A Study of the Resilience of Local Community and Reconstruction of Earthquake Damaged Buildings in Balaju and Gongabun Area of Kathmandu

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By

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Declaration

I, hereby, declare that the thesis entitled **"A Study of the Resilience of Local Community and Reconstruction of Earthquake Damaged Buildings in Balaju and Gongabun Area of Kathmandu"** submitted to the Central Department of Sociology, Tribhuvan University, is entirely my original work prepared under the guidance and super vision of my supervisor. I have made due acknowledgements to all ideas and information borrowed from different sources in course of preparing this thesis. The results of this thesis have not been presented or submitted anywhere else for the award of any degree or for any other purposes. I assure that no part of the content of this thesis has been published in any form before and I shall be solely responsible if any evidence is found against my thesis.

Signature: _____

Abiral Shrestha

Date: June, 2024

Recommendation Letter

I certify that this thesis entitled **"A Study of the Resilience of Local Community and Reconstruction of Earthquake Damaged Buildings in Balaju and Gongabun Area of Kathmandu"** has been prepared by **Abiral Shrestha** under my guidance and supervision. The researcher has fulfilled the criteria prescribed by the Central Department of Sociology. I hereby forward this thesis to the evaluation committee for final evaluation and approval.

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Approval Letter

This thesis entitled **"A Study of the Resilience of Local Community and Reconstruction of Earthquake Damaged Buildings in Balaju and Gongabun Area of Kathmandu"** submitted by Abiral Shrestha in partial Fulfillment of the requirements for the Master's Degree (M.A.) in Sociology has been evaluated and approved.

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Abstract

The Great Earthquake that had struck in the central part of Nepal on April 25, 2015 is one of the most unforgettable traumatic events in the contemporary history of Nepal. This devastating natural disaster killed almost 9,000 people, injured and maimed an equally great number of people and destroyed thousands of private and public houses, buildings, infrastructures worth billions of rupees. The country has yet to fully recover from tremendous damages caused by the mega-earthquake. Like other places in the central region of Nepal, Kathmandu, the capital city, was also badly jolted by the earthquake causing irreparable damage to the numerous heritage buildings, temples of the great cultural and historical importance as well as a significant loss of life and property of common people. Among places in Kathmandu Metropolitan City, the places which was most affected by the Earthquake are Balaju and Gongabun area. Balaju and Gongabun are located at a distance of only few kilometers north-western outskirt area of Kathmandu city. This present research entitled "A Study of the Resilience of Local Community and Reconstruction of Earthquake Damaged Buildings in Balaju and Gongabun Area of Kathmandu" attempts to conduct a study of the local community's attempts to reconstruct their earthquake- damaged houses and the unique spirit of resiliency demonstrated by the community people in these two places. The study is based on the analysis of the socio-economic, demographic and educational backgrounds as well as the personal opinion and perception of the local respondents who were selected for the survey purpose. Based on the answers of the respondents, an attempt to assess the methods used by the community to develop the spirit of resilience among themselves and the current status of the reconstruction of damaged buildings, issues and problems faced by the community people in rebuilding process has also been explored. With an objective of helping to improve the effectiveness, management and governance aspects related to delivery of the relief and assistance to the disaster-affected people, and expediting the process of reconstruction activities, the research has also made some relevant recommendations to different concerned agencies and stakeholders like NRA, government agencies, NGOs, INGOs, private sector, engineers, architects, scholars and researchers etc.

ABBRIVIATIONS

A.D. – Anno Domini

B.S. – Bikram Sambat

DDC – District Development Committee

DRR – Disaster Risk Reduction

EMI - Earthquakes and Megacities Initiative

GON – Government of Nepal

INGO – International Non-Government Organization

LDRMP – Local Disaster Risk Management Planning

NEOC – National Election Observation Committee

NGO – Non-Government Organization

NPC – National Planning Commission

NRA – National Reconstruction Authority

PDNN – Post Disaster Needs Assessments

PDRF – Post Disaster Recovery Framework

UNDP – United Nation Development Project

UNISDR – Untied Nation International Strategy for Risk Reduction

VDC – Village Development Committee

WB – World Bank

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CHAPTER I

INTRODUCTION

1.1 Background of the Study:

The mega-earthquake which struck large parts of central Nepal in 2015 has drawn attention of the international academic and scientific community to the fact that Nepal is located in one of the highly seismic geologically vulnerable regions in the Himalayas. As such, it has been seen that earthquakes are regular phenomenon in Nepali history. The historical records also attest to the fact that the devastating earthquakes have been striking the country (especially, Kathmandu valley, the capital of Nepal) between the intervals of 80-150 years, sometimes occurring on even more frequent intervals. The last big earthquake to hit Nepal, measuring almost 8.4 in the Richter scale, was in 1934 A.D. This earthquake is reported to have damaged thousands of houses as well as killing almost 9000 people, mostly in Kathmandu valley[1](Rana,2013:1). After this big earthquake, another series of mega earthquakes, with its epicenter in Barpak village which is located in Gorkha district in the West Nepal, measuring up to 7.8 in the Richter scale, hit Nepal on 25 April 2015. This devastating 'earthquake took the lives of 8,896 people and seriously injured 22,303 people. This devastating earthquake destroyed 604,930 houses completely and 288,856 houses partially (PDNA, 2015). It is estimated that the total value of disaster effects (damages and losses) caused by the earthquakes is estimated around the U.S. $ 10 billion, which is about 50 per cent of Nepal's annual GDP (Dangal,2015:1).' This Earthquake (which mainly affected the central region- Kathmandu valley and large tracts of hilly districts in its vicinity) followed by multiple powerful aftershocks, destroyed houses belonging to almost 3.5 million people, killing almost 9,000 people and injuring more than 20,000 people. In addition to this, hundreds of school-buildings, government offices and other infrastructures were either seriously damaged or destroyed. This Earthquake also destroyed and damaged many beautiful old medieval temples, buildings and palaces, many of which had been recognized by UNESCO as the World Heritage Sites.

Nepal had not experienced such massive disaster and tragedy for more than the last 80 years. So, when the tragedy struck, it was found that both the government and Nepali people were caught totally unprepared and unaware. Nevertheless, in spite of such total unpreparedness, the Nepali people, government and security forces demonstrated admirable patience, courage and spirit in responding to this disaster and in providing the emergency relief and assistance to the disaster-victims. The international community too immediately responded by providing a massive humanitarian, relief and post disaster reconstruction assistance. In the wake of disaster, the government has formed a high-level body called the National Reconstruction Authority (NRA,2017:2) to coordinate and expedite the process of the reconstruction and rebuilding of the earthquake-affected houses and infrastructures as well as the rehabilitation of the earthquake victims. However, in spite these efforts made by the government, INGOs and NGOs, it is sad to see that numerous earthquake-victims have not yet succeeded in receiving adequate assistance, hundreds of the victims, mostly belonging to marginalized social groups and communities, in many places are still living in the temporary shelters and huts almost 8 years after the disaster.

In this context, the recent mega-earthquake in Nepal also represents one example the widening magnitude frequency and diversity of disasters which have emerged as a global challenge to deal with. As such, now, disasters are viewed as an ever-present threat to lives of people. in the world. Unfortunately, the disasters appear to be on the rise continuously.

Given the increase in the global realization of the widespread impact of the destructiveness of the multiple types of disasters, it can be seen that the scientific study of the phenomenon of disaster started mainly since the 1950s following the World War II. Since then, the discipline of the 'Sociology of Disaster' is fast emerging as a multi-dimensional and multi-disciplinary discipline with a very useful practical applicability. This newly emerging discipline, as a sub-field of Sociology, seeks to explore the social relations and its inter-linkage with natural and human-made disasters. The evolution of the discipline has, indeed, significantly helped a wide range of people like the researchers, development-practitioners, politicians, bureaucrats, INGOs, donor agencies and many others to transform their attitude and approaches to a large extent. One major attitudinal and conceptual change which new paradigm has helped to foster is that it has been responsible for demystifying or fundamentally changing the habit of uncritically accepting a deeply-embedded fatalistic socio-cultural myth or un scientific belief that the natural disasters

like earthquake are either an ‘act of God’ or a ‘mysterious phenomenon’ which is beyond the capacity of human beings to control or fully understand. Now, the researchers and practitioners related to the field of disaster no longer accept it an exclusively natural phenomena which is totally outside the control of human beings. Instead, they widely it as a social phenomenon which is amenable change, control and mitigation through the creative human interventions. Thus, many people have started to think that disaster is not only the crisis of the society but also an opportunity to rebuild a better society. The scholars and researchers strongly believe that something can be done about them, before and after they happen (Kreps, 1985).

Such paradigm shift in the thinking of the concerned people and agencies world over is very well reflected in the United Nation’s General Assembly’s Resolution on 22 December 1989 (Res. 44/236) to treat the 1990s as the ‘International Decade of Natural Disaster Reduction (IDNDR)’. Even in our own country Nepal’s context, the Government of Nepal’s decisions made following the April Earthquake re aimed at expediting the process of the long-term delivery of relief, reconstruction and disaster-risk reduction etc. can be seen as Nepal trying to comply with the emerging global trend to commit themselves to enact the policies and programs aimed to ‘reduce the vulnerability and increase the resilience’ (Oliver-Smith, 1999).

1.2 Statement of the Problem:

In spite of the fact that the natural disasters like earthquakes and other natural hazards have been a regular and frequent phenomenon in Nepal, when the devastating earthquake hit the country on 25 April 2015, it was found that both Nepali government at the center and local levels as well the Nepali people themselves, were caught totally unaware and unprepared, thereby resulting in a tremendous of life and property. It also appears that this earthquake has brutally exposed the inherent deficits in the state’s political and administrative apparatus to fulfilling its important responsibility of maintaining the constant vigilance and preparedness against the possibility of having to deal with the unpredictable natural disasters in a supposedly geo-physically vulnerable country. Obviously, the country and its government has largely failed to in the task to properly sensitize and empower the people and communities to be mentally, physically and materially prepared to face such probable hazardous event, when and if that may occur, like many countries like Nepal have been able to do. It has been experienced that those countries, like Japan, Taiwan, Chile, Turkey etc., which have succeeded in making the pre-disaster preparedness have also

succeeded in mitigating the damage, destruction and human casualties and fatalities to a great extent. It can be safely assumed that the Nepali government in the center at the local levels, numerous NGOs and INGOs active in Nepal as well as the communities and people themselves had been able to make the adequate and effective pre-disaster preparations, the post-earthquake situation could have been very different.

This supposed or perceived lack of the pre-disaster preparedness and lack of serious commitment made by the concerned agencies and their higher-level staff as well as the deeply embedded bureaucratic culture may have negatively affected the formulation and implementation of the victim-centric participatory and accountable mode of the post-disaster recovery and reconstruction process that gives the primacy to the voices of disaster-affected communities (Cuny, 1983). It has also been felt that the proper attempts made to promote and foster the 'resilient' attitude and values among the community members could have helped to produce a 'catalyzing effect' in expediting the reconstruction more effectively thereby qualitatively transforming the entire post-earthquake scenario in Nepal. Likewise, had the responsible authorities in Nepal during the post-earthquake period been able to look at the issue of the reconstruction process beyond the rhetoric of the ritualistic participation of the community to a broader perspective and vision of securely anchoring the whole process by sincerely promoting an active involvement and meaningful participation of the earthquake-victim communities, it would have greatly helped to unleash the hidden creative energy and resilience capacity of the hitherto voiceless, powerless and marginalized rural and urban communities to be able to make a much contribution in the process. Promoting the resilience attitude and values among these earthquake-victims could have also made the disaster recovery process more responsive, appropriate and relevant to the needs of those affected (Tierney, 2012). It can also be assumed that if the responsible authorities in Nepal had been able to honestly follow the initial commitment to ensure a participatory and accountable governance in the reconstruction process which it had made in the important policy documents like the 'PDNA, 2015' and 'National Reconstruction Act, 2016', the glaring gaps between the policy and practice would have been much lesser. Thus, N.R.A., in spite of its valuable contribution in fulfilling much of the post-earthquake reconstruction objectives, owing some important gaps and shortcomings in its functioning processes as previously discussed, failed to live up to the high expectations of the earthquake victims' community as well as the independent observers.

While looking at the post-earthquake process in Nepal, it appears that a very important issue like the 'resilience' spirit and attitude of the earthquake-victims community has been mostly neglected in both the state-led and NGO-led reconstruction process. Moreover, it may be also possible that the generally fatalistic and cynical attitude and tendencies among most of the community people as well as still entrenched structure of the social inequalities may have also hindered the growth of the feelings of mutual solidarity and a forward-looking culture which values the 'resilient' attitude among the people. It is also possible that a widespread prevalence of an archaic, irrational and unscientific understanding of the disasters as an act of some supernatural power which human beings can do little to change may have also discouraged the community people to take the bold initiatives to critical and creative interventions in the functioning of the government and N.R.A., which would have made the recovery and reconstruction process more participatory, effective and victim-friendly.

