correlated with migration. Instead, the selection of the destination and the caste were found dependent: Brahmins were more dominant in western countries, while Indigenous group migrated more in Middle East countries which were guided by their education, skill, and the historical profile. Thus, Brahmins were found to be the highest remitters after the earthquake. Although changing the occupation was driven by the profit and access to resources, the alternative occupation low caste people chose gave meagre return due to their poor education, and skill.

The inter - caste network was found encouraging for employment opportunities, however discriminating low caste people in wages for the similar type of jobs was common. Nevertheless, an overall social network of low caste people was unfavourable, as they were mainly connected to the same caste people, thereby declining their possibilities for lucrative employment opportunities. Due to the caste based discrimination by higher caste people, Dalits were found to isolate themselves from social programs conducted by higher caste people. This necessitates social programs to encourage their integration to reinforce their social network.

It was quite obvious that Brahmins lost the most properties in the earthquake as they had more to lose. But, it was quite a surprise to find the Dalits in the second rank in terms of losses. This had the implication of the methodological error asking the respondents about the

losses in monetary value, which was sometimes overestimated and the other times underestimated.

Finally, the vulnerability of the poor people with low caste is extremely high during the disaster, so this has an urgency of need of addressing the poor people with reference to their caste rather than addressing general poor people. This is because poor people are indeed vulnerable, but if they are from a high caste, they still have a multitude of possibilities to switch their livelihood strategy to migration through a broader social network. In contrast, poor people embedded in low caste system have low potential to reduce their vulnerability as they miss the opportunity of migration due to narrow social network, lack of financial capital, and education. Although bottom-up approach is highly recommended for the success of any mitigation and rehabilitation projects, most development projects end up with Top-down approach. Hence, identification of the real problem needs and the capacity of the people in disaster prone areas have remained unresponsive.

Migration is important to CA because of its return, remittance, which also leads to the achievement of other capabilities, especially during the disaster. This work found that low caste people were inhibited from migration opportunity because of the caste which acted as a social conversion factor at individual, social and institutional level. The findings of this research appreciate the utility of CA since the mere increment in migration and remittance does not translate into increased remittance access, as many Dalits are still excluded from the migration process. Hence, to encourage Dalits to migrate, the policies should recognise the caste embedded poverty and be more sensitive to the social conversion factors in the given context. Dalits would remain at a disadvantage though migration is equally accessible to all the castes due to lack of skill, and discrimination on wages merely due to the caste title. Therefore, they require more assistance in increasing their skills, and strong institution to enforce equal wages for the same type of labour independent of caste.

Way forward

- This study has shown that in the study area, remittance reinforces inequality. However, literature suggests that in due course of time, it will promote equality due to increased participation from lower quintile which could be tested later.
- This study found that Indigenous people are now highly included in the migration opportunities unlike the assumption that they come under excluded group. This would

require further research how they have reached this stage which would help to uplift Dalits too, in the same process.

- This study has covered only one aspect of migration, i.e. remittance during or before the hazard. However, the delay in recovery of the households could not be only due to the non-availability of the remittance, rather also due to the absentee members whose physical presence could be even more crucial than remittance. This aspect of the migration would need further research by cost and benefit analysis

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8. Appendix

Table 15 **Research design:**

Research objectives	Sub-research questions or main issues	Data collection method	Data collection from methods	Sample units/ size
1. To examine inequalities based on savings, and wealth and	1. Who has access to remittance?? Does remittance	Survey and in depth interview	Dictating the answers of the interviewee in the questionnaires, and	200 villagers from the VDC for surveys and 2 key informants for the indepth interview, 3

<p><i>explore the effect of remittance on inequalities</i></p>	<p>distribution have relations to pre-existing wealth distribution and savings of the households?</p> <p>2. Does remittance breed equality in a society? Which groups are really benefiting and which are adversely affected?</p> <p>3. Did all the migrants send remittance during the natural disaster to their families? What are the constraints on this process?</p>		<p>in depth interview with the key informants about:</p> <p>1. Problems faced by the people of different economic backgrounds to go for migration</p> <p>2. The source of livelihood of the villagers and how does it vary with pre- distribution of wealth.</p> <p>3. Reflection about if poor people are also increasing to emigration for livelihood.</p> <p>d) Account of their assets.</p> <p>e) Problems faced by migrants during disaster</p> <p>.</p>	<p>migrating but not remittance receiving household</p>
<p><i>2. To explore the role of remittance as a means of getting resilient during the earthquake</i></p>	<p>1) What are the differences between disaster preparedness and post disaster response in remittance</p>	<p>Focus group interview</p>	<p>In-depth interview with half remittance receiving and the other half remittance non-receiving</p>	<p>-10 remittance receiving and 10 non receiving house representing Middle East, western and domestic migrants</p>

