EARTHQUAKE 2015: ITS IMPACT ON HUMAN LIFE AND CHALLENGES IN RESILINCE
SOCIOLOGICAL ANALYSIS OF DUKUCHHAP VILLAGE, LALITPUR

A Dissertation Submitted to the central department of sociology Faculty of Humanities and Social Sciences, Tribhuvan University, Kirtipur

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Submitted by

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LETTER OF RECOMMENDATION

Miss Indra Devi Rai has completed thesis entitled **"Earthquake 2015: its impact on human life and challenges in resilience**" **(A study of Dukuchhap village, Lalitpur district)** under my guidance and supervision in fulfillment of requirements for the degree of Masters of Sociology in Tribhuwan University. I hereby recommended by the thesis evolution committee for final approval and acceptance.

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Date: 3 August 2018

APPROVAL LETTER

I hereby declare that thesis entitled "**Earthquake 2015: its impact on human life and challenges in resilience" (A case of Dukuchhap village, Lalitpur district)** has been approved by the thesis Evaluation Committee under the central Department of Sociology. It is prepared for the fulfillment of the requirement for a degree of master's in sociology.

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ABBRIVIATIONS

ADB	Asian Development Bank
CBO	Community Based Organizations
DFID	Department for International Development
DRR	Disaster Risk Reduction
GFDRR	Global Facility for Disaster Reduction and Recovery
INGO	International Non- Governmental Organization
INSEC	Informal Sector Service Center
IPCC	International Panel on Climate Change
JICA	Japan International Cooperation Agency
LDRMP	Local Disaster Risk Management Planning
NGO	Non- Governmental Organization
NRA	National Reconstruction Authority
OCHA	Office for the Humanitarian Affairs
PDNN	Post Disaster Needs Assessments
PDRF	Post Disaster Recovery Framework
SAMSHA	Substance Abuse and Mental Health Services Administration
UNDP	United Nation Development Program
UNISDR	United Nation International Strategy for Risk Reduction
VDC	Village Development Committee
WB	World Bank

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CHAPTER 1

INTRODUCTION

1.1 Background of the study

This study tried to find out the impact of earthquake and challenges of resilience specifically after the event of earthquake in the context of Dukuchhap village, Lalitpur district, Nepal. Resilience basically is considered as tendency back to normal life after the disaster. Regarding its definition and conceptual clarity, it has been metaphorically used in wider range of context starting from terrorism to disaster and to other contours as well. Different scholars have defined resilience in a various way. Janas (2002) identified resilience as the capacity to bounce back from adversity, frustration and misfortune. However, Perry (2002) defines resilience as the capacity to stressors without significant negative disruption in functioning. We discuss about various concept and definition of resilience on the literature review section. Resilience mostly interrelated with vulnerability and disaster risk. Vulnerability is determined by historical, political, cultural and institutional and natural resources processes that shape the social and environmental conditions people find themselves existing within (IPCC, 2012). Disaster risk not only depends on the severity of hazard or the number of people or assets exposed, but that it is also a reflection of the susceptibility of people and economic assets to suffer loss and damage. Levels of vulnerability (and exposure) help to explain why some non-extreme hazards can lead to extreme impacts and disasters, while some extreme events do not (IPCC, 2012). In the context of extensive risk in particular, it is often people's vulnerability that is the greatest factor in determining their risk (UNISDR, 2009a). An event becomes a disaster when it causes extensive damages to either life or property or both. Therefore, resilience depends upon the degree of vulnerability, disaster risk and damages. There are different types of disaster i. e, flood, landslide, fire, earthquake, epidemic. But this research basically focuses on the event of earthquake. Thus, this study tried to explore the impact of earthquake and challenges of resilience after earthquake event by using qualitative method. Low attention on challenges of resilience and insufficient research on disaster in Nepal has been identified as research gap and research question has been based on that problem. The research questions were exploratory thus, this study tried to collect data by using in depth interview and observation methods as qualitative research approach.

The growth of scientific research on disaster was 'began' in the early 1950s on the post-World War II context, as such as 'bombing surveys' in European and Japanese cities (Perry 2007). Since that time the concepts of disaster are widening and simultaneously the disasters are also widening as challenge for human society. Two main causes of the 'growth' of disaster can be considered: the broadening the concepts and definitions of 'disaster' and human activities to maximize utilization of nature. Contemporary researchers on disaster widely accept disaster as social phenomena rooted in social structures. Disaster study is cross-sectional issue so multiple disciplines of social and natural sciences should linked to make it effective and practical (Perry, 2007and Dixit, 2016).

Nepal is one of the countries which is listed on higher position of risk through multiple disaster due to its complex geophysical condition and poor socio-economic situation. Field of disaster in Nepal is underdeveloped both on academic research and management or practical level. Annually, Nepal faces these multiple disasters with huge losses. These disasters affected not only the caused heavy loss of life and property but also affected the development process of the country, which is great challenge to the nation to protect infrastructure and property from disaster (Paudyal Chhetri, 2015).

Nepal has long history and experiences of disaster. On 25th April 2015 central part of Nepal hit by magnitude 7.6 earthquake, and a major aftershock magnitude 6.8 in 12 May and many and more than 400 small aftershocks frequently(DRR portal 2017). It made 8856 casualties, 22309 injuries and impacted nearly one third of total population of Nepal. Gorkha, Dhading, Kathmandu, Bhaktapur, Lalitpur, Kavre, Sindhupalchowk, Rasuwa, Nuwakot, Dolakha, ramechhap are hardly hit district by the 2015 Gorkha earthquake as by government declared (NRA, 2015). And this study will conduct research about Dukuchhap village of Lalitpur district. The total numbers of houses were around 200 and fully and partially damaged by earthquake on 2015. People of that village are now living under the temporary shelter. Now, it has passed more than 29 months of that 'historical' disastrous earthquake but reconstruction process is slow (Acharya, 2017; Gautam and Kumar, 2017; Pokhrel, 2017; Xinhua, 2017).

The social sciences generally define resilience as the ability to recover from negative life experiences and become stronger while overcoming them. In essence, resilience researchers agree that resilience is concerned with individual variation in response to risk. While some individuals succumb to stress and adversity, other survives and responds well to the

challenges associated with life's hazards. (Ledesma, 2014). In this context, this proposal has been prepared with aim to explore the challenges of earthquake resilience.

1.2 Statement of the problem

In the conceptual level the arena of resilience, communities and institution isolation, local conflict between communities and non-governmental agencies, social political isolation are the challenges for resilience. In the united state, Moore (2010), low level of income and education, individual social economic status is the challenges for the resilient minority community. In the period of Haiti reconstruction, Weisenfeld (20011) see land tenure, internally displaced persons, gender based violence and relief to reconstruction continuum as the challenge for the resilient country. In addition, shirakawa (2014) explore the financial problem as the challenge for the great east Japan earthquake recovery. Nakagawa and Shaw (2004) show from the kobe and Gujarat earthquake recovery period that trust in community leaders, networks, norms and collective action in the community related to social capital of the group. Therefore, if the social capital of the community is higher than the time of resilience is faster but if it is opposite social capital is the challenge for resilient community from the disaster event. From all these literature, we can say that challenging factor for social resilience is vary according to social structure.

In Nepalese context, now, it has passed more than 32 months of that disastrous earthquake but reconstruction process is slow. There are low number of earthquake victims who have completed rebuilding homes and government is highly criticized (Acharya, 2017; Gautam and Kumar, 2017; Pokhrel, 2017; Xinhua, 2017). There are not enough scientific researches on disaster recovery of 2015 Gorkha earthquake, some early researches focused to merely on the impact and early earthquake response activities, gender violence on post-disaster situations and many others but not disaster recovery (e.g.Claire 2016; Standing, Parker, and Bista 2016). The Asia Foundation (2016) has included both impact and recovery monitoring on their quantitative research. Their research evaluated sheltering condition, livelihood conditions, social relations, security, trust on political institutions and use of them as coping strategies. This report evaluates the recovery status of earthquake victims, and it also indicates the components of social capital in disaster resilience.

The issues of resilience have been overlooked in disaster related research. Nepalese research fundamentally focused only disaster management and short term recovery without putting emphasis on the part of resilience. And most of the disaster recovery researches emphasized the important role of social capital as 'engine of disaster recovery' (Aldrich, 2010). By considering this as a gap between various bodies of literature found in Nepalese academia, this study will explore the challenges of resilience in aftermath the event of earthquake. By drawing attention ideas from review literature, the following research question is formulated:

i. What are the consequences of earthquake disaster?
ii. What are the major factor that challenges community to be resilient?

1.3 Research objective:

- To find out impact of Gorkha earthquake in Dukuchhap village.
- To explore challenging factors of resilience process to the earthquake affected community.

1.4 Rational of the study

This study attempted to discover the impact and challenge of resilience aftermath the event of earthquake. Therefore, this study helped to explore how various forms of social, economic, and political structure impact the resilience in the context of post-disaster period. It also helped to local government and other implementing partners to provide targeted support for earthquake victims and marginalized groups provide further support to household that remaining in temporary shelters, and communicate earthquake resistant designs so household can build back safe.

Apart from these practical implications, this study also had theoretical benefits. This research contributes to the existing body of knowledge in the disaster related research. In many ways, this study will attempt to fulfill the number of gaps that can be found in literature. Another significance of this study is that tried to explore the social, economic barriers that challenge earthquake resilience. Thus, this study may be significant in the domain of disaster research, and also remain influential in disaster risk management programs.

CHAPTER II

REVIW OF LITERATURE

2.1 Theories and Concepts on Disaster:

Just like social structure, disaster is vague term that has defined simple interpretation. Most social scientists refer to actual or possible disaster in terms of physical impact of physical impacts of or problem caused by unplanned and socially disruptive events. Their most visible are that they do physical harm, that they strike suddenly, and that something can be done about them either before or after they happen (Kreps, 1985).

There are different concepts on defining the term disaster based on time and space. The disaster paradigms are evolving with society as defined by August Comte's Law of Three Stages. First, disaster was perceived as *'Act of God*" or supernatural power especially in ancient time; by the enlightenment and secularism movement and innovation of science this paradigm shifted to *'Act of Nature'* and finally with different ecological, anti capitalist and right based movements this concept also replaced by *'Act of Man and Women'* (Ferudi, 2007). It can be compared this concept with French thinker Comte's theological, metaphysical and positive stages of evolution of society. When general typology of disaster is categorized as natural and manmade, current social science emphasized all disasters are social rather than purely natural.