Almost 9 years have passed since the disastrous earthquake had struck Nepal. During that period, the Government of Nepal through a newly created institution- the N.R.A. was tasked with undertaking a leading role in the reconstruction of thousands of heavily damaged and destroyed private houses of common people as well as thousands of the public buildings, schools, priceless temples, heritage buildings and palaces. The N.R.A. must be given the credit for accomplishing its responsibility to a large extent. However, despite these seemingly big achievements, still, hundreds of marginalized people their families have been compelled to stay in the unsafe and unhygienic temporary shelters which they had hastily constructed after their houses and dwellings were totally destroyed in the earthquake. Moreover, there have been reports of numerous complaints made by both urban (like the earthquake–victims of Gongabu and Balaju area in Kathmandu- the study area of this present research) and many people from the affected rural areas stating that they have not been able get any financial assistance from the government (i.e., NRA), the local government or any agencies so far. It has forced them to seek loan from the financial institutions or banks at a very exorbitant interest rate. The main problem faced by these people is they also do not have any idea how to get the assistance from the N.R.A. owing to excessively complicated bureaucratic processes related to procuring the financial assistance. Hence, a sizable chunk of the earthquake-victims is reported to have been left out the assistance radar of all agencies.

In addition to this, there also have been numerous complaints about the rigid and inflexible uniform looking building designs and standards developed by both N.R.A. and Government of Nepal's (GON) Department of Housing. These designs and standards have proved to be of not very functional use and appropriate for the people living in the agrarian rural areas, in particular. As for the reconstruction of damaged houses in the urban areas are concerned, it appears that the GON and NRA have not been able to develop any suitable earthquake-resistant building designs. It has prompted the urban area residents to reconstruct their damaged or destroyed building in whatever way they like albeit in some minor compliance with the conventional building code of the Municipality or the Ward office.

1.3 Research Questions (RQS):

In the context of the reality of the Nepali society as being discussed earlier, this present research seeks to find the answers to the following questions:

- What are the important factors that hinder the community members in Nepal to develop an attitude and spirit of 'resilience?' during the post-disaster period?
- How can the existing process of the post-earthquake recovery and reconstruction process in Nepal be made more participatory, accountable and earthquake-victim friendly?

1.4 Objectives of the Study:

- To explore and identify the major challenges related to the development of the 'resilient' attitude, spirit and its supportive process among the earthquake-affected community; and
- To identify the important problems and challenges being faced by the earthquake-affected local communities in the reconstruction of their damaged and destroyed buildings.

1.5 Significance of the Study:

This study has made an attempt to study the emerging issues the community resilience and participatory and accountable reconstruction process of the damaged and destroyed houses in the general background of the community people in the study area like the socio-economic, gender, ethnic, educational status and opinion and understanding of the respondents in the community toward the natural disaster like the 'earthquake .It also seeks to shed some light on the nature of the determined responses and the unique spirit of the resiliency and flexible approach demonstrated by the earthquake-affected community people in their efforts in accessing and mobilizing the support and assistance from the various agencies as well as in dealing with other problems. As such, it can be expected that the valuable lessons learnt by the local communities, the powerful government agency- the National Reconstruction Authority (NRA), the local government authorities and NGOs and INGOs could prove to be very useful in developing more effective and appropriate victim-friendly strategies in dealing with the similar post-disaster situations in Nepal and elsewhere. The findings of this study could also be useful to the researchers, scholars' development practitioners and decision makers, funding partners, INGOs, NGOs.

This field-based study can also be expected to contribute in expanding the existing body of theory and knowledge in conducting the post-disaster related research in the future. In many ways**,** this study will attempt to fill a number of gaps in the existing literature on the domain of the post-disaster research and the disaster risk management programs and activities.

1.6 Limitation of the Research:

This research will seek to focus on the post-earthquake reconstruction and rebuilding process and its progress in Balaju and Gongabun areas of Kathmandu Municipality from the years 2015 to 2023, a period when most of the reconstruction activities took place. Since the earthquakes are multi-dimensional and multi-faceted issues in terms of its nature and impact, the findings and implications of this present study may not be fully replicable and useful in other areas and in other circumstances of the natural disaster rehabilitation and reconstruction. Nevertheless, many

useful lessons on disaster-preparedness and its proper management could obviously be learnt from Nepalese experience.

1.7 Organization of the Study:

This study is organized in the five chapters. The first chapter deals with introduction of the subject, which includes background, statement of the problems, and objectives of the study, significance of the study. Similarly, the second chapter seeks to conduct the review of literature, published and unpublished ones. The third chapter describes the methods of research, which includes research design, rationale of the selection of the study area, sample size, nature and sources of data, data collection techniques, tools and analysis of the research, limitation of the study. The fourth chapter of this study consists of the systematic presentation and analysis of the data. And, the fifth chapter contains the summary, recommendations and conclusion.

CHAPTER II

LITERATURE REVIEW

The mega-earthquake of 2015 not only caused tremendous damage of life and property in Nepal, it has also attracted the attention of international donors as well as scholars and researchers. Although, not many research-based and empirical studies on the Nepal Earthquake have been conducted so far, an analysis of the available literature shows that four types of reports or researches are available on the subject;

- Newspaper reports

-GON and NRA earthquake assessments, plans and reports

- NGO's and INGO's reports on the post- earthquake rehabilitation and reconstruction activities

- Scholarly scientific research articles on the issue

2.1 Theoretical Review:

Just like social structure, disaster is vague and sometimes a confusing term as well which has defied simple interpretation. Most social scientists refer to actual or possible disaster in terms of physical impact or problem caused by unplanned and socially disruptive events. Their most visible effect is that they can cause physical harm by their tendency to strike suddenly, and that something can be done about them either before or after they happen (Kreps, 1985).

Fritz (1961) illustrated that an event, concentrated in time and space, in which a society, or a relatively self-sufficient subdivision of a society, undergoes severe danger and incurs such losses to its members and physical appurtenances that the social structure is disrupted and the fulfillment of all or some of the essential functions of the society is prevented.

This specialized field of disaster studies seems to be moving farther away from mainstream Sociology. For sociologists working in this field, application of Max Weber's political sociology is proposed as one way to reconnect their research with the long-standing concerns of the discipline. Weber's political sociology contains a conflict model focusing on the 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 The 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 propertied classes. Material interests of the propertied classes also were predominant in re-habilitation efforts after the disaster (1958:33). The pre-disaster conflict between propertied and commercial classes quickly reemerges and the property owner instead goes ahead with the least expensive repair possible, generally ignoring local building codes. The Weberian political sociology enables us to understand that the effect of disaster 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 to live in a less substantial housing and have no insurance too. Furthermore, he stresses 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).

From the perspective of the social construction of social problems, claims-making and institutional actors frame disaster definitions and priorities for ameliorative action. For example, Stallings (1995) uses a constructionist framework to show how, in the virtual absence of public concern, the interests of scientist, engineers, government agencies, and political parties converged during the 1970s, resulting in at least the partial construction of earthquakes as a social problem. While characterizing what he calls the “earthquake establishment” as a type of professionalized social movement, his analysis also emphasizes the role of government activism in framing the problem – activism generated largely out of a concern for the macroeconomic and national security impacts of large California earthquakes.

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.

Studies on major disasters conducted by historians, political scientists, and a growing number of sociologists attest to the fact that social divisions and patterns of unequal treatment persist alongside altruism and heroism when disasters strike and that in some cases disasters have even been accompanied by violent conflict. In the catastrophic 1927 Mississippi River flood, for example, because of the importance of New Orleans as a center of concentrated wealth, officials made a conscious decision to blow up levees on the Mississippi River to save the city from being flooded. That decision caused adjacent and poorer parishes to be inundated, resulting in extensive property damage and loss of life. Although governmental officials, banking interests, and other elite groups promised to compensate victims for their losses, they reneged on that promise. During the flooding, blacks were ordered by whites not only to sandbag levees, but also to serve as human sandbags by piling on top of one another to keep the levees from overtopping. In some affected areas, blacks were literally re-enslaved during and after the flooding to ensure that they would remain as a cheap agricultural labor force in flooded areas (Barry, 1997).

Perry (2007) attempted to classify threefold 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 European and Japanese 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 is clear cut different among the groups, nor there 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 capacity' but it has three important dimensions which together take into account social actors: capacities to cope with, and, to overcome all kinds of immediate adversities (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).

In one way or another, connections between disaster research and environmental sociology are vital and need to be strengthened. Disaster researchers have long studied environmental and technological disasters alongside events triggered by natural agents, but they have generally done so from the perspective of classic event-based disaster sociology. A number of environmental sociologist’s study hazards and disasters, but they tend to specialize in chronic and acute manifestations of hazardous technologies and on slow-onset forms of environment degradation (Kroll-Smith and Couch 1990, Couch and Kroll-Smith 1991, Mazur 1998).

Disaster is commonly divided into natural and manmade, however such distinctions are generally artificial. Disaster is 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).

Furthermore, Obrist et al. (2010) pointed out that all definitions of social resilience are concern social entities – be they individuals, organizations or communities – and their abilities or

capacities to tolerate, absorb, cope with and adjust to environment and social threats of various kinds. The entry point for empirical studies on social resilience is the question: “Resilience to what? What is the threat or risk we examine?” Threats are usually assumed to originate externally with regard to social units (e.g., impact of rising prices on household expenditure), but they might also stem from internal dynamics (e.g., impact of diseases on household income) or from interaction between the two.

Keck and Sakdapolark (2013) described that the concept of resilience has evolved stepwise from its initial emphasis on the general persistence of ecological system functions in a world that is subject to ongoing change, through an orientation towards coupled social-ecological systems and questions of the adaptation of humans in nature, to its most recent readjustment, in taking up the more critical question of social transformation in the face of global change.

2.2 Empirical Review:

The available literature appears to focus more on the geological and scientific causes of the earthquake and some issues related to historical frequency of recurrences of earthquake in Nepal as well as impacts of the earthquake on different sectors of national life. Since, little micro-level study of sociological impacts and post-earthquake reconstruction activities has been undertaken so far, an attempt has been made in this research to conduct an analytical and empirical study of the multiple linkages between earthquake and society in the suburban area like Balaju and Gongabun Bus Terminal Areas of Kathmandu Municipality. In course of study, different variables and factors which have affected the post reconstruction activities in the project area will be identified and systematically analyzed.

It is worth noting that the National Reconstruction Authority’s (NRA)’s attention has been drawn by Amnesty International’s report entitled “Building Inequality: The Failure of the Nepali Government to Protect the Marginalized in the Post-Earthquake Reconstruction Efforts, 2017’.There is no denying the reality that the reconstruction process in Nepal has been slow and has not been able to pick up the speed expected in a post-disaster situation. But the government of Nepal and NRA as its focal agency for leading the reconstruction efforts appear to be aware of the fact that disaster disproportionately affects the women, poor and marginalized communities

including people-with-disability. It has been noticed that in order to help the marginalized and poor communities, NRA has begun simplifying procedures for distributing assistance.

NRA has already submitted two proposals to the cabinet: land purchase grant of NRS. 200,000 to every household living in settlements which are identified as the risky and disaster-prone areas; and NRS 200,000 to each earthquake-affected households who do not possess land ownership certificates and are living in the public land. A study to identify vulnerable settlements conducted under the leadership of NRA has recommended more than 2,751 families have to be relocated to safer places. Nearly 10,000 households have also been identified as earthquake survivors without any land. It is equally heartening to see that Government has also decided now to increase the earthquake grant from NRS 200,000 per family to Rs. 300,000.

In addition, NRA has taken a series of measures to proactively assist the women, poor and the marginalized communities. Now, the provision has been made to enable vulnerable communities to receive the additional housing assistance from I/NGOs up to NRS 50,000. The vulnerable communities opting for low- cost housing can access the second and the third installment from I/NGOs without much hassle even if they have already received the first installment grant from the government.

Priorities also have been given to women and vulnerable communities in providing the livelihood training and capacity building schemes. A significant number of women are seen taking part in the mason training and are helping to build houses in their respective affected regions. During on-the-job trainings for masons, one model house is required to be built for deprived or vulnerable family in line with NRA policy. NRA has also conducted the household surveys to prepare the beneficiary list. In order to resolve the issue, it has decentralized grievance-addressing mechanism to prevent vulnerable communities being deprived from being included in the beneficiary list.

The instructions have also been given to local- level disaster and relief related committees and institutions to mandatorily include one women and Dalit representative in the committees. NRA has instructed that all public buildings have to be constructed in a disable-friendly way. NRA continues to encourage I/NGOs, who are implementing reconstruction schemes aimed at delivering assistance to vulnerable communities. Moreover, NRA had placed special priority in

providing loan of Rs 300,000 to the poor and marginalized quake-survivors without any collateral. Likewise, NRA emphasized on building special community participative approach to include women and marginalized community's survivors while implementing its activities.

However, there was much frustration and even anger at the slow pace of reconstruction and grant distribution. Nevertheless, according to NRA, by end of the year 2020, almost 69.9% damaged private houses had been reconstructed and 21.1% houses were under construction in 5 districts. It had also been reported that around 6,085 school-buildings have been rebuilt so far and another 1,468 school-buildings were in the process of reconstruction.