	<p>receiving and non-receiving households?</p> <p>2) What are the differences between post disaster response of the people receiving the remittance from Middle East countries and western countries? How does it impact in the resilience of the whole community?</p>	<p>Focus group interview</p>	<p>households shedding light on their difference in</p> <ol style="list-style-type: none"> 1) Food storage 2) Housing 3) Saving behaviour <p>-And explore if remittance has turned to be the investment in the other livelihood strategies.</p> <p>-The attitude of the people receiving remittance from Middle East, western countries, and domestic labour and difference in their community role for the overall resilience</p>	
<p><i>3. To explore the relationship between Caste system and choosing</i></p>	<p>1. Which Caste dominates in choosing emigration as a source of</p>	<p>Surveys and in-depth interview</p>	<p>Reflection on the role of their caste in their livelihood strategy</p> <p>- Role of the caste</p>	<p>200 samples for surveys, plus 3 representatives from all the caste groups</p>

<p><i>emigration as an alternative source of livelihood, and its impact in their resilience or vulnerability</i></p>	<p>livelihood? Which caste remits the most? What is the relationship between social networks and remittance? 2. Is caste still a significant variable determining the destination of migration? 3. Which caste people had lost the most properties in this earthquake? 4. How is the overall figure of vulnerability when double exposure: poverty and the caste system is considered together with regard to remittance inflow?</p>		<p>in choosing migration, may it be domestic labour, or foreign migration -Reflection on the role of social network for the migration -Nature of losses of the people of various castes in earthquake -Recovery rate of the people of various castes -Role of poverty and caste both on migration.</p>	
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Questionnaires:

- 1) Name (male or female head household)
 - a) Male b) female c) Caste by birth
- 2) Owning livestock
 - a) Yes b) no c) if yes, how many
- 3) Owning land
 - a) yes b) no c) if yes, how many Ropanis? (16 aanaas=74*74sq.ft, 16 Aana=1 ropani)
- 4) Monthly Savings without remittance
- 5) Children's school?

 - a) Private b) Government

- 6) Owning equipment
 - a) Bike b) scooter c) others
- 7) Occupation
 - a) Priest or scholar b) armed force c) trade and artisan d) farmer and labourer e) others
- 8) Any family member migrated to other countries or other towns to earn for the family
 - a) Yes b) no
- 9) Where have they migrated?
 - a) Kathmandu b) middle east c) US or Europe
- 10) Monthly saving with remittance

- 11) What is your house made of?
 - a) Mud, stones b) concrete
- 12) Did you make your house as directed by a civil engineer, or the local contractor?
 - a) Engineer b) local contractor c) others
- 13) Did you have a food reserve for the sudden possible disaster?
 - a) Yes b) no
- 14) Have you diversified your source of livelihood?
 - a) yes b) no
- 15) Did you know the basic things required for your personal safety during the earthquake?
 - a) yes b)no
- 16) Did you manage to get into temporary housing or tarpaulin easily after the earthquake?
 - a) Yes b) no
- 17) How long did it take you to make your temporary house?
- 18) Did you get relief items like food, tarpaulin distributed by the government and other NGOs?
 - a) Yes b) No
- 19) Who helped your son/ daughter/ or husband/wife for migration?
 - a) Consultants b) relatives c) friends circle
- 20) About how much did you lose in this earthquake in monetary value?

21) Did you find any discrimination as a low caste person by the relief distributors or the other high caste people after the disaster?

a) Yes b) No

22) How much remittance did you get from the migrants after the earthquake?

23) Migrated but did not receive any remittance

a) Yes b) no

Semi structured questions for focus group interview:

- 1) Why do you think some people of village migrated, and some did not?
- 2) Why do you think some people didnot send remittance after the earthquake?
- 3) Did all the caste group cooperate each other during the earthquake?
- 4) Did you ever think to prepare for the future earthquake? If yes how did you prepare for it?
- 5) Did you have money to buy things for your family after the earthquake?
- 6) Did you go for regular health checkups after the earthquake?
- 7) Did you manage to get safe drinking water following the earthquake? Did you know how to purify water?
- 8) Who else had come in the village to distribute relief supports besides government officials after the earthquake?
- 9) Did they give equal relief support items to everybody, or did some villagers react to their way of distribution?
- 10) How long did you live in tarpaulins after the earthquake? When did you start making your temporary shelter?
- 11) Did you have enough money to make new shelter?
- 12) How did your migrant member get the chance to migrate? Who helped him/her?
- 13) Do you still do your caste-based job? Does it give you enough income to support your family?
- 14) Does everybody get the same wage for the same htype of work in the destination?
- 15) How is your linkage with the political leaders of the village?
- 16) Are all of you(women) involved in the women's co-operative group in the village? Has anybody of you taken loan from here to send some members of your family abroad?



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