Perry (2007) attempted to classify three fold categorization definitions of disaster based on their focus. First, classical definitions which he said "*event centered"* or it takes event as catalyst of disaster. This group of definitions goes circa of Firtz's definition since 1960s, perhaps it was inaugurated by him and his collogues studying effects of World War-II especially bombing in Euproean and Japanease cities. It also influenced by the disaster research by National Opinion Research Center of Chicago University so bulks of their approaches were inductive with social psychology and symbolic interaction of George Herbert Mead. One of the re-created versions, definition of this group has defined by Barry Turner as "collapse of social structural arguments that were previously culturally accepted as adequate". Second category of definitions by Perry, is *hazard centered* definition which perceived hazard as source of disaster it is influenced by geography and physical science. In these definitions, disaster is defined as intersection of hazard and social systems. For them

hazard cycles and agents are on focus rather than events, which makes disaster as epiphenomena. Finally, *social phenomena centered* definitions focuses on social phenomena as defining features of disasters rather than physical agent. One of the definitions by Boin, is, "disasters are rooted in social structure and changes that cause disruption". When Perry categorized on three groups of disaster definitions, neither there are clear cut different among the groups, nor there are homogeneity among definitions within a group. On the third group of definitions, it can convince like many other social scientists, disaster as social phenomena. When dealing with the definition of disaster we have to deal with resilience. In general resilience is 'bounce back capcity' but it has three important dimensions which together take into account social actors: capacities to cope with, and, to overcome all kinds of immidiate adverisities (coping capacities), their capacities to learn from past experiences and adjust themselves to pressing new challenges in the future (adaptive capacities) and their capacities to craft institutions that foster individual welfare and sustainable societal robustness in the event of present and future crisis (transformative capacities)" (Keck and Sakdapolrak, 2013).

The specialized field of disaster studies seems to be moving farther away from mainstream sociology. For sociologist working in this field, application of Max Weber's political sociology is proposed as one way to reconnect their research with long standing concerns of discipline. Weber political sociology contains a conflict model focusing on structured inequality of class, status, and power. Disaster is a "natural laboratory (Dynes and Drabek, 1994: 7; Fritz, 1961:654) providing a unique opportunity for challenging and existing theories. A weberian political sociology using the material that Moore presents tells a different story. The weberian rendition is one of the raw economic powers of caste differences in race as well as age and gender. Stalling (2002) reexamined the Waco disaster with the help of Weberian theory and explain social inequality in the course of relief distribution. Reestablishing the status quo ante in Waco had more to do with the dominance of the property classes than with any natural process of social recovery. According to Moore (1958:32-33), property classes especially building and business owner also controlled local government and politics. Pre- disaster economic classes are re-created aftermath of disaster and as a structure of class relationship through the exercise of economic power by the members of the property classes. Material interests of the property classes also were predominant in rehabitation efforts after the disaster (1958:33). The pre-disaster conflict between property and commercial classes quickly reemerged. Property owner instead goes ahead with the least expensive repair possible, generally ignoring local building codes in the

process. Through the theory of Weberian political sociology, we come to understand that the effect of disaster is varies from one status group to another. In this theory he expresses that the people who belong to the lower status groups are more prone to disaster because they have living in less substantial housing and have no insurance. Furthermore, he stress that the intersection among and consequences of inequalities on dimensions of wealth, influence, age, gender, ethnicity, and religion are empirical questions in all aspects of disaster (Stallings, 2002).

Disaster are commonly divided into natural and man made, however such distictions are generally artificial. Disaster are fundamentally human made, a function of how and where people choose or forced to live. The trigger may be natural phenomenon such as earthquake, but its impact is governed by the prior vulnerability of the affected community (Redmond, 2005).

Historically disaster in Nepal also defined as act of god, as Ferudi's literature says, one example is till many people use the term *daive prakop* to understand in Nepali term which literally means disaster by deitis. But currently, disaster as consequence of 'act of human being' is widerly accepted concept. Social science today tend to balance between conflict and consensus theoris. Disaster is not only crisis of society,but also an opportunity to rebuild better society. Among the three types of definitions by Perry, today disaster is widely accepted as social phenomena which is also supported by other hazard.

2.2 Concept on Earthquake:

The main propose of this study was to explored impact of earthquake on human life and the challenges of resilience after earthquake event. Thus, in this section we reviewed the literatures related to concept of earthquake and how this event affected the communities and how earthquake is social more than natural event. Earthquake is a kind of disaster which causes extensive damages to either life or property or both, and also draws huge national and international attention (Shaw and Sinha, 2003).

Earthquakes are inevitable, unstoppable, and unpredictable geophysical natural events that occur on the earth’s surface. They have devastating effects and causes remarkable impact on the lives of people. An earthquake may inflict high costs in the form of causalities, injuries and enormous physical damage. The primary threats from an earthquake are ground shaking, surface faulting and ground failure. Ground failures entail the subsidence of tracts of land due

to plate movement; they can causes buildings to collapse or tilt, as well as provoke landslides. An earthquake itself causes relatively low number of causalities, if any; rather, the environment, buildings, and other vulnerabilities exacerbate the consequences of an earthquake (Lindell, Prater, and Perry, 2007).

A geophysical or 'natural' event such as an earthquake does not necessarily lead to a disaster. An earthquake inevitably wrecks the innards as well as the surface of earth, but it is not all inevitable that kills and injures human beings and destroys their livelihood. Disasters that result in a huge loss of life, assets, and livelihood are, instead, socially created. Earthquake is natural but disaster is social. Earthquake do not kill people, houses do. Houses and other building, however, do not stand by themselves. They are erected under distinctive economic, political, administrative, etc, regimes. Houses and other buildings, as it were, merely 'embody' specific economic, political and administrative regimes. Economies that harbor high level of unemployment and underemployment as well as poverty and those that have remained stagnant for long or have otherwise been sliding down are unlikely to build earthquake-resistant dwellings (Mishra, 2015).

Earthquake is a social phenomenon as its effect is constructed and rooted in the social structure of community. When earthquake strikes country or community, it affects the life of people and they are searching for the remarkable resilience in the face of earthquake. Times to be resilient community is depend upon the structure and networking or access of community in the local level government. Peoples may rebuild their homes, lives and their country or community, if reconstruction provides an opportunity to build back better and create a stronger, more able community to cope with crises. The ability of the system to respond and cope with the event depends not only on its participant but, more importantly, on how these participants influence each other (Gall, 2013)

An earthquake is a natural occurrence, like rain. Earthquake affects almost every part of the earth and like rain they can be either mild or catastrophic. An earthquake may last only a few seconds, but the processes that cause earthquakes have operated within the earth for millions and millions of years. It is a sudden, rapid shaking of the earth caused by the release of energy stored in rocks. Earthquake shaking causes loss of life and destruction of property (Muir, 1872).

Literature showed that earthquake is of course natural event but is consequences are social. In this context, Mishra (2015) said that disaster like earthquake is not a sudden event; it is in the

making for a long period of time characterized by economic, political and administrative stasis and irresponsibility. Further he argues that the future making of a disaster can be determined by the nature and dynamics of an economy, polity and administration. And Gall is agreed with Mishra's view, earthquake is natural but its effect is rooted in the social structure of community.

2.3 Vulnerability and Disaster Risk

When we are dealing with disaster we also have to deal with vulnerability. Disaster is interrelated to concept of vulnerability. Vulnerability is the human dimension of disasters and is the result of the range of economic, social, cultural, institutional, political and psychological factors that shape people's lives and the environment that they live in (Twigg, 2004). Disaster presents vulnerability, reflecting "weakness in social structure" (E. L. Quarantelli, 1999). Vulnerability generally can be described as the potential for loss (Cutter, 1996). Physical, economic, social and political factors determine people's level of vulnerability and extent of their capacity to resist, cope with and recover from disaster. Clearly, poverty is a major contributor to vulnerability. Poor people are more likely to live and work in areas exposed to potential hazards, while they are less likely to have the resources to cope when a disaster strike (IFRCRCS, 2012). Vulnerability also varies over time and space (Down, 1992; Cutter, 1996, 2001a). There are three main tents in vulnerability research: the identification of condition that make people or place vulnerable to extreme natural events (Burton, Kates, and White, 1993; Anderson, 2000); the assumption that vulnerability is a social condition, a measure of societal resistance to hazards (Blaikei et al, 1994). Poverty is the single most important factor in determining disaster vulnerability in Philippines. In 2009, the country was hit by tropical storm Ondoy and typhoon Pepeng in quick succession. Of the 9.3 million people severely affected by these two hazards, the poor were affected disproportionately (Shepard et al, 2013).

Vulnerability is not simply about poverty, but extensive research over the past 30 years has revealed that it is generally the poor who tend to suffer worst from disasters (DFID, 2004; Twigg, 2004; Wisner et al., 2004; UNISDR, 2009b). Impoverished people are more likely to live in hazard-exposed areas and are less able to invest in risk-reducing measures. The lack of access to insurance and social protection means that people in poverty are often forced to use their already limited assets to buffer disaster losses, which drives them into further poverty. Poverty is both cause and consequence of disaster risk (Wisner et al., 2004), particularly

extensive risk, with drought being the hazard most closely associated with poverty (Shepard et al., 2013). The impact of disasters on the poor can, in addition to loss of life, injury and damage, cause a total loss of livelihoods, displacement, poor health, food insecurity, among other consequences.

Disaster risk is shaped by a range of social and economic factors that determine entitlements and capabilities (Shepherd et al., 2013). Access to services, political voice, and social and economic status directly affect disaster risk and resilience (Satterthwaite and Mitlin, 2014). Key factors in underprivileged areas include low-quality and insecure housing, which in turn limits access to basic services such as health care, public transport, communications, and infrastructure such as water, sanitation, drainage and roads (Satterthwaite and Mitlin, 2014)

Vulnerability relates to a number of factors, including:

Physical factors e.g. poor design and construction of buildings, unregulated land use planning, etc.

Social factors e.g. poverty and inequality, marginalization, social exclusion and discrimination by gender, social status, disability and age (amongst other factors) psychological factors, etc.

Economic factors e.g. the uninsured informal sector, vulnerable rural livelihoods, dependence on single industries, globalization of business and supply chains, etc.

Environmental factors e.g. poor environmental management, overconsumption of natural resources, decline of risk regulating ecosystem services, climate change, etc.

In addition, vulnerability is determined by historical, political, cultural and institutional and natural resource processes that shape the social and environmental conditions people find themselves existing within (IPCC, 2012). These processes produce a range of immediate unsafe conditions such as living in dangerous locations or in poor housing, ill-health, political tensions or a lack of local institutions or preparedness measures (DFID, 2004).

We also use the term “vulnerability” broadly, to refer to greater risk of negative experiences, effects, and reactions before, during, and after a disaster. For example, vulnerability for people of low SES may refer to greater likelihood of living in fragile housing, having difficulty accessing resources after a disaster, and experiencing trauma during and after a

disaster. It also may refer to lower likelihood of receiving warnings of disasters, having the ability to evacuate in response to disaster warnings, and being able to access post-disaster aid. We use vulnerability as a measure of risk or likelihood—not of actual negative experiences, effects, and reactions. (Flynn, Slovic, & Mertz, 1994; Pilisuk, Parks, & Hawkes, 1987; Palm & Carroll, 1998) have found that people who were poorer and with lower incomes perceived more risk and felt more concern regarding natural disasters. However, they note, other research (Vaughan, 1995; Greene, Perry, & Lindell, 1981) has found people of lower SES and working class people whose jobs involve exposure to risk— those with fewer resources, presumably, than those of higher SES and people of middle or other classes with greater access to resources—to be less cognizant of the risks associated with their work. World Bank and GFDRR report authors note that people in poverty around the world are more likely than others to live in areas at high risk of disaster impacts. They explain that this may be the case because these more dangerous areas are less expensive, or simply more available, in parts of the world with limited space for housing (SAMHSA, 2017).