An assessment of available literature on Nepal earthquake of 2015 show that majority of existing literature is either too journalistic or too technical in nature. Moreover, there does not seem to exist any credible writing or literature on the issue of earthquake impacts on social aspects, economy, health, livelihood, education and governance etc. In addition to this, there seems to exist big vacuum in the scientific and systematic research reports on the post-earthquake rehabilitation and reconstruction activities. Even many NGOs and INGOs which are actively involved in the post-earthquake reconstruction activities have not made their reports public, such lack of credible research works and materials make it difficult for a young researcher to develop a proper conceptual framework on the issue. Nevertheless, some existing literature and reports could be cited here;

The Great Earthquake in Nepal (1934 A.D):

According to (Rana,2013), The Great Earthquake in Nepal; 1934 A.D. (translated into English from Nepali by Keshar Lal) is a most talked about and celebrated pioneering work by a son of the then Rana prime minister and a person who had been given the charge of looking after the entire responsibility of relief, rehabilitation, treatment of injured people and reconstruction of the earthquake-damaged public and private buildings and structures.

This book contains a fascinating and interesting first-hand account of the relief, rehabilitation and reconstruction activities of the earthquake-damaged buildings and architectural structures in Kathmandu valley as well as in other parts of Nepal.

This book, probably the first and last of its kind ever to be published in Nepal, sheds some light on the response of a medieval-feudal state mechanism to a tremendous natural disaster.

These 13 chapters long book contains the rare black-and-white photographs of damaged buildings and structures. It also seeks to provide some rudimentary data on earthquake damages in terms of human and material costs as well as a list of persons and donors who had made financial donations for the reconstruction activities.

The author also makes an interesting attempt to offer the advice to the would-be builders, masons and technicians on how to construct safer and stronger buildings.

The Earthquake of 2015 (BahatarSalkoBhukampa):

This book (Bhattarai and et.al.) is written in Nepali language by the Nepali technical experts and academics. It can be considered to be a valuable addition which will help those people who are interested in gaining a better understanding of the scientific, technical and institutional aspects of the Nepal earthquake as well as some information on the Government of Nepal's administrative response to this crisis. The book consists of 15 chapters, including very useful and comprehensive references and numerous colored photographs related to different aspects of the earthquake.

This book lucidly tries to explain and analyze the scientific, geological and historical aspects of the earthquake phenomenon in the Nepali context. It also seeks to review the world-wide experiences and practice of the post-earthquake recovery and rehabilitation as well as the disaster- preparedness. In the book, the authors emphasize the need for the Nepalese government to develop an effective disaster preparedness mechanism as well as the post-disaster reconstruction and rehabilitation agency- not just adopting the ad hoc knee-jerk reactive strategies whenever some natural disaster strikes Nepal. The writer also talks about need for enhancing the community participation and community's resiliency capacity to come out of the crisis as early as possible. Likewise, writers also stress the need for learning the useful lessons from Nepal's own experience and that of other earthquake-prone countries to minimize the human sufferings and damages.

Studies in Nepali History and Society (June 2021):

This is a very interesting and unique article written by renowned British academic and scholar (Whelpton, 2021) who is well-known in Nepal for his contributions to Nepalese studies. This article, as the author himself admits, is based on the office records in London in the National Archives of India in New Delhi.

This article, in addition to assessing the effectiveness of the then Rana Prime minister JuddhaShamsher's rule in responding to the one of the most vicious earthquakes in Nepal's recorded history that had struck the country on January 15, 1934, primarily focuses on the Rana ruler's extreme sensitivity to any kind of external assistance from any source to assist Nepal in responding to the crisis. In author's opinion one of the main reasons why the Rana rulers were opposed was 'to avoid the widespread impression in the nationalist circle in India that Nepal was not fully independent, or that might compromise its own freedom of action within Nepal' (Whelpton, p., 3).

Such isolationist tendencies and the Rana rulers' extreme fear of any external influence was very well evident when they totally refused to accept any kind of assistance or donation to Nepal during the earthquake being offered by the biggest patron and benefactor of the Rana regime like the British India's Governor-General in New Delhi and the influential Governor of Nepal's neighboring province- the Utter Pradesh. As a matter of fact, this opposition to external assistance is in a complete contrast to contemporary Nepali governments' openness to international assistance.

Post-disaster Housing Reconstruction in Urban Areas in Nepal:

The book (Daly and et.al, 2017) entitled 'Post-disaster Housing Reconstruction in Urban Areas in Nepal: Aid Governance and Local Rebuilding Initiatives' is an interesting report based on ethnographic field-work surveys. The report shows that the delay in urban reconstruction was due to the lack of a clear and well-supported policy for urban reconstruction; limited governance capacity and neglect of municipal and ward-level officials; financial restrictions caused by the funding cap per family to rebuild their homes; and lack of a framework to support the local community-driven rebuilding initiatives. The researchers also point to lack of preference for

relief and reconstruction works in the urban areas compared to rural areas as one of the main reasons for the slow reconstruction of houses.

Comprehending the Post- Earthquake Process:

In this report and information, National Election Observation Committee (NEOC, 2016) which closely monitored and reviewed the accountability and transparency issues in the performance of the concerned stakeholders regarding the post-earthquake relief and reconstruction process, mainly in Sindhupalchok, Dolakha and Gorkha districts, the areas which were most severely damaged by the earthquake. Based on the observations and findings of monitoring work being conducted by the NEOC, a leading civil society in Nepal has published a report entitled "Comprehending the Post-Earthquake Process: Assessment of Dolakha, Gorkha and Sindhupalchok districts of Nepal". (NEOC,2016)

Based on these important issues along with other emerging challenges at the field level, NEOC's key findings are summarized below:

- Coordination and collaboration among government agencies, political parties, CSOs and other stake holders was found very poor, especially during relief phase. The Government mechanism was weak primarily because of lack of preparedness and resource constraints. However, the rapid response carried out by security organs in search and rescue of quake victims was commendable.
- Because of absence of VDC secretaries during initial period in some places, the Government was unable to distribute compensation to earthquake victims in a timely manner, and failed to assess or map the exact level of damage caused by the earthquake.
- The delay in its formation, inadequate resources, and a lack of support from other government agencies has limited the functioning of the National Reconstruction Authority (NRA), which has further delayed the reconstruction works.

- There is growing fear that even after getting a housing grant, victims may not start constructing their homes, as most of them claim that the installment amount is too small.
- The lack of elected bodies at local level (this problem was somewhat eased after the election of the local bodies were held in 2017) has made it far more difficult for the NRA to distribute relief and reconstruction materials effectively among the affected people in the communities. The elected representatives, who usually command greater respect than outside officials, would have made a huge difference in taking the reconstruction process forward. This highlights the serious need to hold local bodies' elections in the country as soon as possible.
- The activities of some INGOs and NGOs were found controversial and donor -centric rather than addressing the actual needs of earthquake victims.

A Report on Earthquake in Nepal:

In the context of a report on earthquake in Nepal, this brief article (lebret-irfed,2016), mentions that Nepal has its own history of numerous earthquakes in regular intervals. It also mentions that, citing some scientific researchers in the past, Nepal is a seismic prone country and the risk it faces from earthquake-one of the most dangerous natural disasters, is rather very high. The main reason behind earthquake in Nepal is that 45 million years ago, the Indian continent into Southern Tibetan plate. The scientific researchers have shown that the Indian continent is driven under Tibetan plateau, pushing lightweight sediments upwards and resulting in the formation of the Himalayas. Since Nepal sits across the boundary between India and southern Tibet which are supposed to be still moving towards each other by 2 meters per century, as this movement creates pressure within the Earth, which builds up and can only be released through earthquakes. This is the way earthquakes happen in Nepal.

The report also reveals that based on the past records Nepal can expect two earthquakes of magnitude 7.5-8 on the Richter scale every forty years and one earthquake of magnitude of 8+ in Richter scale every eighty years. According to the research, there are around 92 fault lines which

are likely to cause the earthquake in Nepal. The report also cites some other reports which places Nepal on the 11th position in the list of the most dangerous earthquake-prone country and its capital city Kathmandu as the 1st one in the terms of the prospect for the human casualty as the result of such natural disaster.

Nepal Earthquake - Response and Early Recovery Case Study:

In response to the recent Nepal earthquake, the Earthquakes and Megacities Initiative (EMI) institution decided to document the event by analyzing the adequacy and relevance of existing the pre-disaster Legal and Institutional Arrangements (LIA) of the disaster recovery framework in the context of the processes and mechanisms currently being implemented to handle and respond to the aftermath of the earthquake.

While adopting a three-pronged approach, the EMI team first conducted desk research work to understand the LIA framework for Disaster Risk Management (DRM) as well as the nature of the post-disaster recovery and rehabilitation policies being implemented by the Nepalese government following the earthquake. The team also monitored the evolving situation through the multiple reports made available after the event.

The mission conducted its study in Nepal from June 14 to 19, 2015 in collaboration with the National Society for Earthquake Technology (NSET) and the Kathmandu Metropolitan City (KMC). The mission enabled EMI to collect information from the field by interviewing key stakeholders including government line agencies (National Planning Commission, Department of Urban Development and Building Construction), the Municipalities of Kathmandu, Lalitpur and Bhaktapur, donor agencies like Asian Development Bank and World Bank etc.) and intergovernmental organizations (IGOs) such as the United Nations' agencies. The mission also allowed the team to observe the situation at the ground level by inspecting the damaged areas within the Kathmandu Valley and interview people who were staying in the temporary camps. A second round of desk research was undertaken to complement the data collected during the mission. The results of the desk research and field mission served to document the response and estimate the future need-assessment.

EMI recognizes the limited scope of this report while admitting that it is relatively early to discuss in detail about the rearrangements and long-term recovery plans which the Government

of Nepal (GON) and its development partners were currently trying to develop. Nevertheless, the EMI team has made attempt to assess the existing efficacy of the DRM framework and its actual response on the ground at the time of the earthquake and thereafter.

Resilience and Disaster Governance- Some insights from the 2015 Nepal Earthquake:

Despite the fact that a growing number of studies point out that resilience and disaster governance are closely linked, it appears that most of the studies seem to have limited itself to level of the conceptual discussions only and have largely failed to address the practical considerations. However, it appears that this research study seeks to fill the void in this context by trying to focus on how the earthquake- victim individuals, communities and state institutions have been able to develop the capacity of resilience to operationalize and implement the housing reconstruction projects and activities in the context of the post-earthquake disaster period. This study has employed the mixed methodology, including a policy analysis of the two main disaster recovery documents and extensive field study in two heavily earthquake-hit districts, viz., Nuwakot and Dhading. In the process, the study identifies some important shortcomings and weaknesses of the approaches employed by the state agencies. The researchers think that the entire reconstruction process lacks the important component of the good disaster governance which emphasizes only a very low level of community participation as well as the exclusion of the vulnerable and marginalized groups in the process. As such, they feel that such important shortcoming in the process can also undermine the hope for building a resilient society in these disaster-affected areas in Nepal. As a lesson from the Nepal's experience, the researchers underscore the need for adopting a resilience practice that focuses on the community empowering process. They think that by adopting an appropriate intervention strategy aimed at decentralizing the governance structures and flexible, inclusive and adaptive reconstruction policies it will help Nepal to enhance the local participation and collaboration which are the keys to building the much-needed resilience.

The researchers also talk about the evolving nature of the disaster strategy in the recent times which, they think has moved into a new era, from the Hyogo Framework for Action (2005–2015) into the 2015-Sendai Framework for Disaster Risk Reduction (DRR) calling for a shift from

disaster management to disaster risk management, They also think that the concept of 'resilience', which has emerged as a new preferred paradigm in international and national policy circles in various multi-disciplinary subjects like medical science, psychology, structural engineering, business, social science, politics etc., refers to ability of a community or a society which is exposed to hazards and disasters 'to resist, absorb, accommodate and recover timely…as well as the capacity of a system or a community to change and adopt when adversity is encountered.' However, such excessive emphasis on the effectiveness of the so-called resilience-based disaster policy for reducing and responding to the disaster risks has also generated a heated debate regarding its ambiguity, practicability and appropriateness' in all situations and contexts, which includes Nepal too.

Almost seven years have passed since the first earthquake and Nepal is struggling to realize its reconstruction vision and achieve resilience. According to official statistics published in June 2018, although the rebuilding rate did substantially rise and reached 21.7%, only 169,526 households out of a total of 781,733 affected households which were entitled to government aid have had their houses rebuilt (Facts of Nepal, 2023: 59). But such houses are often too small for families, usually one or two-roomed so-called earthquake-safe houses yet many others still live in non-compliant and unsafe houses with multiple cracks. In this context, this insightful study can assist the Nepali policy makers, planners, politicians and administrators to devise better reconstruction interventions for similar disasters in the future.

Independent Impacts and Recovery Monitoring in Nepal Phase 1 Qualitative Field Monitoring:

This report, which is based on in-depth qualitative field research conducted by Democracy Resource Center Nepal (DRCN) and produced by The Asia Foundation, seeks to contribute to answer the questions related to Nepal's need for learning the lessons from the post-disaster relief and reconstruction efforts to effectively utilize the international aid during the mega-earthquake of 2015 as well as its equally urgent need for planning a sustainable strategies beyond the immediate disaster responses. The second report is based on the findings of the quantitative survey. The report seeks to conduct a longitudinal monitoring of how people are recovering, the

evolving challenges they face, and how the aftermath of the earthquake is affecting economic and social structures and political choices, and the role aid played in shaping of these dynamics etc.