2.4 Concept on Resilience:

Among the different aspects of disaster this study focuses on resilience so we reviewed some literatures on this aspect. During and after United Nations International Decades for Natural Disaster Reduction, IDNDR, 1990-1999, it is said that the disaster paradigm has shifted to post-disaster relief and rescue to pre-disaster mitigation and preparedness efforts (Nakagawa and Shaw 2004). But post-disaster phenomena should not be discarded because the huge part of disaster cycle and post-recovery is also a kind of mitigation and preparation for future disasters. Thus, there are blurred or complex images of traditionally made binary opposition of 'pre' and 'post' disaster division.

Generally the perceived concept of resilience is "*back to normal life*" after the disaster. Far broader, it is not only about building houses but also the reconstruction of the whole community as a safer place (Alipour et al. 2015). Quarantelli (1999) distinguished the term 'recovery' from 'reconstruction', 'restoration', 'rehabilitation' and 'restitution' all of these sometimes used interchangeably. In his understanding 'reconstruction' refers post impact rebuilding of the physical structures destroyed or damaged in disaster; 'restoration' means reestablishing prior or pre-impact physical and social patterns and 'rehabilitation' also suggest for restoration although more of people than things. He defines the resilience as process of 'attempting to and/or may bringing the post disaster situation to some level of acceptability

which may or may not same as pre-impact level.' He emphasized to conceptualize the disaster recovery as empirical matter than symbolic conceptualization which may restore old pattern or restitute new pattern and it is process than product.

Smith and Wegner (2007) reviewed literatures of disaster recovery and said that early definitions were emphasized on the recovery as predictable, sequential manner and expected return the situations back to pre-disaster. For them, disaster recovery is *'messy and uncertain and recovery is not necessary to return previous stage nor it is only process of 'repair and restoration'*. They emphasized the 'sustainable disaster recovery' and defined it:

> "...as the differential process of restoring, restoring, rebuilding, and reshaping the physical, social, economic, and natural environmental through pre event planning and post-event actions. While this definition describes the outcomes associated with a sustainable disaster recovery, it also recognizes that people, groups, and institutions are affected differently by disasters, and as a result, the overall recovery process is not necessarily linear, nor is it driven predominantly by technical challenges, but rather by social parameters."(Pp. 234-57).

With these literatures, we can conclude that, disaster recovery in today's social science is not only 'back to normal' or 'restoration' process assumed by structural functional theories. This concept is very close to the 'structuration theory' of Anthony Giddens. On the structuration theory, social structure is the product of practice, which has duality of structure and agency. Action or agency has power to change but the consequence will not occur as previously intended. Thus, the disaster recovery is re-structuring process which is intended to return previous stage or better than that but it does not happen as 'planned' before. It is not only 'post-disaster' but also 'pre-disaster' phenomena Aldrich (2010).

Colburn (2011) define resilience is the ability of a social system respond and recover from disasters. It includes the ability of the system to absorb impacts, coping with the event as well as post-event adoptive response. It facilitates the system ability to recognize, change, and learn. Social capital may be components of either resilience or vulnerability or both. Further he argues that resilience is developed community by community. It is measured by time specifically, how long would it take for the community to respond the event, self organize and incorporate the lesson learned before returning to a [new] normal way of functioning.

For Brenson-Lanzan (2003), resilience is the ability to face internal or external crisis and not only effectively resolve it but also learn from it, be strengthened by it and emerge transformed by it, both individually and as a group.

Resilience is the capacity to foster, engage in, and sustain positive relationships and to endure and recover from life stressors and social isolation. Its unique signature is the transformation of adversity into personal, relational, and collective growth through strengthening existing social engagements, and developing new relationships with creative collective actions. It also modulates the development and expression of individual resilience. For instance, social resilience leads to growth through enhancing relationships, meaning making, social engagement, and coordinated social responses to challenging situations. Emotional or spiritual resilience also strengthen and preserve, but social resilience emphasizes the role of connection with other individuals, groups, and large collective as a means of fostering adaptation through new learning and growth. To be socially resilient, one need to understand how other persons perceives the diverse experiences and situation of life because successful coordination of activity requires shared perspectives and coordinated goals (Cacioppo, Reis, & Zautra, 2011)

Resilience includes social inequalities- those social factor that influence or shape the susceptibility of various groups to harm and that also govern their ability to respond. However, it also includes place inequalities. Lack of access to resources, limited access to political power and representation, social capital, belief and customs, building stuck and age are major factor that influences social vulnerability. Lack of social networks, lack of social capital, and lack of legal and political framework are the challenges of social resilience (Cutter, Boruff, & Lynny Shriley, 2003)

The resilience of the community can vary with different type of disaster (Rosiman, 2005). Disaster cover a broad spectrum of events, and can be differentiated in terms of their agent (natural and human caused), proximity, impact (visible or invisible), size, scope, duration, magnitude, and number of deaths. Danieli, Brom and Sills (2005) suggest that individual can be resilient and vulnerable at the same time, depending on the type of disaster. Disaster management professionals describe the process of human reaction to disaster as cyclical, having four phases: mitigation, preparedness, response and recovery. The greatest improvements in social resilience will be achieved when all four stages of the disaster process are considered in emergency management planning.

2.5 Challenges for Resilience in Post-Earthquake Reconstruction Period:

In this section we review the literature related to challenges for resilience at the period of reconstruction at different community.

The notion of resilience has become increasingly prominent in the last decade or so within several academic disciplines and research fields. It has received momentum in disaster research. Keck and Sakdapolrak (2013), the concept of social resilience is "inadequate and even false when it is being uncritically transferred to social phenomena". Social resilience concerns social entities. The may be individual, organizations or communities and their ability or capacity to tolerate absorb, cope with and adjust to environmental and social threats of various kind. Resilience is the combination of those elements that have been addressed in former concepts with the terms "coping strategies" and "adaptive capacity". However the idea of the resilience extends beyond these two elements. It is intrinsically dynamic and as such it encompasses uncertainty, change and crisis as normal rather than expected condition. Therefore analysis of social resilience is geared toward understanding the mechanisms by which a system can adopt not only to the challenges that are directly at hand, but also to those that are unexpected and unknown.

Social interactions are communities' best resources to build social resilience and to change collective direction. Social resilience is institutionally determined, in the sense that institutions permeate all social system and institutions fundamentally determine the economic system in terms of its structure and distribution of assets.

Haiti's pre-earthquake conditions – principally, high level of extreme poverty and weak institute of governance – were contributing factors to the massive loss of life and wide-scale destruction of infrastructure. The Haitian people endured poverty, malnourishment, and widespread unemployment: seventy-eight percent lived on less than $2 a day; more than one in five children were chronically undernourished; and up to eighty percent of the population was unemployed or working in the informal sector, which is not taxed or monitored by the government. In addition, fifty-two percent of the approximately 10 million Haitians lived in urban areas, which were overcrowded and lacked opportunity. We felt same condition in Nepal on 2015 Gorkha earthquake. The consecutive devastating 7.8 magnitude earthquake on 25 April and the 7.3 quake on 12 May, Nepal respectively were two momentum earthquakes in a year 2015, where considerable damage to both lives and property occurred. The earthquake devastated the entire hill of central parts Nepal, greatly influenced several districts. As of 3 June 2015, the Government reported a total of 505,745 houses destroyed and

279,330 damaged by these quakes. The earthquakes killed 8,702 people and injured thousands of people. An estimated 2.8 million people are still in need of humanitarian assistance. Reaching some 864,000 people in hard to reach areas that have lost their homes and live below the poverty line is a priority. With the impending monsoon rains expected to further isolate remote villages, district authorities and humanitarian partners continue to prioritize distribution of shelter materials in the northern-most Village Development Committees (VDCs). To date, some 762,000 people have received emergency shelter and non-food (OCHA, 2015). Now, it has passed more than 29 months of that 'historical' disastrous earthquake but reconstruction process is slow, so government is highly criticized for its snail speeded action(Acharya 2017; Gautam and Kumar 2017; Pokhrel 2017; Xinhua 2017

(Weisenfeld, 2011), Haiti faced deep development challenges when the country was hit by the second-most deadly earthquake on record, on the morning of January 12, 2010. The international community (USG, USAID, GOH, DOD, 2010) faces a number of difficult on the ground challenges to reconstruction in Haiti. *Land tenure* is a challenge for the reconstruction process. The challenge of establishing who owns what land is particularly difficult in post-earthquake Haiti, there are extremely high rates of tenancy, there are frequently multiple claims on a single parcel. Another challenge in the post-earthquake Haiti is *Internally displaced persons*, those displaced by violence, politics, or conflict and challenge can arise when applying and meeting them, particularly when a country lacks capacity or will carry them out. Donor provided a temporary shelter to the earthquake victims and employment, but it does not translate into permanent, for this reason donors are working on long-term employment.

In the United state, the source of vulnerability for minority residents is the degree to which their communities and institutions are isolated from the institutions, organizations, and agencies responsible for emergency planning and response. Local conflicts between communities and non-governmental agencies, distrust of low enforcement and the justice system, and social and political isolation are the barriers that challenge resilience system. In a country, in which minority status is often correlated with low levels of income and education, the burdens of domestic emergencies fall most heavily on members of group such as African-Americans, Hispanics, and Native Americans. Individual socioeconomic status, however, is only one way through which member of minority communities are exposed to greater risk. The effect of disaster depends not so much on the event itself but on social, economic and

political processes, which create different conditions through which people experience disaster (Moore, 2010).

Chettri Poudyal (2001) says that Nepal annually faces number of disaster and government still can't manage disaster damages. He shows lack of co- operation and coordination among disaster management agencies, inadequate funds and resources, lack of roads, lack of transportation and communication facilities, lack of modern technology, the absence of early warning system and inadequate rehabilitation programs are main causes for disaster management difficulties.

Although earthquake disasters are often termed as a 'natural' disaster, a critical analysis reveals that most of them are in fact man-made, and caused by the human activities that are related to poor construction practices in both developed and developing countries. In the Kobe and Gujarat Earthquake of 1995 and 2001, it was observed that leadership played an important role in the use of social capital for creating a common voice, which was an essential feature of the post-disaster planning processes. In Bhuj, Gujarat, four case studies in different communities showed that trust in community leaders, networks, norms, and collective actions in the community were related to higher social capital of the group, thus enhancing smoother and faster decision-making. Comparative studies of Kobe and Bhuj show that higher the social capital, faster the recovery rate, leading to a holistic rehabilitation process. In spite of the economic, cultural and social differences, the process of rehabilitation and its key elements for success are same in Kobe and Bhuj, high social capital and strong leadership in community (Nakagawa & Shaw, 2004)

Another research Bhandari (2014), in Lalitpur examine the social capital, especially bonding social capital in particular in 1934 earthquake for disaster risk management. This research found that bonding social capitals were important to immediate support and bridging and linking social capital and they were pathways to longer term survival. Another important argument of this research is local level and traditional social networks like kinship and *Guthi* were vital part of community disaster management effort and there were low presents of formal organization like government and NGOs.

Report of UK Government (2007), have found the important role of technology in the post earthquake resilience and it was happened in the case of Italy earthquake. According to report, on 24 august 2016, a magnitude 6.2 earthquake struck central Italy. Serious damages were occurred. The Italian government declared a state of emergency in the country's worst

hit regions, and mobile network operators reacted quickly to restore services and play a critical role in humanitarian response. Rapid access to information and communication played a crucial role in the recovery process of the affected communities. In compare to Nepal, drawing literature from Chhetri Paudyal, absence of the technology, information and communication is the major problem in disaster management program.

"At every stage of disaster cycle (rescue, relief and rehabilitation) the communities played important roles among other concerned stakeholders". A number of recent studies have underscored the role of social network in broader processes of the resilience. In the article 2004 Indian Ocean Tsunami and the 2004 Hurricane it is showed that Well-connected communities learned from previous hazards and used social connection to strengthen their resilience. Networks and institutions that promote resilience to present day hazards also buffer against future risk. Another study of the 1995 Kobe earthquake recovery process looked at communities and neighborhoods and more at the recoveries of individual survivors. Through four wave of survey with roughly 1000 respondents, the Hyogo Life Recovery Survey Project designed a life recovery scale based on 14 different factors. The author then categorized responses into field self governance and solidarity, and found that there were statistically significant differences in the same respondent before and after the quake. Individual who reported higher levels of solidarity and civic-mindedness tended to have stronger recoveries than more isolated individuals (Aldrich D. P., 2012)

Similarly Marguire and Hagan (2007) found that Disasters, however 'natural', are profoundly discriminatory. Wherever they hit, pre-existing structures and social conditions determine that some members of the community will be less affected while others will pay higher. A society's resilience to disasters should not be thought of as a discrete capability. Even relatively straightforward communities contain multiple social groups, and these groups differ in significant ways. Groups may differ in terms of geographic isolation. These group differences may mean that different groups within the one society can be more or less resilient to a disaster. Furthermore, they argue emergency management plans must recognize and build on a community's capacity for social resilience. Besides these, they highlighted the indicators of social resilience that predict higher level of recovery by comparing communities that have respondent differently to similar disaster. The literature would suggest that trust (Enemark, 2006), leadership (Ink, 2006), collective efficacy (Moore, 2004), social capital (Breton, 2001), social cohesion and sense of community (Poynting, 2006), community involvement (Clauss-Ehlers &Lopez-Levi ,2002), existing norms/ attitudes/values (Oxfam,

2005), communication and information (Ink, 2006; Rohrmann, 2000) and resource dependency (Adger, 2000) are the fundamental factor that driven society in the way of resilient. According to Oxfam, vulnerable social groups, such as the elderly, children, or the economically disadvantaged, may have fewer resources available to cope with disaster.

Based on all of the above mentioned literatures, it can be concluded that disaster is the social phenomena more than natural event as the consequence of act of men and women. Disaster is not only evil it is also an opportunity for making better then pre-impact through better recovery. Another thing is that the impact of disaster and challenges of resilience varies according to the social structure of community. Many scholars emphasized the role of social capital –network, participation trust and shared values, social coherence, social solidarity on the process of resilient community. In contrast, low socio-economic status, conflict between communities, isolated from the organization or institution and social political isolations are the factor that challenges resilience.

2.6 National Policies for Disaster Recovery in Nepal

There are some acts, rules and policies for the disaster and relief operations. Natural Calamity Act 1982 guides the state actors and bodies with the provision of task forces in district and central level for evacuation and relief activities on natural disasters. Government of Nepal has other guidelines and policies for disaster risk reduction and management such as National Strategy for Disaster Risk Management 2008 and Local Disaster Risk Management Planning Guideline (LDRMP) 2011. These act, rules and guidelines which were pre-existed before earthquake, are not enough to manage recovery program after disastrous earthquake 2015. Therefore Nepal has prepared and implemented the earthquake special act, policies. In this section the 2015 earthquake special national act and policies are reviewed, all of them were prepared after the 2015 earthquake to handle the reconstruction national reconstruction project.

2.6.1 PDNA Report:

Two months after disastrous earthquake, on 25th June 2015 government of Nepal organized an International Conference on Nepal‘s Reconstruction (ICNR), in this program it published and presented the Post Disaster Needs Assessment (PDNA) report. More than 250 national and foreign experts worked for the assessment which was led by National Planning Commission with support of all line ministries of the Government and more than 30

development partners - mainly United Nations, the World Bank, the Asian Development Bank (ADB), the European Union, and the Japan International Cooperation Agency (JICA) - within three weeks. The assessment covers 31 districts affected by earthquake and 23 thematic areas in four sectors. The panda estimated total value of disaster effects (damages and losses) caused by the earthquake is NPR 706 billion or its equivalent of US$ 7.0 billion in all sectors. Among these effects most affected sector were social sector with largest number of housing sector which covers 50% of total effects. For the rehabilitation and reconstruction, it estimated NPR669 billion or US$6.7 billion need of external assistance with bulk size covered by social sector and 49% of total need no reconstruction of housing. PDNA seeks to implement the Disaster Risk Reduction (DRR) and Building Back Better (BBB) as principle of recovery program. Same way, on the – Pathway to Recovery section it mentioned the recovery should go creating through the – Uniquely Nepali and – strong social capital and effective local governance.

Thematic Areas of PDNA

Social Sector: Housing, Health & Population, Nutrition, Education and Cultural Haritage

Productive Sectors: Agriculture, Immigration, Commerce & Industry, Tourism and financial sector.

Infrastructure Sectors: Electricity, Communication, Community Infrastructure, Transport and Water, Sanitation &Hygiene.

Cross-cutting Sector: Governance, Disaster Risk Reduction, Environment and Forestry, Employment and Livelihoods, Social Protection, Gender Equity and Social Inclusion, Poverty and Human Development, and Macroeconomic Impact Assessment.

While the earthquake recovery in Nepal will draw upon all the good practices followed in other recovery programs in South Asia and elsewhere, it has to be developed and implemented in a way that is uniquely Nepali. The people of Nepal have demonstrated considerable resilience in coping with many advertise. Nepal also has a lot of experience in recovery and reconstruction natural disaster and conflicts in the country. The government will draw upon its own national experiences and resources to support recovery and develop institution, pools of resources and practices to implement recovery, knowing that the challenges of difficult terrain can be handled by creating strong social capital and effective local governments (PDNA vol A, exclusive summary, page XXII)

Key terms as Guiding Principles of Recovery on PDNA:

- Collective effort of joint resources
- Uniform policy and no discrimination
- Open, accountable and transparent manner
- Creation of assets and skills for people
- People based approach
- Consideration of disaster risk reduction
- Implementation of resilience framework
- Utilization of local resources and expertise (PDNA vol. A page68)

2.6.2 National Reconstruction Act 2072

Eight months after earthquake, Act for reconstruction of Earthquake Affected Structures 2072 has been approved on 20th December 2015. On the starting paragraph of the act mentioned two main aims:

i. To complete (re)building 2015 earthquake affected structures stable, stronger and well organized as soon as possible.
ii. To enlarge the national benefit and social justice through reestablishing and transforming the earthquake replaced individuals and families by establishing and regulating National Reconstruction Authority.

The name of this act is, Act for Reconstruction of Earthquake Affected Structured 2072 but it is suitable to name NRA act, because it totally explains about how to formulate and manage NRA and its CEO, and granted the right to make 28 recovery policies to its bodies. The act has granted authority to NRA equivalent power to line ministry, which can and does assessment, prioritize the earthquake loss; make and implement policy, plan and budget related to reconstruction; and; regulate and coordinates on reconstruction related issues to other national and international government and non-government organizations. The time of NRA is 5 years which can extend by government of Nepal if reconstruction has not completed after that.

2.6.3 National Rehabilitation and Reconstruction Policy 2072

Same as National Reconstruction Act 2072, the aims of this policy are to be mobilize coordinative way of the governmental, nongovernmental, community and philanthropic organizations and guide the reconstruction activities towards achieving goal. The guiding principles of the policy is extended version of the PAND such as build back better, own

driven reconstruction and priority on use of domestic product for reconstruction etc. the strategies on this policy have broader, not only rebuilding damaged structures it also attempt to cover interrelated issues recovery of whole society such as gender and social inclusion, improvement of livelihood, promote research related to earthquake vulnerability and disaster risk and other crossing issues.

Some Example of Unimplemented Plans:

On the 12th section of the policy it has plan to mobilize the human resource who are non-Nepali resident (NRA) and migrated in foreign nation using their skill, capitals and experiences which government of Nepal still has not done or succeeded it is quite funny to read on policy of NRA. The policy also mentions that will strengthens the *parma* labor exchange tradition of the society- in reconstruction programs. Another attractive slogan-rebuilding nature and culture suitability also mentioned in the policy but this also not implemented. Most of occupation of Nepali households is horticultural and livestock farming but the NRA designs of houses did not place for them.

2.6.4 PDRF

After formation of NRA and one year after 2015 earthquake, NRA published the Post Disaster Recovery Framework (PDRF) in 2016 April. PDRF was the document extended and interpreted the previous documents and policies especially PDNA 2015, Recovery Act 2072 and Recovery Policy 2072 to drive the reconstruction more practically. The recovery vision of the PDRF is to ―Establishment of well-planned, resilient settlements and a prosperous society. The Second strategic objective of the PDRF ―Strengthen the capacity of people and communities to reduce their risk and vulnerability and to enhance social cohesion‖ directly aims to promote the social capitals. It emphasizes to increase the social capitals and reduce the risk and vulnerabilities. At the end paragraph of description of this strategy the PDRF says: ―An approach to Community Based Organizations (CBOs) will be made in every settlement, to ensure community participation and ownership of reconstruction and recovery and at the same time enhance social cohesion to build resilient communities. This process will also facilitate community assistance for the most vulnerable. In the settlements where such CBOs exist, these existing organizations will be utilized (PDRF p8).

National Strategic Recovery Objectives on PDRF:

1. Restore and improve disaster resilient housing, government buildings and cultural heritage, in rural areas and cities
2. Strengthen the capacity of people and communities to reduce their risk and vulnerability and to enhance social cohesion
3. Restore and improve access to services and improve environmental resilience
4. Develop and restore economic opportunities and livelihoods and re-establish productive sectors
5. Strengthen capacity and effectiveness of the state to respond to the people‘s needs and to effectively recover from future disasters. (PDRF 2016 page 6)

This approach of CBOs has not practiced by NRA and its related institutions for recovery programs. This approach also repeated in ―approach for policy implementation section of PDRF (p-17). It is mentioned that features the community outreach process will be institutionalized through wide arranged program through establishment of CBOs. On the 30 section of _Local implantation arrangement‘ section (page 32) there is planning to formulate and mobilize _recourse centers‘ in each 3-6 VDC clusters to give information and technical support for reconstruction program of community which is not done. _D section of the PDRF is entitled with ―civil society participation which aspects support from civil society, CBOs and volunteer groups. In all of above mentioned act, policy and reports the people‘s participation has been assumed, but not mentioned how to make meaningful participation. The buzzwords participation of private sectors, CSOs and civil society mentioned in these policies as making space for civil society has been included in policies enough but implementation mechanism of the national recovery project is centralized on NRA.