The field research on which this report is based was conducted from 9-27 June 2015, around six to eight weeks after the 25 April earthquake. It involved six teams conducting interviews, focus group discussions, and participant observation in the six earthquake-affected districts of Dolakha, Sindhupalchok, Gorkha, Makwanpur, Okhaldhunga, and Syangja etc. The research primarily focused on the impact of the disaster and the aid response at the ward and VDC/municipality level.

Rebuilding and Remembering in the Wake of Nepal's Earthquakes:

In this volume, Hutt,et.al(2021) have stated that Epicenter to Aftermath captures the richly complex currents that were stirred up in the 2015 earthquakes' aftermath. These include outpourings of grief, rage, and commemoration in poetry and song, artistic representation, documentation, and demoralization. With greater temporal distance from the event, pledged commitments turn into complex discourses about long-term visions and aspirations for society. They include debates over state intervention, bureaucracy, and corruption; questions of risk and the material and symbolic standards of reconstruction; and struggles over what constitutes and who owns the discourses over 'heritage', leading to questions about which pasts to rebuild and which futures to claim. In the disaster's aftermath, it is not just homes and other infrastructures that must be reconstructed; even more challenging is that the people must be enabled to rebuild their lives and livelihoods, their sense of self, their families, their communities, their pasts and futures too.

> The different chapters of this volume documents how people work to rebuild lives, meaning, memory, and social relations. The contributors show how from the realms of politics to art to commemoration to rebuilding. This volume provides insights into how disaster-affected people in Nepal have actively shaped the lived event that spread from the disaster's historic epicenter to its aftermath.
>
> Hutt, et.al (2021) also questions the effectiveness of the donor-driven relief efforts, however well-intentioned ones.

Appendix 2A Major historic earthquakes

Date	Place	Deaths	Magnitude[i]	Source
c.1100	Eastern Nepal	?	8.8	Lave et al.2005[ii]
1223	Kathmandu Valley	?	?	Pant 2002
7 June 1255	Kathmandu Valley	2,200	7.8	Pant 2002, Sapkota et al.2013 .
1260	Sagarmatha	100	7.1	DPNN[iii]
1344	Mechi	100	7.9	DPNN
August 1408[iv]	Tibet Border, Bagmati Zone	2,500	8.2	DPNN
June 1505	NearSaldang, Karnali Zone	6,000	8.2-8.8	HRRI and D.Jackson . (2002)[v]
May/June 1681	Northern Koshi Zone	4,500	8.0	DPNN[vi]
July 1767	Northern Bagmati Zone	4,000	7.9	DPNN
4 June 1808	Kathmandu Valley	?	?	Pant 2002
26 August 1833	Kathmandu/Bihar	405[vii]	8.0 M_s[viii]	NOAA[ix]
7 July 1869	Kathmandu	?	6.5 M_s	NOAA[x]
28 August 1916	Nepal/Tibet	?	7.7 M_s	NOAA[xi]
15 January 1934	Nepal/India/Tibet	8,519	8.0 M_w	NOAA[xii]
27 June 1966	Nepal/India border	80	6.3 M_s[xiii]	NOAA[xiv]
29 July 1980	Nepal/Pithoragarh	200[xv]	6.5 M_s	NOAA[xvi]

20 August 1988	Kathmandu/Bihar	1,091	6.6 Ms[xvii]	NOAA[xviii]
1993	Mid-west Nepal	1	5.1 M_b	P.Nepal (2016)
2001	Far-western Nepal	2	?	P.Nepal (2016)
2003	Syangja	2	?	P.Nepal (2016)
18 September 2011	Sikkim, India	11[xix]	5.1-6.9 M_s	P.Nepal (2016); NOAA[xx]
25 April 2015	Gorkha district, Nepal	8,922	7.8 M_w	NOAA[xxi]
12 May 2015	Dolakha district, Nepal	213	7.3 M_w	NOAA[xxii]

Source: Adapted from the list at https://en.wikipedia.org/wiki/List_of_earthquakes_in_Nepal (accessed 11 November 2020). Differing magnitudes for the same earthquake may be derived even by modern instruments at different stations and so estimates for earlier quakes are extremely speculative. The NOAA entries sometimes provide only date and magnitude and the sources for fatalities are then unclear. Where these appear to include deaths outside Nepal, the figures are italicized.

According to Schneiderman et al. (2019), several interviewees claimed that there had been a rise in the number of family disputes due to such complications in landownership, which hindered the reconstruction process. Many houses before the earthquake were already too small to feasibly be subdivided. The dispute arose between neighbors during reconstruction over land encroachments of just a few inches.

In the book, the authors also make the mention of the NRA's grant disbursement guidelines (NRA,2015) which permitted beneficiaries to rebuild their house on land that was in the name of another family member, as long as the landowner provided written consent to the beneficiary. In cases where beneficiaries who owned the land were unable to make the journey to sign the PA in person, they were allowed to nominate someone else, who might or might not be a family member. This flexibility came in handy for many households in all sites to receive the reconstruction grants from the government amounting to Rs. 50,000 to Rs. 150,000.

2.3 Conceptual Framework:

Natural disasters like floods, landslides, earthquakes are normal part of life. It affects all societies and countries in the world. Only difference is that more developed countries are well prepared to respond to disastrous effects of natural calamities and disaster. However, underdeveloped countries like Nepal are less prepared to respond to such unexpected situation. It has been experienced that least preparedness to respond to natural disaster result in a larger material and human disaster, where as in case of the countries which are adequately prepared to face natural disasters, they are able to minimize the harmful impacts of such occurrences.

It has also been experienced that many countries which are like our own country Nepal are found to be least prepared to meet such natural disaster. Its has-been observed that their responses are usually unplanned ad-hoc and ineffective. These countries hardly give emphasis to the holistic and human rights perspectives of the disaster management. In contrast to this the countries which make adequate disaster relief preparation in advance, it has been experienced that disaster management in these countries are well planned, effective, holistic and human rights- centered. As such, now every country in the world, including Nepal, have to take into account of multi-dimensional aspects of human security to ensure the safety and security of their citizen during the times of natural disaster like The Great Earthquake of Nepal 2015.

2.4 Research Gap:

While going through the contents, methodology, findings and directions of the existing research works and publications, there appears to be numerous short comings and gaps in these products which can be summarized as follows:

Firstly, limited scopes and perspectives have been seen in most of the existing research papers, books and other publications which are usually focused on limited aspects like the geological, historical, narrative-descriptive aspects of the problem.

Secondly, most of the researches do not appear to be based on any credible theoretical and empirical studies. Such deficiency results in production of superficial and non-comparative outputs.

Thirdly, the existing research also appears to miss the importance of holistic nature of human security and human rights-based disaster management operations which focus on the reconstruction and rebuilding of communities on the basis of resilience and the strong commitment of the disaster-victims to fight against the pervasive ‘vulnerability’ to disasters and hazards.

And fourthly, the recent Great Earthquake in Nepal severely damaged and destroyed thousands of buildings and infrastructures of the great cultural, educational, social and economic importance. But the government of the Nepal and the concern agency like the National

Reconstruction Authority do not seem to have conducted any serious studies on need for adopting a more appropriate, effective and more durable style of architecture suitable for Nepal’s overall environment and culture.

CHAPTER III

RESEARCH METHODS

The research method is an integral part of a research design. Methods refer to the steps as well the approaches necessary for the collection and the interpretation of data (Uyangoda, 2010:79). It helps a researcher to decide how to collect data and what type of data should be collected to answer the researcher's questions. The next step in the method is related to how the data thus collected is analyzed and interpreted. However, the use of the methods differs from one research to another. The types of methods to be employed depend on the nature of the research problem and the research questions (Uyangoda, Ibid).

While developing the research method of this present dissertation, the researcher has tried to follow these basic principles which are as follows:

3.1 Research Design:

This research was primarily based on qualitative field observation methods focusing on earthquake-damaged buildings and the resilience of the local community within in the research area. And, appropriate research methods and procedure was also utilized in order to collect relevant data and information.

3.2 Rationale of Site Selection:

The main purpose of this research is to examine the impact of earthquake disaster 2015 and to explore challenging factors to resilient community from the event. Balaju and Gongabun areas of Kathmandu was largely impacted by the powerful and massive disaster of earthquake. The areas around Balaju and Gongabun Bus Park Terminal has been selected as the study area of this research. The particular areas of ward numbers 16 and 29 was chosen for the study since it is readily accessible and these areas had reportedly suffered extensive damage during the recent 'Great Earthquake'.[2]

3.3 Sources and Nature of Data:

The data that are needed for this research are related to both qualitative and quantitative methods. Social factors and socio-economic data and information are collected for the research. In order to analyze the research areas, both primary and secondary data sources are used.

For primary sources, the data and information were gathered/collected through opinion and experiences of the earthquake-affected local people, ward's administrative and political officials.

For secondary sources, the data and information were gathered/collected through studying reports produced by different UN agencies, INGO's, NGO's and also reading/analyzing various relevant books, articles, research studies, dissertations etc. related to the earthquake's disaster.

3.4 Universe and Sampling Procedure:

The people of Balaju and Gongabun areas of Kathmandu district were selected. Both purposive and random sampling methods have been used to select 100 respondents for interviewing and gathering/collecting different and various types of relevant/factual information and data within the particular areas of it. Gender, ethnicity, educational background and other factors too have been given consideration to give more representativeness to the sampled population.

3.5 Techniques of Data Collection:

Primary data are required for the nature of the study and the researcher collected the required information through different and various types of techniques such as Interview, Observation, Key informant interview, Focus Group Discussion (FGD), Questionnaire etc. During the collection of data, privacy and confidentiality was highly maintained and secured.

3.5.1 Interview Schedule:

Interview technique is a verbal method of securing data especially in the field of research. It is a direct method of data collection. 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.

3.5.2 Questionnaire:

Questionnaire is a semi-structured interview which includes both open and close ended questions that help to collect various type of information related to research framework. It is open and allows new ideas to be brought up during the interview from what interviewer says. In questionnaire interviewee can asks question in different ways to different participants that help to discover different ideas related to research objectives. The questionnaire helped to capture the reality of the situation of earthquake victims. 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. Close ended questions helped to gather information on straight and direct to the points of view according to questionnaire segments and whereas, Open ended questions helped to collect more information about victim's perception on earthquake disaster and their experience about earthquake. It helped 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.

3.5.3 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 they're under temporary shelter. It helped to know social economic background of victims by which they had to experience disaster impact and how they are preparing for recovery. Victims affected houses, living conditions, temporary shelter and family activities were observed during this study.

3.5.4 Key Informant Interview:

Key informants are keys for getting appropriate information about the program. A researcher can get more and more information with the help of key informants. An attempt has been made to identify the important respondents in the community like school teachers, social workers, politicians, and businessmen etc. for selective interviewing where questions related to

topic like socio-economic, social factors, rehabilitation and resiliency in community and reconstruction of damaged buildings were asked.

3.5.5 Focus Group Discussion:

A Focus Group Discussion (FGD) is a qualitative research method and data collection technique in which a selected group of people discusses a given topic or issue in-depth, facilitated by a professional, external moderator. A Focus Group Discussion program has been conducted among a group of the earthquake victims, especially women in the study- area, to identify some additional issues and problems of the reconstruction activities.

3.6 Method of Data Analysis:

Collected data itself cannot provide clear findings of the research. They need to be systematized and placed in a format so that the findings of the research become clear. It is not necessary that all the data should be quantitative; there maybe qualitative data too. The contents of data and information thus collected was systematically analyzed, processed and presented. For the systematic analysis and presentation, some simple statistical tools (which includes bar, charts, tables etc.) have been used. The SPSS (Statistical Package for the Social Sciences) and MS-Excel has been employed in processing and analyzing data and information and also descriptive methods has been used for qualitative data.

3.7 Limitation of the Study:

Every research may have their limitations; this study also has its limitation. This study has focused to the challenging factors of earthquake resilience of Balaju and Gongabun areas of Kathmandu 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 Balaju and Gongabun areas. Therefore, it would not be generalized/viable all over the country.

CHAPTER IV

DATA PRESENTATION AND ANALYSIS

4.1 The setting of the study area: Balaju and Gongabun:

The study area of this research is situated in Balaju (ward no.16) and Gongabun (ward no.29), the localities which had suffered extensive damages during the recent "Great Earthquake." This chapter is related to the analysis and interpretation of the data collected from the 100 respondents. The data, thus gathered have been analyzed according to research question and objectives. The collected raw primary data have been arranged, compiled, analyzed and interpreted to get a complete and comprehensive picture. In this research, both qualitative and quantitative data have been used.

These both study areas Balaju and Gongabun are located North-Western suburban area of Kathmandu Metropolitan City. The capital of population wise speaking, ward no.16 of Kathmandu city, in which the study area of Gongabun is located, is considered to be the most heavily populated place with a total population of 84,4441 (Source: CBS, Nepal,2011) out of this population, the male population constitutes 44,030 and female population is around 40,411 (Ibid). The total number households of households this ward is around 12,282. This ward is famous for the presence of the world-famous budget travelers' hotels and lodges.

The population of the ward no.16, place where the study-area of Balaju is situated is 45052 with the males numbering 23,939 and female population is around 21,113 (Source: CBS,2011). The number of households in this ward is being put as 12,282 (Ibid). This place Balaju is famous for presence of water-garden and green park as well as Kathmandu city only industrial district.

One very interesting fact about respondents is that compared to the males, the female respondents were more enthusiastic to participate in the survey sessions in spite of their very heavy domestic and occupational preoccupations. This huge gender-wise variation been responsiveness of the female and male respondents is also proved by the fact that 62.4% female respondents participated in the interviews as opposed to only 37.6% for the males.

4.2 Background of Respondents:

Ethnic background of the respondents

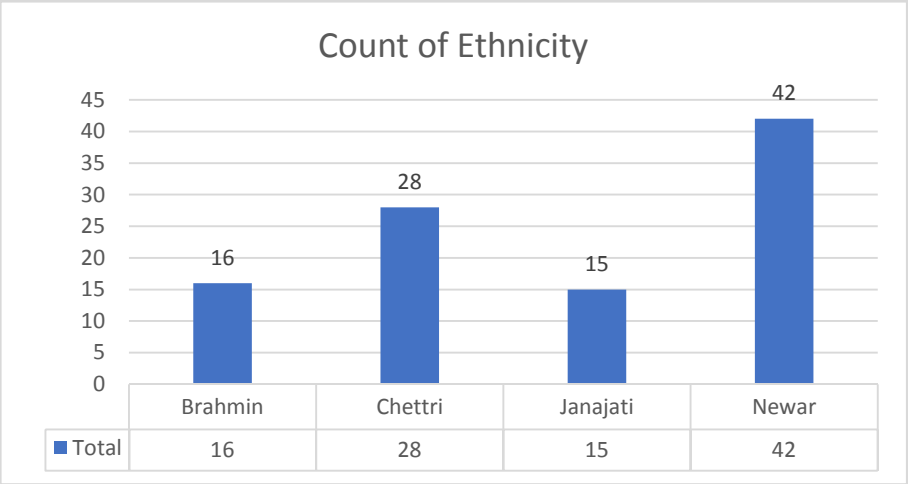

Figure 1 (Source: Field Survey, 2023)

In course of research, the questionnaire was distributed among a broad cross-section people. Among the respondents, 16 were Brahmin, 28 Chettri, 15 Janajati and 42 Newarsetc.Although, the sampled group of respondents appear to be heterogeneous one as the study area is located in the perimeter of Kathmandu Metropolitan City, the stronghold of the Newar ethnic community, it is but natural to see that their number outnumbers the respondents belonging to all other ethnic and social groups.

Gender-wise distribution of respondents

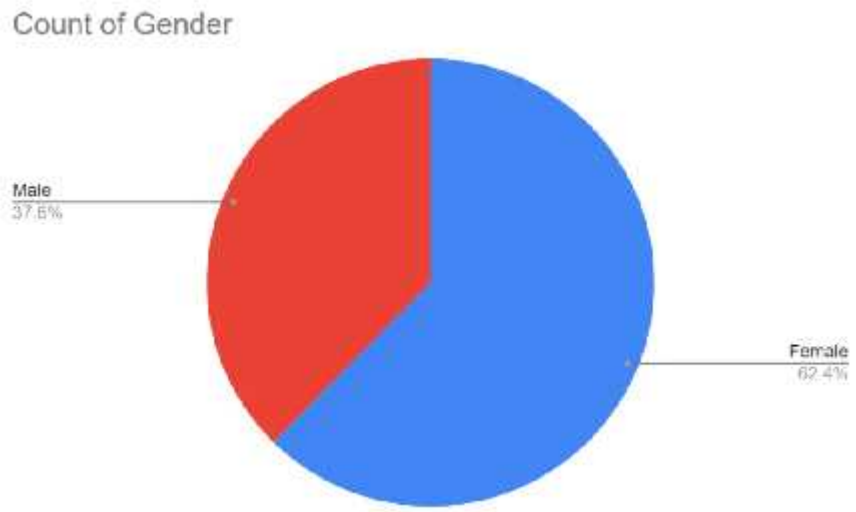

Figure 2 (Source: Field Survey, 2023)

In the survey, female respondents (62.4%) outnumbered male respondents by almost (37.6%) percentage.

Such huge gender-gap among the respondents has raised some pertinent questions like - What could be the reason for such a big gender gap between the male and female respondents? Does data on respondents really reflect the existing demographic picture of the study-area? Why the gender representation among the respondents is so much disproportionate? Has this big gender-gap occurred due to some ‘biases of either the researcher or that of his assistants?

Marital Status of respondents

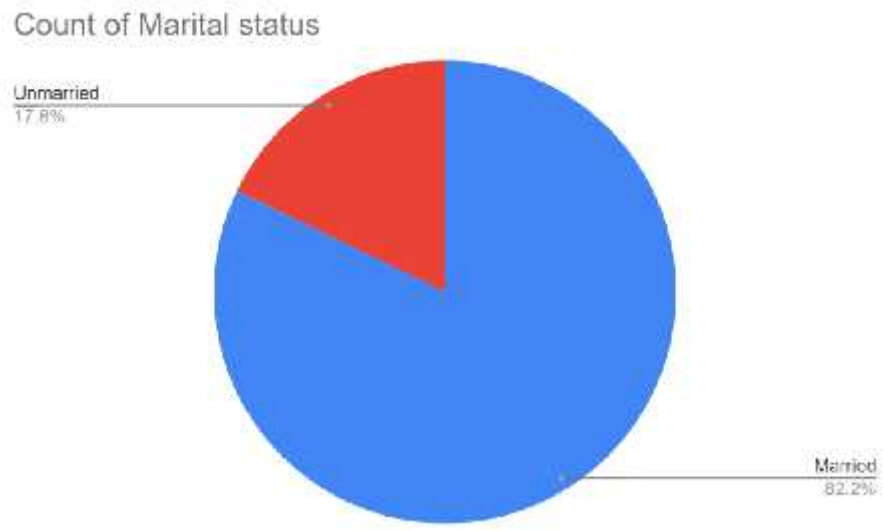

Figure 3 (Source: Field Survey, 2023)

Talking about marital status of respondents, it was found that married people (82.2%) greatly outnumbered unmarried ones (17.8%). These figures may look somewhat unusual. Because, it raises question why there are so many married people in this study-area. People may further ask what happened to young men and women of marriageable age, whether they have left for education or employment in very large numbers leaving behind only elderly marred people, etc.?

Educational background of the respondents

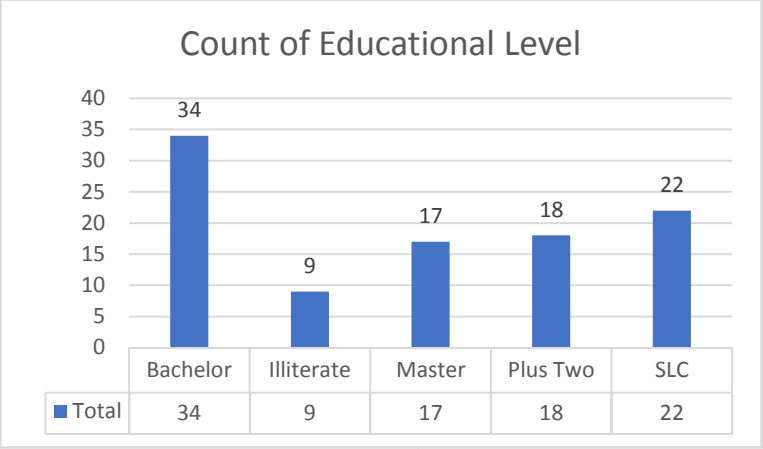

Figure 4 (Source: Field Survey, 2023)

The above data analysis of bar diagram has shown that in the count of educational level, majority of 34 respondents have completed up to bachelors' level, 9 respondents have not completed proper education level, 17 respondents have passed the masters level, 18 respondents have passed higher secondary level\Plus Two and lastly up to 22 respondents had passed SLC level only.

Since the study-area is located not very far away from the heart of the Kathmandu city, it appears that majority of respondents have had the opportunity to get the higher educational degrees like the M.A, B.A. etc. As such, the higher-level educational attainments can also impact many other variables related to these respondents like their economic status, occupational status, attitude, opinion and many others etc.

Income Sources of respondents

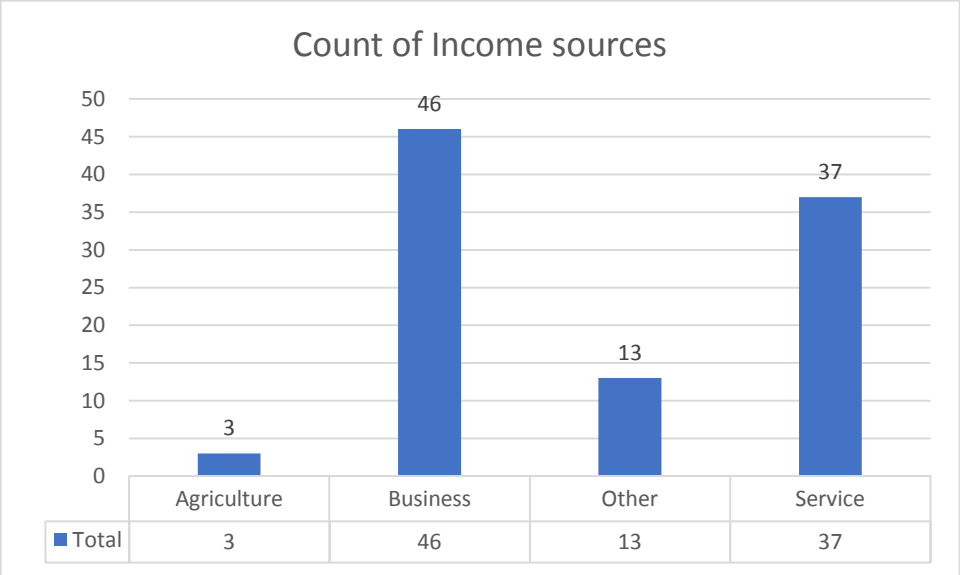

Figure 5 (Source: Field Survey, 2023)

Talking about the count of income sources of the respondents, it was found out that a big majority were involved in business (46) and service (37). It was also found that (13) respondents were engaged in miscellaneous activities and only up to (3) respondents were engaged in agricultural work.

This data on occupation of the respondents highlights two things; first, the study-area is mostly populated by highly educated Newars, the traditionally business class people, most of them are

either active in business or some younger people may have opted for the service profession too. Likewise, in case of Chhetris and Brahmins too, the second and third largest social group among the respondents, it is also equally obvious that since they too might be highly educated people and unlike Newars, they prefer to choose the 'service' as their profession.

Status of House Ownership of House/On Rent

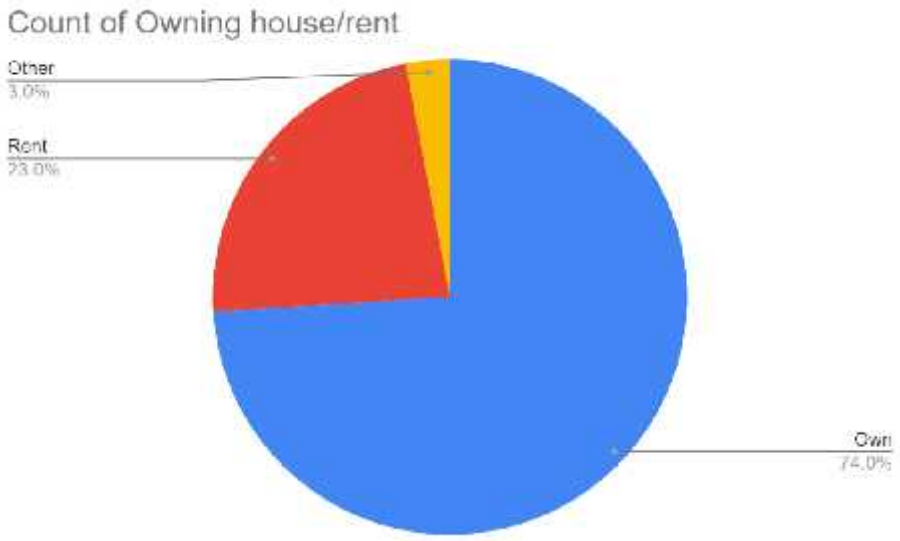

Figure 6 (Source: Field Survey, 2023)

This study found that a big majority of respondents (74%) owned the house compared to the respondents who lived in the rented house (23.0%). About (3.0%) reported another category. This figure shows that as majority of respondents are house-owners they may not face big trouble in .in getting financial assistance from NRA if they make a effort to get it or seek the house-reconstruction loan from a bank.