CHAPTER III

RESEARCH METHODOLOGY

3.1 Rational of site selection

The main purpose of this research is to find out the impact of earthquake disaster 2015 and to explore challenging factors to resilient community from the event. For the fulfillment of the purpose of this research Dukuchhap village -8, Lalitpur district was selected as a research site because government declared Lalitpur district as a highly affected district by 2015 earthquake. Dukuchhap village is one of the earthquake affected area of Lalitpur district. Another reason was that when I was searching for field area for my research study one of my friend from Lalitpur suggested me to visit Dukuchhap village once, at the time of discussing my research topic because houses of that village were damaged and peoples become homeless. Another thing that he told me people of that village were economically poor. Reconstruction programs were not lunch yet for that village. After visiting that place I come to know that village also known as danuwar basti because there were high populations of danuwar than other casts. They are socially marginalized, economically backward and also have low level of education. And most of my research literature suggests that socially marginalized, poor and illiterate groups are more prone to disaster because they don't have resource assets to cope with disaster event and it takes long period to recover from the crisis. These were the reasons behind selecting Dukucchap village as a research site for my study.

3.2 Research Design

This study was primarily designed to explore the challenges of earthquake resilience in Dukuchhap Village of Lalitpur district. As a part of qualitative research, descriptive and explorative research design has been used to collect data. Research area was identified on the basis of earthquake affected area. It was proposed to select a sample of 30 respondents of 30 household from the total(195hhs) which were affected by earthquake of 25 April 2015. The household has been visited, interview and observation has been used as a research tool.

3.3 Universe of the Sampling Procedure

Collection of data from the whole population of Lalitpur district was not possible. So to collect data I have chosen Dukuchhap village -8 as sample site. There were 195 hosehold in total in Dukuchhap village all households were affected by 2015 earthquake. It was difficult to study all households therefore 30 earthquake affected households were chosen from total by using non-probability purposive sampling. All selected household as a sample were affected by earthquake. Household has been chosen on the basis of impact of disaster in which 19 households were fully damaged and 11 were partially. All respondents were earthquake victims and were involved in different occupations for earning. One respondent has chosen from each household. Total sample of respondents was inclusive on gender, caste, sex and age categories.

3.4 Nature and Sources of Data

This study encompassed both primary and secondary sources of data.

Primary sources of data

Primary data has been collected through interview, by using both structured unstructured research questions. Data was collected direct from the field. Respondents personal identification cast, sex, age, status etc has been included in questioner.

Secondary sources of data

Apart from the primary data, the secondary data has been included the data acquired through various literatures (books, journals, articles, reports, newspaper, magazines) concerning the issue of resilience of the post disaster period.

3.5 Technique of Data Collection

The major technique of data collection of this research was interview schedule and observation. They are described as follows:

3.5.1 Interview

Interview schedule has been used to collect some of the basic data in terms of personal identification, ethnicity/caste, sex age, social cultural background, social status and perceptions. Semi structured interview schedule was used as the research tool for data collection.

3.5.1.1 Semi structured interview: semi structured interview includes both open and close ended questions that help to collect various information related to our research framework. It is open and allows new ideas to be brought up during the interview from what interviewer says. In semi structured interview interviewee can asks question in different ways to different participants that help to discover different ideas related to research objectives. Focus on the semi structured interview it helped my study to capture the reality of the situation of earthquake victims. It is because set of both open and close ended questions were included to gather qualitative and quantitative data. Close ended questions limited the answers of respondents. There were options on questionnaires about some issues which limits the answers of respondents. Open ended questions helped to require more information about victim's thought about earthquake disaster, their experience about earthquake. It helped on my study to collect information about impact of earthquake on victims and about challenges of reconstruction processes. These both type of questions helped to meet the objective of this study.

3.5.2 Observation

Observation is one of the techniques of primary data collection. This method was applied on this research study to know the level of impact of earthquake disaster on people's life and problem they faced to bounce back from disaster event. This method helped to understand the situation of victims, how they were sustained their life under temporary shelter. It helped to know social economic background of victims by which they had to experience disaster impact and how they preparing for recovery. Victims affected houses, living conditions, temporary shelter and family activities were observed during this study.

3.6 Limitation of study

Every research may have their limitation; this study also has its limitation. This study has focused to the challenging factors of earthquake resilience of Dukuchhap village of Lalitpur district. This study was only about the earthquake victims, it did not deal with other disaster victims. The study was conducted among a limited number of earthquake victims of the Dukuchhap village. Therefore, it would not be generalized all over the country.

CHAPTER 4
BACKGROUND CHARACTERISTICS OF EARTHQUAKE VICTIMS AND IMPACT OF EARTHQUAKE DISASTER IN THEIR LIFE

This chapter presents the challenges of earthquake affected community to be resilient. This case is particular from Dukuchhap village Lalitpur district this chapter includes analysis and interpretation of socio- demographic characteristics of earthquake victims respondent and difficulties that they faced in day to day life.

4.1 Socio Demographic Characteristics

An earthquake is a kind natural disaster like flood, landslide, volcanic etc. Earthquakes caused mostly by rupture of geological faults but its effects are social. It cases extensive damages in the society, in the nation. It causes building collapse, kill people. It effects social economic condition of society and disturb whole social systems. Society takes long time to be resilient from the earthquake damages. Effect of earthquakes are varies according to the geographical condition and social economic condition of people. Community resilient is depend upon the degree of earthquake damages.

This section includes the description of the population according to different characteristics such as age, gender, cast, religion, education status, occupation and income level etc. it is very important to study of the population. It provides detail information about the individual people. It helps to know about the total number of people of particular area belonging of different cast, religion, age, gender, education status, occupatio and income level.

4.1.1 Distribution of Respondent by Age

Age is a process of becoming older. It is very important to research. It also helps to collect information and it defines the population on the basis of their age. It helps to know researchers between which age group respondents are more affected by earthquake damages.

Given table shows the population distribution of age of respondents.

Table no. 4.1.1 Distribution of respondents by Age category

Age	Frequency	Percent %
20-30	5	16.7
30-40	14	46.7
40-50	8	26.7
50-60	3	10
Total	30	100

Source: field survey 2018

In Dukuchhap village Lalitpur, various age groups were found. The collected data showed that the respondent of age group 30-40 are more in number of earthquake victims among 30 respondents. This census also revealed that the age groups 50-60 are less in number affected by earthquake. Similarly, the age groups 40-50 number of respondents affected by earthquake were 8 and 20- 30 ages are 5. This data showed all age groups were affected by earthquake.

4.1.2 Sex of Respondent

Sex is important in research because it helps to collect information during data collection because it helps understand which sex groups are high on the basis of earthquake victims.
Below table showed the distribution of sex of respondent.

Table no. 4.1.2 Distribution of Respondent by Sex

Sex	Frequency	Percent %
Male	20	66.7
Female	10	33.3
Total	30	100

Source: field survey 2018

Above table showed that the more number of earthquake victims are found in male sex. The affected numbers of male are 20 where as female are 10. This research showed that both male and female sex affected by earthquake.

4.1.3 Religion of the Respondent

Religion is a cultural system of designated behaviors and practices. Social systems rules, ethics are guided by religion. Nepal is a multi religion and non-secular state. The people of Nepal belong to different religion like Hindu, Buddhist, Christian, Islam etc. People get mental peace and emotional support from religion. The major social virtues like truth, honesty, non-violence, service, love discipline etc are promoted through religion. So religion plays important role in research because if we include religion in data it helps us to analyze which religious groups are more affected.

Given below table shows the religion of the respondent.

Table no. 4.1.3 Religion of the Respondent

Religion	Frequency	Percent %
Hindu	17	56.7
Christian	13	43.3
Total	30	100

Source: field survey 2018

In this study I found only two religion followed by people in my research area that are Hindu and Christian. The above table showed Hindu religion followers are more in number affected by earthquake than those who belong to Christian. It can be concluded that both religion followers are affected.

4.1.4 Respondents by Caste

Caste is a form of social stratification characterized by endogamy, hereditary transmission of a lifestyle which often includes an occupation. There are various caste groups in Nepal. We can see diversity in Nepali society in terms of caste which is one of the elements of our society. Today's generations are ignoring caste system but still it exists in Nepali society. Rai, Tamang, Limbu, Newar, Bhrahmine, Chhetri etc are the example of castes in Nepal. Brahmine caste is supposed to be high caste in Nepal whereas Dalit is the low. In research caste helps to see either high cate are affected by problem or low.

Given below table shows the caste of respondent

Table no 4.1.4 Distribution of Respondent by caste

Caste	Frequency	Percent %
Newar	3	10
Nepali (Dalit)	4	13.3
Danuwar	19	63.3
Brahmine	3	10
Chhetri	1	3.3
Total	30	100

Source: field survey 2018

I found five different castes group in my research area. They are Newar, Nepali (Dalit), Danuwar, Brahmine and Chhetri. The Danuwar caste had highest number of population among 30 respondents whereas chhetri caste had lowest number population. There was only one from chhetri. It was found also found that Danuwar ethnic/caste group respondents were more than other because Dukuchhap village is known as danuwar basti. Respondents belong to Newar and Brahmine caste had equal in number and Nepali had 4 among 30 respondents.

4.1.5 Education status

Education is the process of facilitating learning, or gaining knowledge, skills, values, beliefs and good habits. It can take place in formal and informal setting. It is the key element for the societal development. It plays important role in our life and influences our life style. It helps human to make personality, build confidence, and help to be economically active. Through the education, society or people can learn idea about earthquake preventions and can aware about future crisis. In research, education status is included to understand the level of understanding of knowledge.

Given table shows the literacy status of respondents

Table no 4.1.5 Distribution of Respondent by Education

Education	Frequency	Percent %
Literate	13	43.3
Illiterate	17	56.7
Total	30	100

Source: field survey 2018

This study classified into two level of education, literate and illiterate. The number of illiterate population is higher than literate. Among 30 respondents 17 respondents were found to be illiterate and 13 found to be literate. Illiterate respondents were affected by earthquake more in number than literate.

4.1.6 Occupational Status

Occupation is a person's role in society or a person becoming an employee. It is an activity that requires a person's mental or physical effort. In the previous society occupation was divided in terms of their cast but nowadays any caste can perform any occupation. It is very important to include in research because occupation is the key element to understand which occupational groups are more in number and which are less.

Given table shows the occupational status of respondents.