4.3 Understanding of Earthquake:

Understanding of causes of the Earthquake

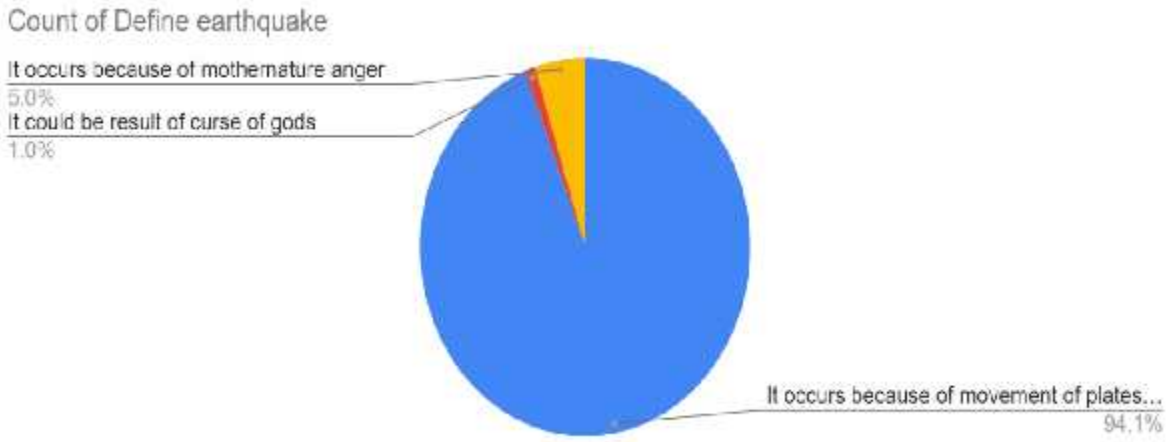

Figure 7 (Source: Field Survey, 2023)

On the important subject of understanding of the causes of the earthquake, majority of respondents (94.1%) gave a rational answer by attributing it to the "movement of the plates inside the surface of Earth; a small number attributed the cause of earthquake to the mother nature's anger (5.0%) and even smaller number (1.0%) thought it could be due to the curse of the Gods.

It is very interesting as well as surprising to see that an overwhelming number of the respondents hold a very rational and scientific view on the possible cause of the earthquake. What factor may have helped them to develop such rational or scientific perspective on the earthquake? Is it because of their constant exposure different types of media, like TV, radio, newspapers, social media etc.? Or is it because of their higher level of education or business and job-related exposures etc. 'While viewing from the newly emerging perspectives on the understanding of the many talked-about concepts like 'solidarity'. 'Resilience', the presence of such positive attitude among the majority of community members is a very encouraging thing, indeed.

Causes of Earthquake

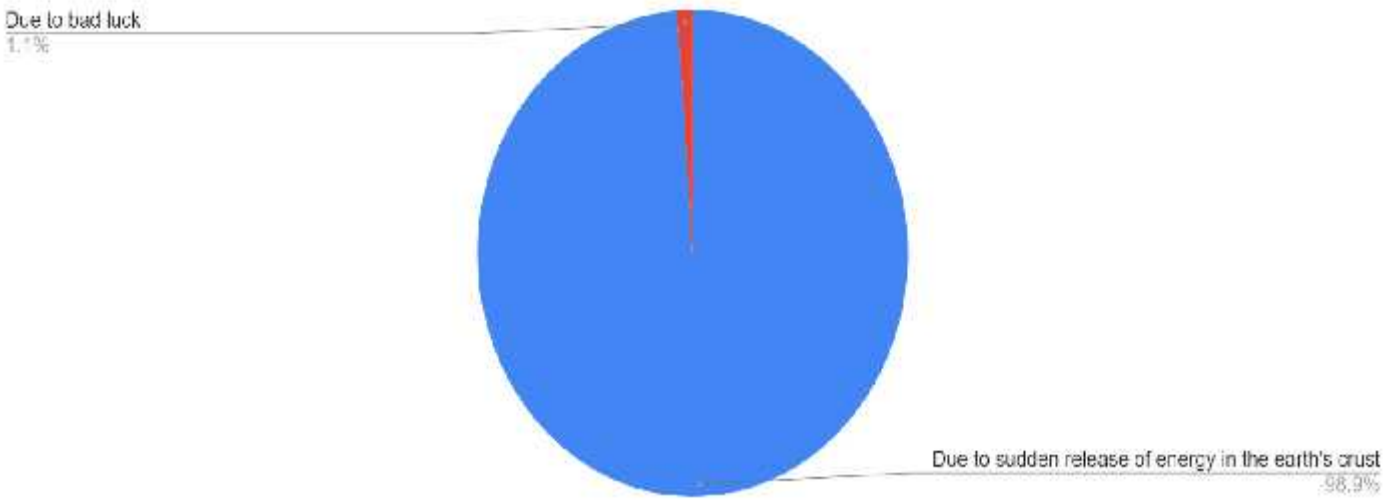

Figure 8 (Source: Field Survey, 2023)

When the respondents were asked further to explain the causes of earthquake a vast number (98.9%) of respondents replied that it is caused due to the sudden release of the accumulated energy in the Earth's inner crust, whereas, a small number (1.1%) believed that it could have occurred due to the bad luck.

Whereabouts of respondents at time of earthquake of Baisakh 12, 2072

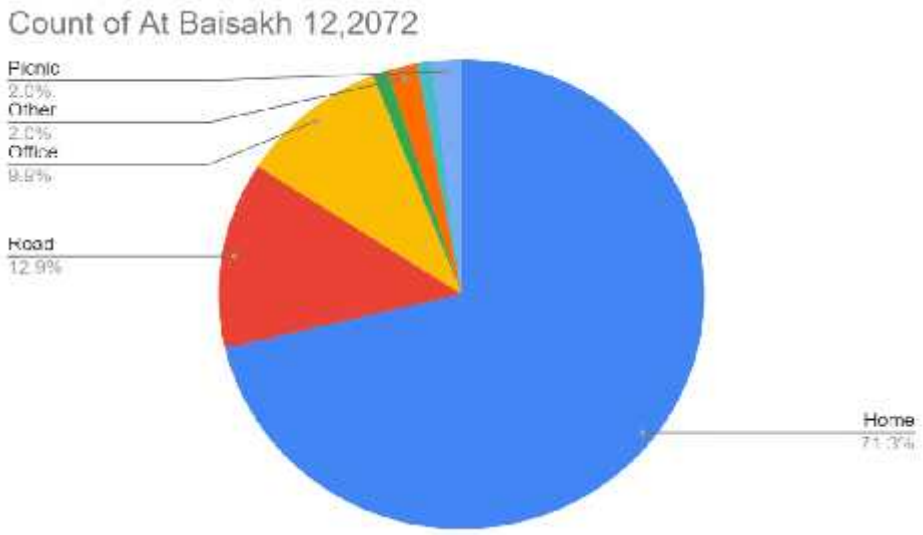

Figure 9 (Source: Field Survey, 2023)

Since the recent mega-earthquake occurred at the late morning, the starting time of busy day of most of the people, the respondents were found to be engaged in different activities at different places. It has been found that overwhelming majority of respondents were (71.3%) were staying at home; next largest numbers of respondents (12.9%) were traveling in the road; third largest group of respondents (9.9%) have replied that they were working in the office and a small group of respondents were found to be spending their time in picnic activities (2.0%) and similar number (2.0%) in some other activities.

Activity at the time of earthquake

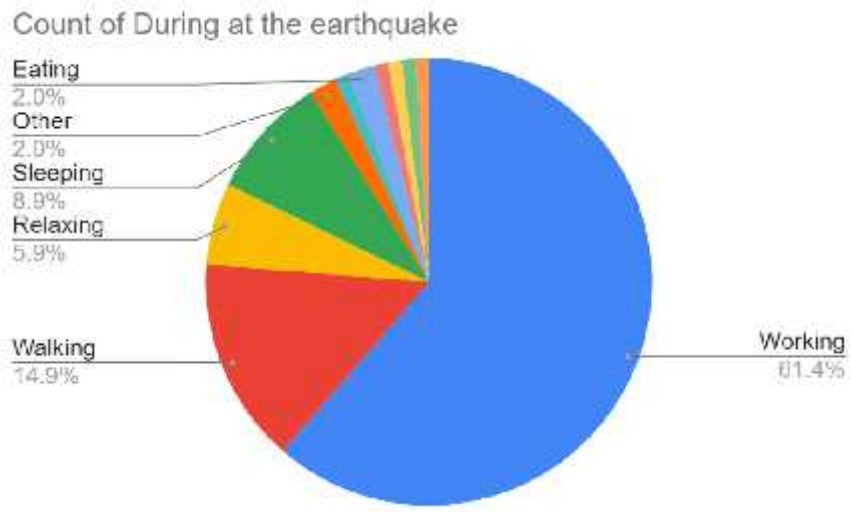

Figure 10 (Source: Field Survey, 2023)

When queried about the activity in which the respondents were engaged at the time of the earthquake, a big majority (61.4%) replied that they were working; about (8.9%) replied that they were sleeping; about (5.9%) said that they were relaxing and a small proportion, (2.0%) each were found to be eating or engaged in some other activities.

4.4 Respondents Knowledge of Earthquake Damages

Respondents Knowledge of Houses Being Destroyed

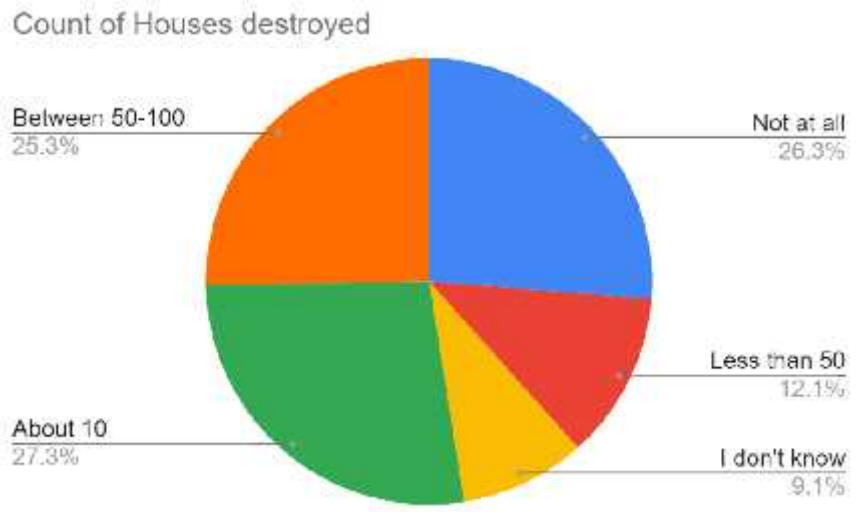

Figure 11 (Source: Field Survey, 2023)

When respondents were asked to give the information on the number of the houses destroyed during the earthquake, about (25.3%) informed that between 50-100 houses may have been destroyed; about (12.1%) respondents replied that less than 50 houses may have been destroyed; about (26.3%) replied that no houses were destroyed and about (9.1%) respondents admitted that they do not know anything. These figures may prove that the community people in the urban are do not interact with each other and do not know about each other very much.

Number of Earthquake-Casualties

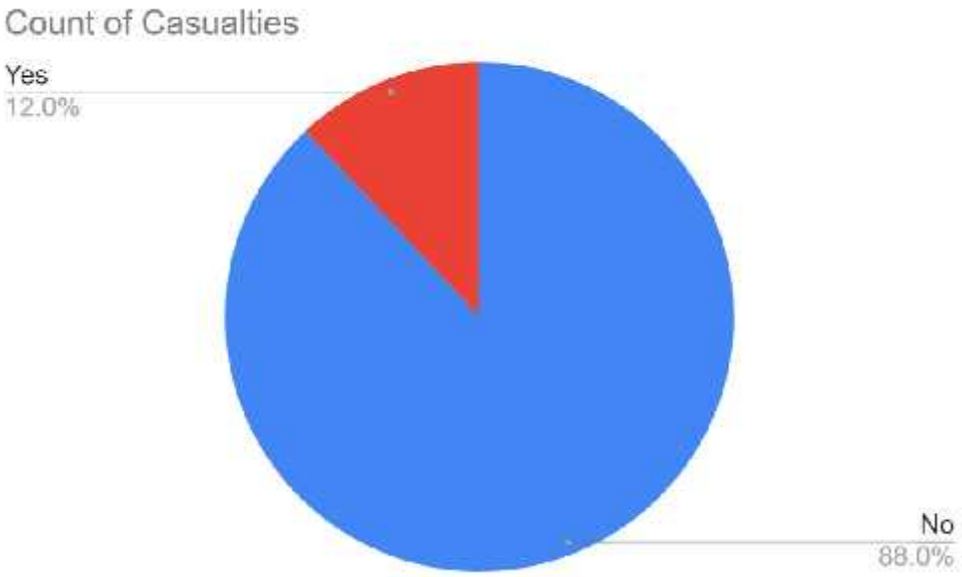

Figure 12 (Source: Field Survey, 2023)

When respondents were asked about their knowledge of the human casualties that may have occurred during the earthquake, a large number of respondents replied in negative (88.0%), whereas, only a small number replied that they were aware of the casualties (12.0%).