Table no 4.1.6 Distribution of Respondent by Occupation

Occupation	Frequency	Percent %
Agriculture	15	50
Labor	9	30
Cutting	3	10
Shopkeeper	3	10
Total	30	100

Source: field survey 2018

Above table presents the distribution of respondents by their existing occupational status. I found four occupations that respondents involve in. There are agriculture, labor, cutting, and shopkeeper. The respondents who involved in agriculture are more in number. There were 15 respondent involved in Agriculture which is half population of my respondent from the total. I found 9 respondents who are involved in labor work. Cutting and shopkeepers had same population. All four occupational respondents were affected by earthquake.

4.1.7 Income Level

Income is the consumption and saving opportunity gained by an entity within a specified timeframe, which is gradually expressed monetary term. However, households and individuals income is the sum of all wages, salaries, profits and other forms of received in a given period of time. Income is very important for personal and social development. The

people's social class is determined in terms of their income. Good income provides all facilities and lifestyle. In this study income is very important because it helps to generalize which social classes are more affected by earthquake and what role income play to be resilient society or household from earthquake damages.

Given below table shows the income level of respondent

Table no 4.1.7 Distribution of Respondent by Income

Income	Frequency	Percent %
1000-10000	4	13.3
10000-20000	15	50
20000-30000	7	23.3
30000-40000	3	10
40000-50000	1	3.3
Total	30	100

Source: field survey 2018

In my research income level of respondent were divided into five categories which is presented on the above table and that is the monthly income of respondents. Minimum income of respondent is Rs.1000 and maximum income is Rs.50000. it was found that there were 15 respondents whose income is in between Rs. 10000-20000 were more in number. One earthquake victim has Rs.40000- 50000 income on data. 7 respondents earn Rs. 20000-30000 respectively. 4 earthquake victims according to my data, has Rs.1000-10000 income and 3 respondents has Rs.30000-40000. Here, we can see all income categorical respondents were affected by earthquake. Most of the respondents have low income in compare to who have high incomers on the basis of data. The reality of Dukuchhap village is that no one has built new home after earthquake damage they are either high incomers or lowers. They just survive their daily life by earning money. They don't have saving insurance etc. so it is going difficult to return back at the same stage before earthquake.

4.2 Earthquake and Its Impact

Earthquake is a natural event and its causes are socially created because damages of earthquakes are rooted in the social economic form of society. In early period disaster is perceived as act of god or supernatural power. By the enlightenment and secularism movement and innovations of science disaster is define as act of nature and finally with different ecological, anti capitalist movements, this concept replaced by act of men and women. The way of defining earthquake is shifted according to time and space.

In my research area the people of Dukuchhap village are quite unknown about what actually earthquake means. Some of the respondent concept on earthquake was a natural event and said it causes damages like building collapse, kill human beings, damages properties and made people homeless. Half population of my research had not idea about it. Effects of earthquake are related to the preventive measures or early preventions about crisis. This research tried to find out data of respondent about earthquake preventive ideas.

Table no 4.2.1 Distribution of Respondents on the basis of Earthquake Preventions idea

	Frequency	Percent (%)
Yes	19	63.3
No	11	36.7
Total	30	100.0

Source: field survey 2018

Above table shows the number of respondent who have idea about preventions to earthquake damages and who have not. Data presenting that the number of who have idea about preventions are higher than other. There are 19 respondents who have idea among 30 respondents and 11 respondents were unknown about preventions of earthquake damages.

4.3 Source of Information about Earthquake Disaster

Information is very important thing in human life. If we have information about something that make our life easy and can aware about negative part of that thing. Nepal is very porn to disaster due to its geographical conditions. There can be occurred disaster at any time. So we have to learn about its effect and activities that should be done at the time of crisis. We can get this type of information from different sources. Given table shows the source of information from which villagers of Dukuchhap get information about disaster and distribution of respondents.

Table no 4.3.1 Distribution of respondent by the source of information

Source of information	Frequency	Percent %
Radio	7	23.3
Television	3	10
Newspaper	5	16.7
Others	15	50
Total	30	100

Source: field survey 2018

Above table presents the source of information and distribution of respondent by the source they use to learn about earthquake disaster. People can get information from radio, television, newspaper and other sources. 15 respondents got information about earthquake disaster from other resources except radio, television and news papers. The respondents who got information from television are 3 among 30. Seven respondent got information by listening radio. Five responds got information about earthquake disaster from newspaper. All respondents have information about disaster from different sources. It helps to minimize the damages of disaster in community.

4.4 Impact of 2072 Gorkha Earthquake

An earthquake's impact can be physical, social, psychological and economic. The physical impacts of earthquakes are the primary form of destruction. Casualties and damages are clearly visible in comparison to other type of impact. They are the sole determination of an earthquake disaster. Earthquakes make people homeless and poor. Many research found people of low social economic status are more likely to live in homes that are more vulnerable to the impact of disaster than those of higher social economic status. As a result, their experience of disaster may involve more material losses, less protection from disaster, and perhaps greater damage to or destruction of their homes.

Nepal suffered a massive loss of lives and property on 25 April 2015 at 11.56 am local time, when the devastating magnitude 7.6 earthquake struck Nepal. Subsequent aftershocks produced additional losses of life and property. Villages were flattened and people were made homeless across 31 districts, with 14 districts suffering the highest impact. Infrastructure was damaged throughout the earthquake zone. Historic neighborhoods and heritage sites were

destroyed in Kathmandu valley. The earthquake affected manufacturing, production and trade in agriculture as well as tourism and other areas of the service sector, thereby weakening the national economy. Reconstruction should be contributed by economy (NRA, 2016).

Dukuchhap village is situated in the Godawari municipality word no. 8, Lalitpur. There are 195 households in total which are partially/full damaged by 2072 earthquake. Lalitpur district was declared as one of the highly affected district by government among 14 districts. It's almost three years of earthquake event but the resilient process of that community is still in the ground level. Most of the villagers are farmer. They depend upon agriculture to sustain their livelihood. During my research one of my respondent, Gopal Nepali shared his experience about 2072 Gorkha earthquake. He belongs to Dalit caste which society perceived as low caste. He is living with his mother. He has got road accident before three years and he lost his leg balance so he can't do work properly. He doesn't have field for farming. He only has house on the name of property that was half part collapsed from earthquake and has clothing machine on the name of life sustain. It is very painful situation for him. He didn't get support by government. He is only the representative of this story. There were many villagers like Gopal Nepali and looking for support to be resilient.

In the case of Dukuchhap village, there was no effect of earthquake on human being or humanitarian damage in Dukuchhap, however, government declared Lalitpur as highly affected by 2015 earthquake disaster. There were, building collapsed and financial effects.

4.4.1 Homelessness

Earthquake disaster most visible impact on physical harm and material damaged that they strike suddenly. Impact of disasters perceived as socially created more than natural because its effect depend on where people choose or forced to live. Poor people are more likely to live in homes that are more vulnerable to the impact of disaster. As a result their experience of disaster may involve more material losses and greater damages or destruction of their homes. Many people of Dukuchhap become homelessness by 2015 earthquake. They were living in temporary houses and family of partial damage houses were living in their damaged house. If there heavy rain falls houses may collapse. Numbers of household that damaged by earthquake disaster on Dukuchhap village were presented on given table.

Table no 4.4.1.1 Household Damages from Earthquake

	Frequency	Percent %
Full	19	63.3
Partial	11	36.7
Total	30	100

Source: field survey 2018

I made two categories of household damages, full and partial. Above table showed the number of household and there nature of damage by earthquake. The number of household that fully damaged was more in number than partially damaged. There are 19 households that fully damaged among 30 and 11 households are partially damaged. People of 19 household became homeless because they were fully damaged and living in temporary shelter. From this data we can say all household are affected by earthquake.

When earthquake struck Nepal, it was Saturday (holiday) so all people who engaged in work were stayed at home according to my respondents and some of the farmers were working on the field. Who were inside houses are escape outside at safe place and got together with neighbors. After earthquake who were working at the field had come their home immediately and searched for their family. Nobody found injured. They made temporary shelter on the ground and set together.

After 2015 Gorkha earthquake, most of the houses were damage in Dukuchhap village and people used to live under tripal. Some people were live short time and other were long. Given data shows the living period of respondent in tripal.

Table no. 4.4.1.2 distribution of respondents by the living time in tripal

	Frequency	Percent %
15-30 days	5	16.7
30-45 days	7	23.3
45-60 days	8	26.7
60-75 days	10	33.3
Total	30	100

Source: field survey 2018

Above table showed the frequency of respondent by the living period in tripal after earthquake. There was total 75 days people live in tripal. I made 15 days differences on time.

According to data there were 10 households which lived in tripal long time, 60-75 days. There were 5 households that lived in tripal 15-30 days. Seven households were lived 30-45 days in tripal whereas 8 households were lived 45 to 60 days. From this research we can see all households were affected and had to live under tripal for both long and short period of time.

4.4.2 Financial effect

From an economic view point, earthquake disasters have greater effect on poor people of Dukuchhap village. They were more likely to have their savings in their homes and livestock, both of which may be damaged, and lost in earthquake. Most of the household involved in agriculture. People saved goods by seasonal farming. When their houses collapsed by the struck of earthquake, live stocks were damaged. Due to poor economic conditions, their livelihoods depend on fewer assets. Their consumption is closer to subsistence level. Their health and education were at greater risk. Young boys were involved in labor work to earn for household expenditure and for their personal pocket money. They need more time to recover and reconstruct thier houses. They didn't have strong financial status to saving in financial institutions.

4.4.3 Impact on Education

Education programs of school level were faced more effects from 12 baisakh, 2072 earthquake. According to the education department, 565 schools have been destroyed and 969 schools have sustained damages in 36 districts (INSEC, 2015). On Dukuchhap village there were total four schools. Three government schools and one private school. Two government schools were badly damaged by earthquake and one was partially damaged. There were not human causalities in schools because earthquake struck on Saturday (public holiday) the schools have been closed till the end of jestha. From the Asar schools were opened and started to taking classes under the damaged buildings. Buildings were not repaired yet even badly damaged. Students are taking education under damaged building but reconstruction of building is not started.

4.4.4 Psychological impact

Impact of earthquake in psychology can found. Damaged building can rebuilt and make them like before earthquake or better but psychic scars may remain for short or long time. After 12 baisakh, 2072 earthquake, subsequent after socks were occurred which also produced losses of life and property. Continues socks generated fear on human psychology. When respondent asked about psychological impact of earthquake, there were scared of sleeping alone, staying alone at home, entering into houses or buildings and had fear of losing family member. They used to stay and sleep in grouping at that time.

4.4.5 Impact on drinking water

Resource of drinking water was also affected by earthquake on Dukuchhap village. After earthquake, water resources become dried. It also affected on agriculture irrigation system. Villagers were distributed water by tanker for some days. To provide drinking water and for irrigation, world executive of that village took action about action. Water dam was made by the effort of executive and bought pipe by government budget to distribute water to the villagers. For the irrigation he provided motor to pull water from Bagmati River and that is enough for Dukuchhap villagers.

This study examined the impact of earthquake disaster in Dukuchhap village. The people who lived in old and poor housing quality became homeless. Another fact was that people with low economic status were more likely to have their savings (livestock) at home which means their wealth were not better protected and damaged or lost on earthquake disaster. Schools were not repaired. Students are taking education under risky buildings. Their education and also health are at risk and they may need more time to recover from impact of earthquake.

4.5 Different Initiatives on Dukuchhap after Earthquake

4.5.1 Work of NGOs and INGOs

Role of NGOs and INGOs on earthquake recovery is recognized crucial important during earthquake resilience. Works of organizations are different in deferent period of earthquake. There was low participation of organizations in immediate crisis, thick participation in relief and temporary recovery in earthquake affected community. After earthquake World Vision and Red Cross had come to distribute relief items. These organization distributed triple and 8 packets of rice to each household. They equally distributed the relief items and villagers were satisfied with the way of their distribution. The people whose houses were partially damaged are living in their damaged home. And those whose houses were totally damaged are living in temporary shelter. According to my respondents NGOs/INGOs programs were not lunching in that village for reconstruction. After earthquake one organization had come for the process of reconstruction at that village to built new houses to make Dukuchhap village as a namuna basti but that organization had some limitations about their program which was not acceptable for word executive and villagers because their program was business centered so villagers rejected their proposal.

4.5.2 Local Government on Disaster Response

Local governments are the main stake holders of recovery program in lower level. In major disaster, local communities are often on their own for several hours or days. Local governments can play a key role in taking the initiative to protect their citizens. The role and action of local government are particularly critical. O'Leary (2004, 1), "virtually all disaster are experienced at the local level, where many communities can expect to be 'on their own' for the first seventy-two hours after disaster impact". Drabek and Hoetmer (1991) set forth two key concepts that describe role of local government with regard to disasters: comprehensive emergency management and integrated emergency management. A government acts comprehensively when it coordinates the four phases of emergency management: mitigation, preparedness, response and recovery. A government acts in integrated manner when it co ordinates planning and strategy of hazard assessment, resource mobilization, and operations with other entities, both laterally and vertically. Dukucchap village has newly elected representative by the local election 2017. Before election Dukuchhap village lies in Karyabinayak municipality and after election that village differentiated to Godawari municipality because dukuchhap was remained as area of Nepali Congress so is Godawari municipality. People of Dukuchhap village done most of their work

and they go for market for selling and buying at Chapagaun which is in Godawari municipality this is also a reason to make Dukuchhap in Godawari municipality. We meet the world executive who is newly elected, he showed financial problem in the reconstruction processes. National Reconstruction Authority gave some amount to earthquake victims for reconstruct their damage houses from earthquake. Some victims received Rs.15000 and some were received Rs. 50000 in first installment. There is low number of beneficiaries who received second installment in compare to first installment receivers. Beneficiaries said that was not enough for them to rebuild their home. Some of them couldn't receive second installment. They were sent return back from NRA said that they have not enough documents for that installment but they didn't know what kind of documents they should have. Who received first and second installment, as respondents said, were not rebuilding houses because it is insufficient budget for them to reconstruct, also they will not build in the future. In this sense reconstruction process of Dukuchhap village is in the ground leve

4.5.3 Earthquake Awareness Programs and Participation

Earthquake related awareness program are very important in human life because when it hits, its impact is directly on the human life. Awareness programs helps us to learn how to get prepare about future disaster and how can we minimize its damages by our action. Lack of awareness program about disaster in Nepal is also pointing out one of the challenge for disaster management. Various national and international organizations give earthquake awareness programs in rural and urban area. In Dukuchhap village different organizations organized earthquake awareness programs at Ganesh Secondary School which is center to that village. Given table shows the participation of respondent on earthquake awareness program.

Table no. 4.4.3.1 distribution of respondent by participation on the program

	Frequency	**Percent %**
Yes	9	30
No	21	70
Total	30	100

Source: field survey 2018

Above table shows the participation of respondent on the earthquake awareness programs. The data present that the number of respondent who were not participate on the program is higher than number of respondent took part on the program. There were 21 respondents among 30 who didn't take part on awareness program. Nine respondents did take part on the program. According to participant, people of that village have not idea about the importance of that program and they actually don't give interest about it. Door to door program may be effective for that villagers and they may learn and understand about importance of awareness program.

4.6 Challenges to Be Resilient Dukuchhap Village

This study tried to explore the challenges of earthquake resilience in the context of Dukuchhap village Lalitpur. The Gorkha earthquake 12 baisakh, 2072 has significantly affected the livelihood of people of Dukuchhap village. The 2072 earthqauke was one of the most devastating disasters in the modern history of Nepal. Disaster recovery is very difficult task. An earthquake disaster often happens without warning, the suddenness of disaster and of the destruction of it causes become very difficult to recover with limited fund and normal resources. The community and people may faces numbers of challenges. Some of the main challenges to disaster resilience found in Dukuchhap village such as the following:

4.6.1 Insufficient funds

The government of Nepal has committed to provide affected households with Rs. 200,000 to support permanent rebuilding of houses. Assessing government financial support was only possible if land and houses ownership could be proven. This created huge problem for people of Dukuchhap who have lost or never had the necessary documentation. Some victims who received first installment couldn't receive second installment because they didn't have full land proof document on their name. Government committed to gave two lakhs but they only received 75 thousand from first and second installment. Most people whose houses were damaged in earthquake remain in temporary shelters. Victims criticized NRA for insufficient aid and slow pace of rebuilding and blaming overly inflexible.

4.6.2 Absence of NGO/INGOs in reconstruction processes

There were some of organizations in relief distribution and temporary recovery time but there were no presence of organization at the time of reconstruction.

Kathmandu, Lalitpur and Bhaktapur district are also declared as highly affected district by government but NGO/INGO are not lunching their program for these district because they generalized earthquake damages in overall they do not see effect of earthquake in specific way, world executive of Dukuchhap said. Further he argue that, Kathmandu valley was damaged by earthquake as Gorkha, Sindhupalchowk, Nuwakot district but valley is a capital city of Nepal and Lalitpur also is developed city of Nepal. All organizations lunch their reconstruction programs for rural area and they neglect urban area but there is also remote area in Lalitpur distrct like Dukuchhap village in which reconstruction process is still not started. Villager were giving the reason NGO/INGO would have given more aids from donor if they would lunch program in rural area. And now most of the reconstruction programs are

rural centered this was another challenge for Dukuchhape to be resilient from earthquake event.

4.6.3 Absence of local government

Local governments are the main stake holders on community level and are responsible for disaster management because they have local knowledge. This study area has a newly elected representative. After disaster on the immediate recovery local leaders were presented to rescue them. Various organizations came there to distribute relief items to the victims by the effort of leaders. Victims immediate needs were fulfilled but when the reconstruction time was came local level governments leaders were absence. People were living in temporary shelter or in cracked houses. Students were taking education under damaged risky buildings. But government is silence bout reconstruct private or public properties on dukuchhap. Victims were disappointed to the leaders that they selected.

4.6.4 Weak economic condition

Financial condition is very important for recovering from the disaster events. Economically weak groups are more likely to affect from crisis and it takes long time to recover. Income levels of respondents were included in chapter 1. As we see income of earthquake victims was not enough for disaster recovery. They involve in different occupations to earning but almost all were seasonal like agriculture. Most of them were farmer. Young boys were involved in labor work at Construction Company which is also seasonal. They earn winter from labor and involve in farming in summer. It was only for sustain their daily life. Because of low income level they didn't have saving for disaster crisis preparedness. They experienced earthquake and they became homeless. Due to their poor economic condition they are not able to rebuild their houses. This is another reason which challenges them to be resilient from earthquake event. According to Mishra (2015), disaster such as characterized by economic irresponsibility and the future making of a disaster can determine by the nature of economy. This argument of Mishra found matching on the condition of Dukuchhap village. Their economic condition was not good as they experienced earthquake disaster of 2015 and reconstruction process is still in imaginary level. They don't have resource assets to prepare for future crisis this situation may lead them to the future crisis again

4.6.5 Lack of public awareness

Earthquake as a hazard is beyond human control, so we cannot stop earthquakes to occur; the only way to reduce the risk is increasing the capacity of potential victims to cope with its impact during an earthquake, which comes through awareness. People can save themselves from the earthquake by following the safety measures what they have learnt through the media, pamphlets or orientation and training programs. Different organization organized awareness programs on Dukhuchhap village in different time periods. From the conducted data about participation on the awareness programs, number of participants seems very low. We asked about why must of the people were absent on program. It was found that they were not willing to took part on that program and were busy on their own work and some of them answered that awareness training about earthquake would have forgotten because we don't know when it would happen. Peoples irresponsibility about disaster awareness and prepared for future became another challenge in recovery because impact of disaster crisis is depend open how much people or community aware and prepared to it.

4.6.6 Lack of preparedness

Lack of prepared to crisis is also found as a challenging factor to earthquake resilience on Dukuchhap village. The victims accepted their situation as earthquake impacted on their lives. They used to live in poor housing quality made by traditional model before 50 years. Because of their poor condition they couldn't prepared for crisis. They have to live in limited resources. Due to their housing qualities and their conditions they were more vulnerable to earthquake disaster. And they experience huge losses on disaster. Vulnerable people are more likely to impact by disaster and remained long period to be recovered from crisis.

We frequently said disaster is natural event. It occurs without any warning and any sign. When it happen, extensive damage causes in the society or human life. We actually unknown about when it will happen but we can aware/prepare about its damages. At Dukuchhap village houses were fully or partially damaged from Gorkha earthquake. It has been almost three years of earthquake but reconstruction process of Dukuchhap village is on the zero level. This research study proposed to explore the challenges of earthquake resilience. And it was found that earthquake have significant impacts on livelihood of dukuchhap villagers. Insufficient aid, absence of local government, absence of NGOs and INGOs in reconstruction programs, weak economic condition, lack of public awareness and lack of preparedness towards future crisis were found as the challenging factors to resilience aftermath 2072 Gorkha earthquake. Victims were asked about future crisis preparedness.

They somehow started to think about it as they experienced Gorkha earthquake 2072. No one of that village were built house. They were not satisfied with NRA installment aid. Respondents accepted their situation from the damages of earthquake because they didn't build engineered houses. Their houses were traditional model and were willing to build new engineered house. They were also planning to save money for the future disaster. One respondent Sabita Danuwar, 45, belongs to poor family said, it is difficult to sustain daily life for us how we prepare an save money for the future crisis. We just see and tolerate damages of disaster. May god give us power of tolerance, she further said. Another female respondent Kamala Danuwar, 37, belongs to middle class family, her husband has gone abroad to earn money. They were planning to build new house soon and saving money for the future crisis. All respondents have sense that they should have prepare for the future crisis but it was not easy for them because of financial problem. They were trying their best to be safe from the future disaster.