This information on the very low casualties and fatalities related to the earthquake is in contrast with the figures for many other earthquake-affected districts in the Central Nepal. What could be the possible cause for these low figures? Is it because most of the houses where the local community resides are comparatively strongly built and more earthquake resistant too? Or, may be, many of these people had learned about the need for having the pre-disaster preparedness which might have saved most of the people in the community etc.?

Causes of death and injury

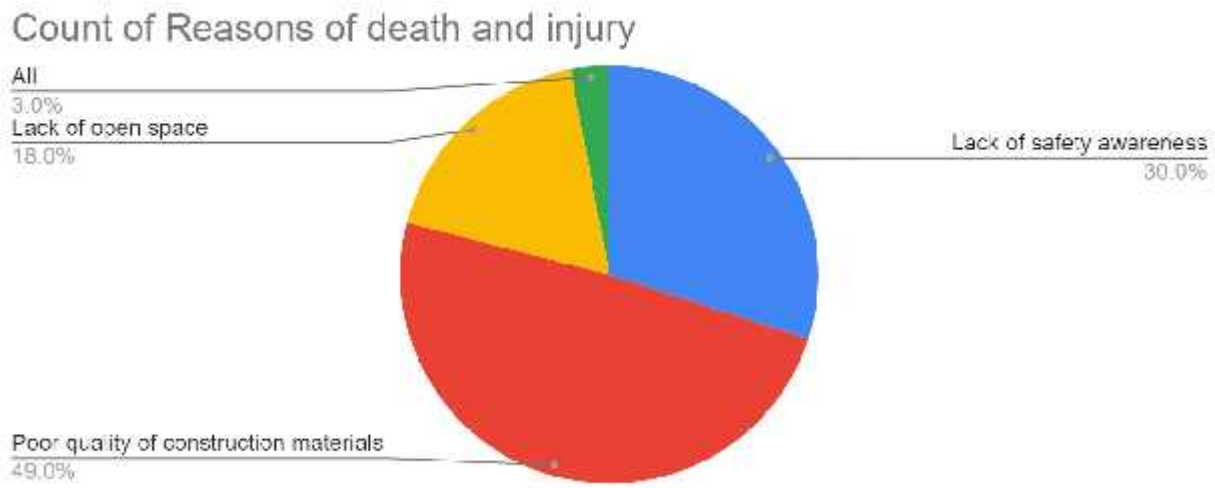

Figure 13 (Source: Field Survey, 2023)

When respondents were asked about main causes of death and injury that may have been caused by the earthquake, the majority of respondents attributed that to the poor quality of the construction of materials (49.0%), about (30.0%**)** thought it may have happened due to the lack of the safety awareness, a small number cited lack of open spaces (18.0%) and even small number thought that it could have been due to mixture of all factors (3.0%).

Knowledge Ownership of Destroyed Houses

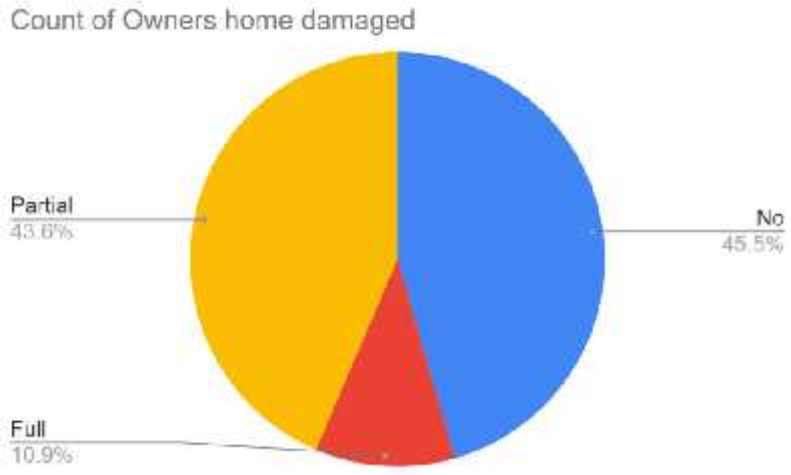

Figure 14 (Source: Field Survey, 2023)

When house owners were asked about the extent of the destruction being caused to their houses, about (43.6%) responded that the destruction was only ‘partial’; about (10.9%) admitted that destruction was full and (45.5%) respondent said that no damages to their houses have occurred.

4.5 Reconstruction Process

Damaged house being shown to engineers

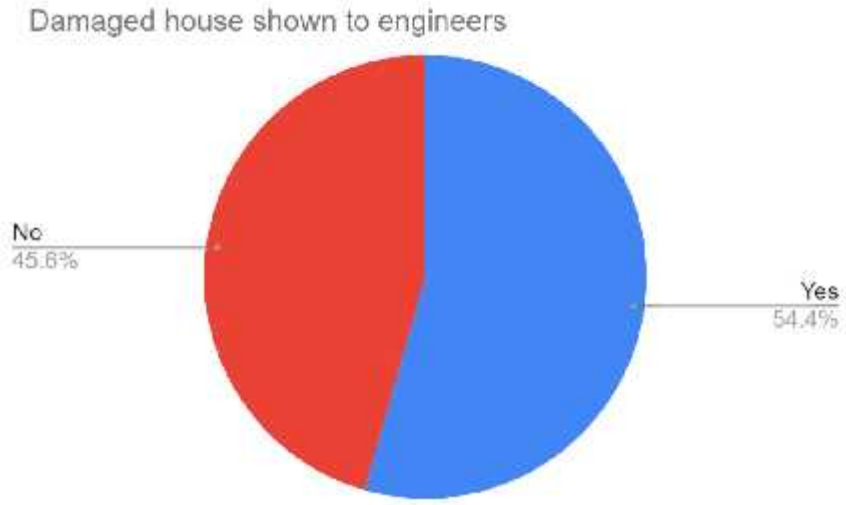

Figure 15 (Source: Field Survey, 2023)

When respondents were asked whether they have shown the earthquake-damaged house to the engineers to seek their opinion, a majority of respondents (54.4%) replied in the positive, whereas, about (45.6%) replied in negative.

Planning to build/reconstruct a house in future

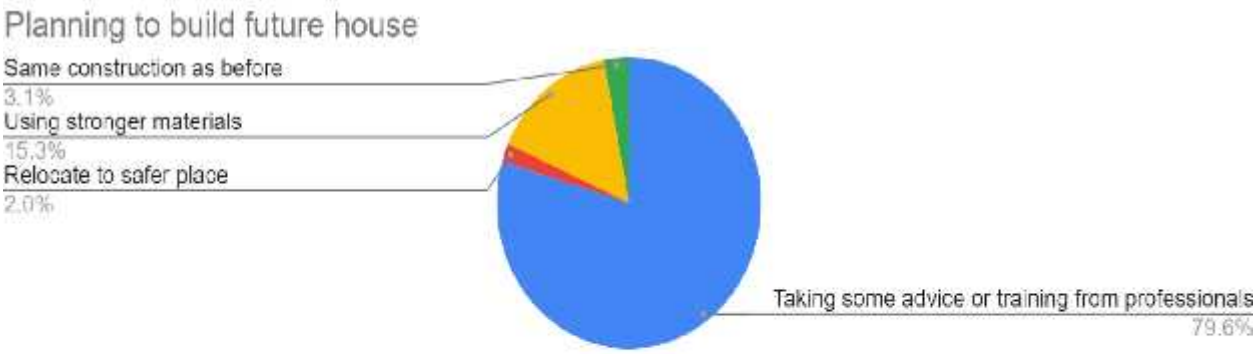

Figure 16 (Source: Field Survey, 2023)

When the respondents was asked the question about how he/she was planning to build the house in the future, a big majority answered that they would do that by taking some advice or training from the professionals (79.6%); about (15.3%) repiled that they would do that by using the stronger building materials, a small number of respondents (3.1%) said that they would be constructing the house same as before and even smaller number said that they would be relocating the future house in a more safer place instead.

Problems faced during reconstruction

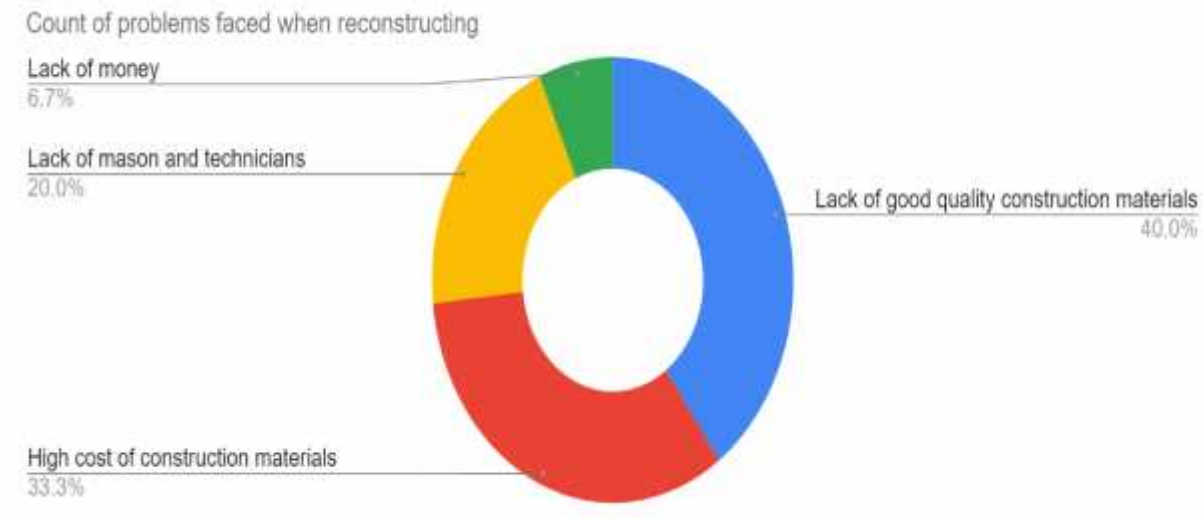

Figure 17 (Source: Field Survey, 2023)

When respondents were asked to share their problems during reconstruction, largest number (40.0%) respondents mentioned the issue related to the lack of good quality construction materials. Second largest group of respondents (33.3%) complained about the high cost of construction materials, about (20.0%) of respondents cited the problem like the lack of masons and technicians and a small group of about (6.7%) mentioned lack of money as the problem.

Methods to construct strong earthquake-resistant buildings

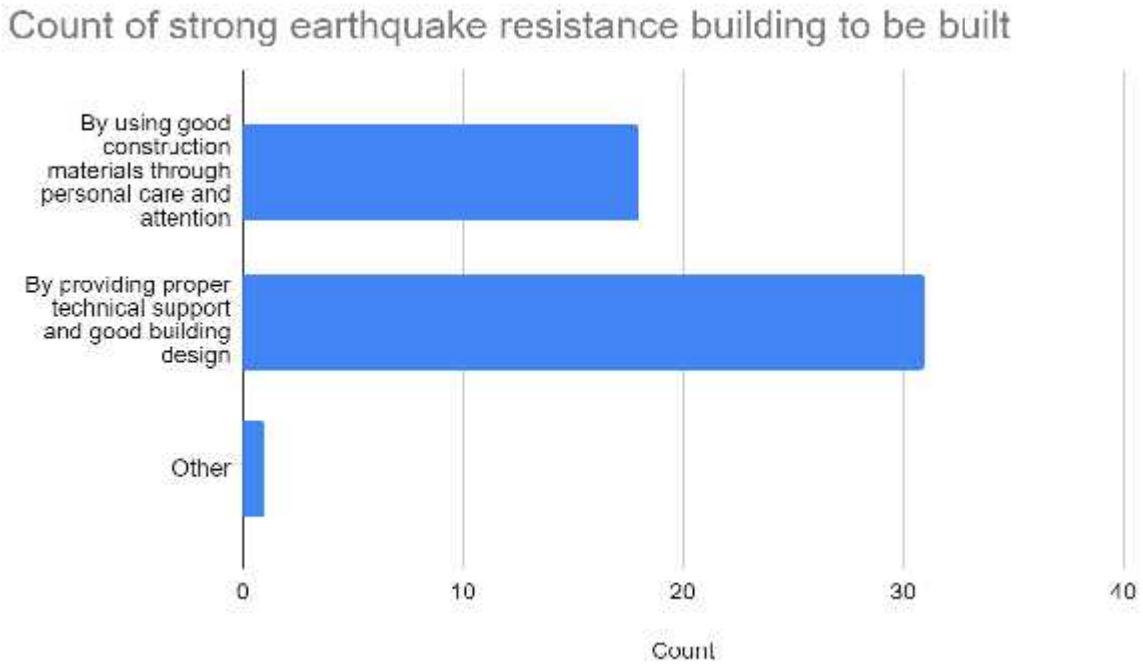

Figure 18 (Source: Field Survey, 2023)

The largest number of respondents (30.0%) felt that best way to construct a strong earthquake resistant building can be achieved by providing the proper technical support and a good building-design to the needy people; a smaller number (18.0%) thought that it can be done by using good construction materials as well as the good personal care and attention and even smaller number (2.0%) cited other factors.