4.7 Summary and Conclusion

Summary

This thesis is about 12 Baisakh, 2072 Gorkha earthquake disaster, its impact on human life and community they live and challenges to resilience. Especially in the context of Dukuchhap village, Lalitpur district of Nepal. This research was concerned with two questions related with disaster. They are what the impact of earthquake? What factors challenges community to be resilient from earthquake disaster event. For understanding impact of earthquake and to explore the challenging factor for resilient community, qualitative research methodology has been adopted. Study was collected by using non-probability purposive sampling technique. Research was based on 30 respondents. Each respondent was selected from 30 earthquake affected households. All were earthquake victims. Information was collected through semi structured interview and observation. Research was based on frequency analysis, presented on table and described in paragraph.

From the analysis of data findings of research was summarized as below were:
Variation in age group was found. Age between 20 – 60 respondent were included in research which were earthquake victims. Respondents of age group 30 – 40 were found more in number than others and age group 50 – 60 were found less in number. In this study male victims were high in number than female victims. There were 20 male and 10 female victims were found. There were different types of religion followed by respondents. They were Hindu and Christian. Hindu religion followers were more than Christian. Respondents belong to different cast. There were Shrestha, Nepali, Danuwar, Brahmine, and Chhetri. From the study it was found that respondents who belong to Danuwar cast were found more in number than other cast because Dukuchhap village is known as Danuwar basti. There were only one respondent who belong to the chhetri cast. Shrestha and Brahmine were equal in number. There were 4 respondents belong to cast Nepali.

To know the level of understanding the knowledge, respondents were asked about their level of education. Among 30 respondents 13 respondents were literate and 17 were illiterate. It was found that the number of illiterate respondents were higher than literate. Four types of occupations were found to be done by respondents that were Agriculture, Labor, Shopkeeper, and Cutting. Among 30 respondents 15 respondents were engaged in agriculture. Nine respondents were involved in labor work. Respondents involved in cutting and shopkeeper

were found to be equal in number. From this respondents who involved in agriculture were more affected by earthquake. Respondent income level was also included in this study. Income level of respondents was categorized into 5 levels in between Rs.1000 – 50000 there were Rs.10000 gap between each category. It was found that respondents whose level was in between Rs.10000 – 20000 were more in number. There were only one respondent who earned Rs.40000 – 50000. Many sociologists suggest on disaster literature that even if earthquake was natural event its damages are rooted in economic conditions of people. In this research the people whose income level is low were found to be more affected from earthquake than who have high income level.

Earthquake is a natural event and its causes and impacts are socially constructed because damages of earthquakes are rooted in the social economic form of society. Earthquakes kill human make injured and it destroy national property, affect the development process of country. Thus it may the great challenge to the nation to be resilient from earthquake damages. Nepal has long history and experiences of disaster. On 25th April 2015 Nepal hit by magnitude 7.6 earthquakes. It made 8856 causalities, 22309 injuries and impacted nearly one third of total population of Nepal. Lalitpur district was also declared as highly affected district by 2015 Gorkha earthquake.

Earthquakes occur without any warning, it can be happed anytime anywhere. People should be aware and prepared about it. People have to idea about earthquake preventions. Talking about the perception and preventive ideas about earthquake, some respondent concept on earthquake was a natural event and it causes building collapse and kill human beings by building and some said didn't know what actually earthquake means. Among 30 respondents 19 respondents were have idea about earthquake prevention.

All respondents were earthquake victims and asked about source of information about earthquake disaster. Information is very important to be aware from disaster. There were Radio, Television, Newspaper and other source of information. Half population of this research got information from other sources. Seven respondent got information from radio, three respondents got information from television and five respondents got information from newspaper.

In Dukuchhap village, impact of earthquake on human causalities was not found only building collapse were found. People become homeless. Houses of Dukuchhap village were fully and partially damaged from earthquake. There were 19 households which were fully damaged among 30 household and 11 houses were partially damaged. The people whose

houses were totally damaged were remained in temporary shelter. After damaging their houses they started to live in tripal. From this research, it was found that they stayed 15 to 75 days in tripal. All households were affected by earthquake and people had to live in tripal for both short and long time. The number of people who live in tripal 75 days were found more in number than 15 days. Another impact of disaster in dukuchhap village was on financial. Earthquake victims were poor they didn't have strong financial status.They have savings in their homes and livestock both were damaged in earthquake. Earthquake impacted on education sector. Students were taking class under damaged buildings. Psychological impact and impact on drinking water were also found. After disaster World Vision and Red Cross had come to distribute relief items to the victims. They were satisfied with the way of their distribution. Government also has its role to the community at the time of crisis. NRA committed to gave aid to the earthquake victims for rebuild new houses. As they promised aid was distributed on some level. There were low numbers of beneficiaries. Government has its limitation to distribute aid. Government support was only possible if land ownership was proven. Who received first and second installments were not rebuilt their home. Victims said NRA aid was not enough for reconstruct their houses. Due to their poor economic conditions they were not able to rebuild their houses themselves.

Lalitpur district is known as developed city of Nepal. But there were also rural areas like Dukuchhap village. Villagers seemed disappointed about reconstruction processes and blaming that, organizations didn't generalize earthquake damages and victims in a specific way they generalized in overall. NGOs/INGOs were lunching reconstruction programs for rural area. Local governments are the main stakeholders of recovery program in local level. Dukuchhap village has newly elected representative by the local election 2017. They showed insufficient economic resource was the main problem for reconstruction process. Aid given by NRA was not enough for reconstruction on the one hand, NGOs/INGOs reconstruction program was rural centered and people of Dukuchhap village were economically weak on the another hand were the challenges for recovery process.

Reconstruction process of Dukuchhap village is still on ground level. Insufficient aid from government was the problem for villagers. Assessing government financial support was only possible if houses ownership could be proven. This rule created huge problem for people of Dukuchhap village in getting aid even they were earthquake victims. Absence of local government, absence of organization in reconstruction was another challenge for people to bounce back from event. Various organizations were lunching there programs only for rural areas. They generalize victims in overall. Dukuchhap village is rural area there were no

access of well constructed roads market even it lies in Lalitpur district which is developed district of Nepal. Victim's weak economic condition became another challenge in earthquake disaster recovery. They involve in different occupations for earning from which they were sustaining their daily life. Due to poor economic conditions they are unable to build their homes. Lack of public awareness and preparedness were also the challenging factors for earthquake resilience. People's irresponsibility about disaster awareness and preparedness leads them to remained long time in crisis.

Conclusion

Earthquake disaster occurs suddenly for a second but its impact remains lifelong on human lives. And it takes long period to be resilient community from the crisis. Earthquakes disaster severely hamper the progress and achievements of development while at the same time physical infrastructure we are constructing itself constitute a source of risk. This is particularly true in the case of earthquakes victims are killed by their own collapsing houses. This is the reason behind many theorists says disaster is social more than natural. Disaster risk engaged in how community prepared, mitigate and response about crisis.

Main purpose of this study was to examine impact of earthquake in human life and to explore challenging factors in earthquake community resilience. For this research Dukuchhap village was selected as a research field, of Lalitpur district. Thirty respondents were selected from each earthquake affected household to fulfill the objective of this study. Male victims were higher than female victims. From the study respondents who have low income level were found more affected from earthquake disaster. Some respondents were known earthquake preventions. Radio, newspaper, television and other sources were found to be used as a source of information about earthquake disaster.

Earthquake awareness programs are regarding more important for people to be aware about earthquake damages. Participation of people on the conducted awareness program related to disaster was found less in number. Among 30 informants, numbers of literate people were found less than illiterate people. On 25th April 2015 Nepal hit by magnitude 7.6 earthquakes. It made 8856 causalities, 22309 injuries and impacted nearly one third of total population of Nepal. Lalitpur district was also declared as highly affected district by 2015 Gorkha earthquake. There were no human loses on Dukuchhap village, but houses were fully and partially damaged. People of fully damaged house were made temporary shelter and living there and people whose houses were partially damaged but also need to repair were live in their partially damaged houses. They were financially affected. Impact of earthquake was found on human psychology, education sector and on water resources. Victims involved in agriculture, labor, cutting and shopkeeper occupation to earning. When their houses collapsed, live stocks were damaged. Their livelihoods depend on fewer assets. Their consumption is closer to subsistence level. Peoples who were poor perceived more risk and they have to compile to live in damaged houses.

After earthquakes hit country, various organizations lunched relief distribution programs. Red Cross and World Vision had come to distribute relief items like rice, foods and tripal. NRA also gave some funds to the victims for reconstruct their damaged houses. Because of lack of knowledge of the system, rules and limitation of government about financial support create problems in getting support. When the time of reconstruction was come there were no presence of government and non government organization for reconstruction. All reconstruction programs were rural centered. Earthquake victims and its damages were generalized in overall. This study concludes that absence of reconstruction programs, absence of local government, insufficient NRA aid and its inflexibility, poor economic condition of victims, lack of public awareness and lack of preparedness about future disaster were find out as the challenges to earthquake resilience. Due to poor economic condition people have lack of access to housing. Poor people with fewer resources, tend to invest less in preventing and mitigating the adverse effect of natural disaster. Some preparedness action are costly, and possibly too costly for people in poverty to afford like earthquake insurance or strengthening home for greater earthquake resilience.

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Interview Questionnaire for survivors

Basic information:

Question number----------

Respondent name---------- Gender----------

Caste/ Ethnicity---------- Education----------

Occupation---------- Income----------

Number of family----------

1. What do you mean by earthquake? How it occurs?
2. Do you have an idea about the preventive measures from earthquake?

a) Yes
b) No

3. Have you ever participated in the training related to earthquake ?

a) Yes
b) No

4. Through which source do you get information about earthquake?

a) Radio
b) Television
c) Newspapers
d) Others

5. Did any awareness program related to earthquake, conducted in your society?

a) Yes
b) No

6. If yes, what type of program was conducted?

a) Governmental

b) Nongovernmental

7. How do you think that awareness programs are effective for your community?

8. Please kindly tell me your experience about 12 Baishakh, 2072 Gorkha earthquake. What happened and what did you do at that time?

9. Did 12 Baishakh, 2072 Gorkha earthquake damage your property?

a) Yes

b) No

10. If yes, what kind of damage it was?

a) Human

b) Material

   i. Partial

   ii. Full

11. What action did you immediately take after the event of earthquake?

12. Which groups or organizations come to your village to help at the time of earthquake event?

13. Did you get relief items like food, tripale, distributed by government and other NGOs?

a) Yes

b) No

14. Who else had come in village to distribute relief besides government officials after the earthquake?

15. Did they give equal relief support items to everybody, or did some villagers react to their way of distribution?

16. How long did you live in tripal after earthquake? When did you start making your temporary shelter?

17. Did you have enough money to make new shelter?

18. How is your linkage with the political leaders of your village?

19. If you compare today's condition with pre-earthquake situation how different do you find in your society?

20. Who did help you in the reconstruction process after earthquake?
    a) Government
    b) Neighborhood
    c) Relatives
    d) Friends
21. How government and non government organizations helped you on reconstructions?

22. Could you kindly tell me about socio-economic condition about your family?

23. How do you feel the condition of co-operation and integration within your community at the time of disaster?

How much are you aware of future crisis? And how do you prepare to cope with future disaster?