Assistance from GON/INGOs/NGOs during Earthquake

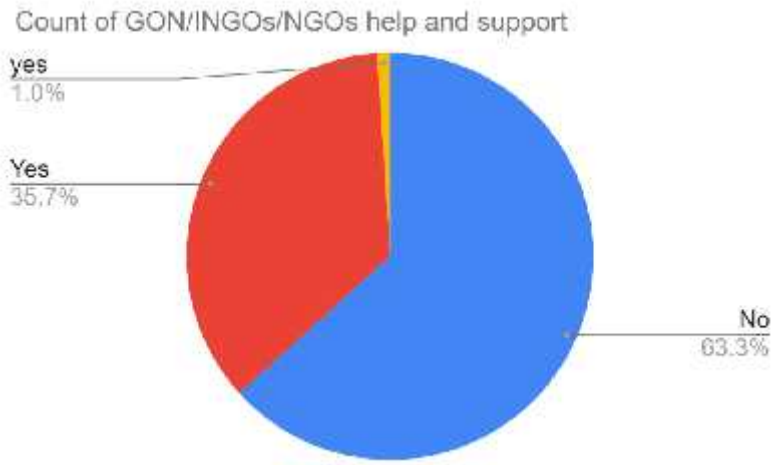

Figure 19 (Source: Field Survey, 2023)

When asked about assistance from the Government of Nepal (GON), International Non-Government Organization (INGOs) and Non-Government Organization (NGOs), a big majority (63.3%) replied in negative compared to only (35.7%) affirmative answers. About (1.0%) respondents replied that they have no knowledge of the subject. The figures, if true, may raise the question whether NRA or INGOs and NGOs have ignored the issue of reconstruction in the urban area?

If yes, what kind of assistance being received?

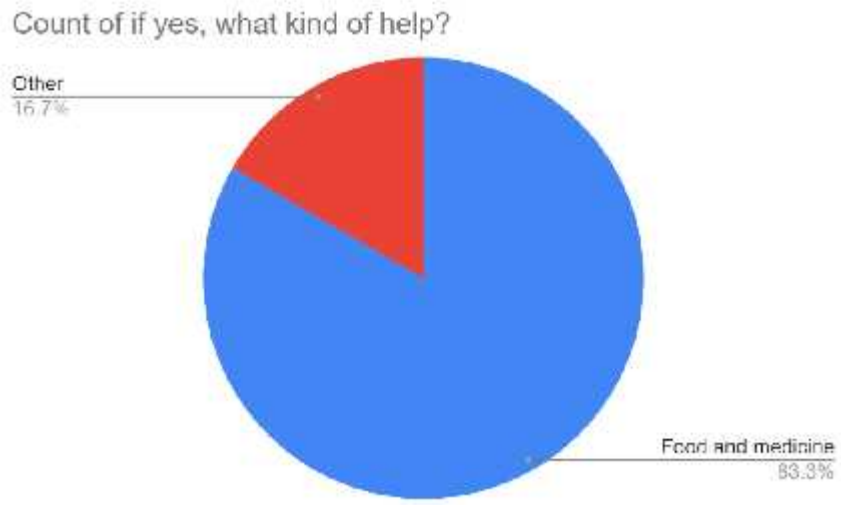

Figure 19.1 (Source: Field Survey, 2023)

When question was asked to the respondents who had said ‘Yes’ about the kind of assistance that they had received, an overwhelming majority of (83.3%) said that they had received food and medicine and about (16.7%) respondents replied that they had received some other things.

Knowledge about agency which provided assistance

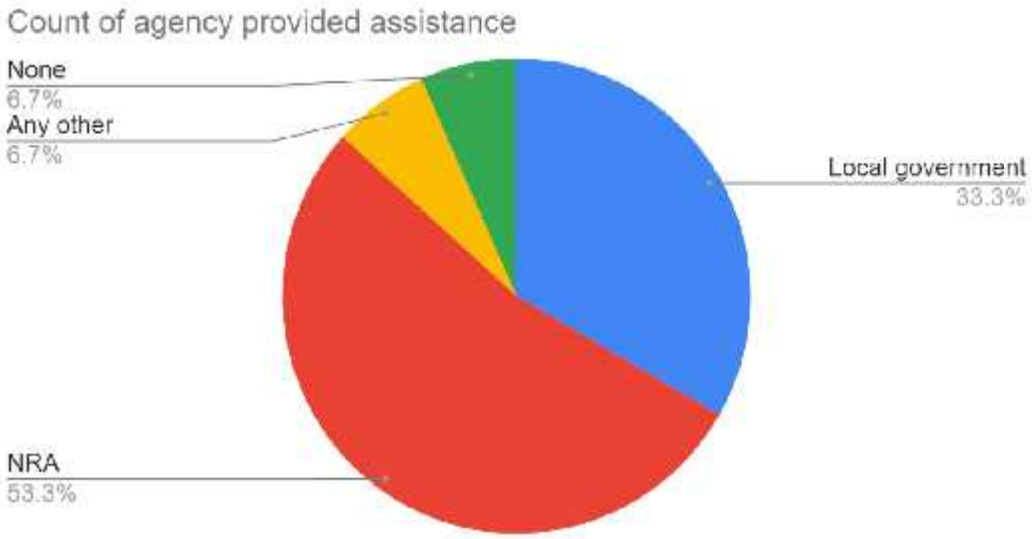

Figure 20 (Source: Field Survey, 2023)

When respondents were asked to name the agency which had provided them assistance to reconstruct the house, majority of them named National Reconstruction of Authority (NRA)- the specialized agency being set-up by the government, about (33.3%) named the Local Government, a small number named some other sources (6.7%) and similar number replied that they have received assistance from none of the agencies.

Information on feeling of satisfaction with the assistance received

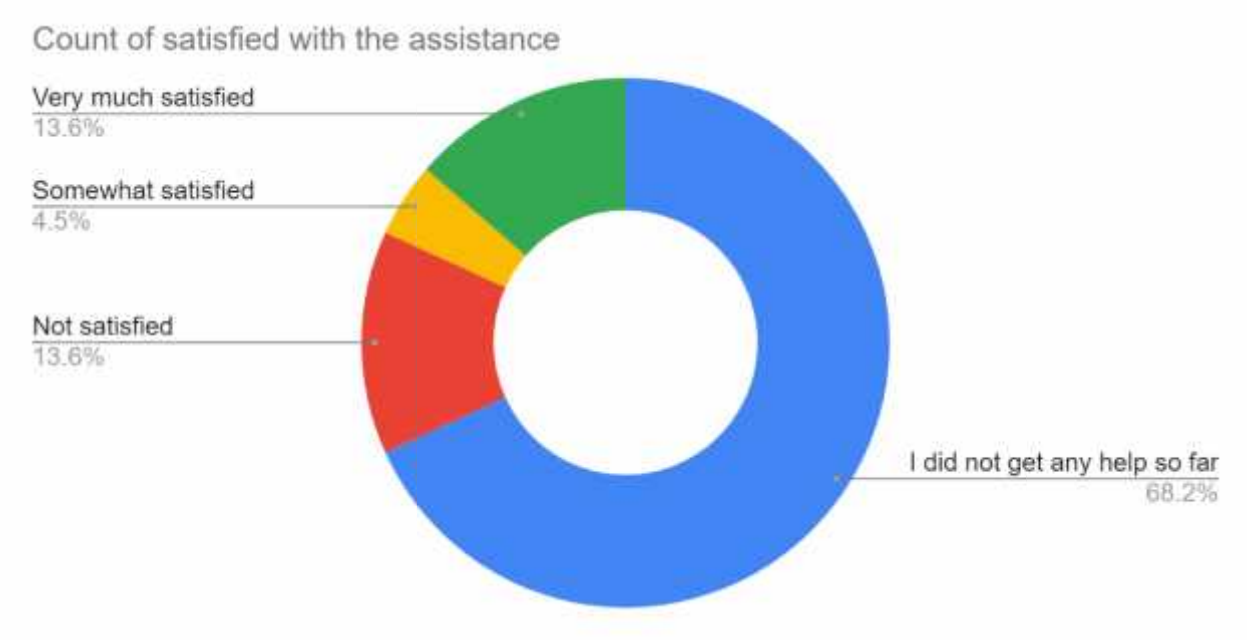

Figure 21 (Source:Field Survey, 2023)

When respondents were asked about the level of their satisfaction with the assistance received in reconstruction\rebuilding of their damaged houses (13.6%) admitted that they were very much satisfied; a smaller number (4.5%) replied that they were somewhat satisfied whereas a larger propotion of respondents (13.6%) replied that they were not satisfied; still even more larger number (68.2%) replied that they have not received any helped from any agency so far.

Information on problems faced in getting loans\assistance

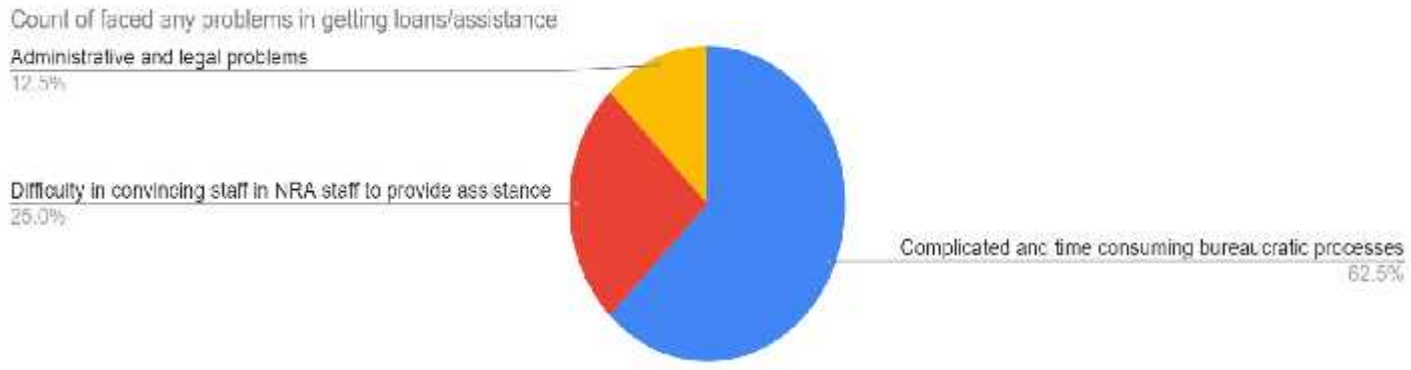

Figure 22 (Source: Field Survey, 2023)

When asked to share problems they had to faced in the process of getting loans and assistances from the different sources, the largest number of respondents (62.5%) cited the issue related to the complicated and time-consuming bureaucratic processes; the second largest group (25.0%) informed that difficulty in convincing the NRA staff to provide assistance as an important problem and finally a small group of (12.5%) respondents cited various administrative and legal

Knowledge about funding support by NRA

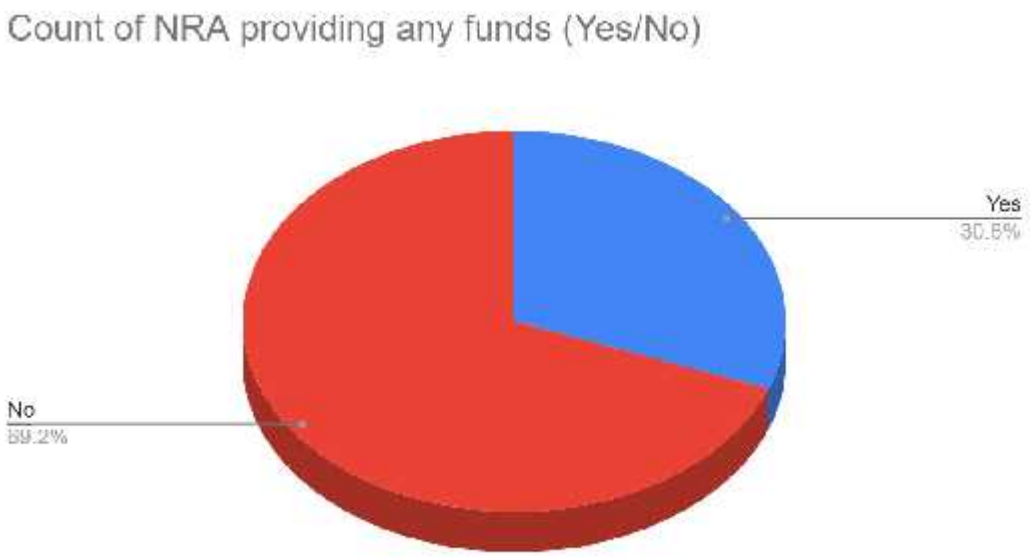

Figure 23 (Source: Field Survey, 2023)

When respondents were asked about the funding support provided by the National Reconstruction Authority (NRA) the main agency insituted by government to take leading role in the reconstruction of the earthquake-damaged buildings in Nepal, about (30.8%) of respondents admitted that they have received funds as compared to (69.2%) respondents who replied this question in the 'negative.'

Information on funds recieved

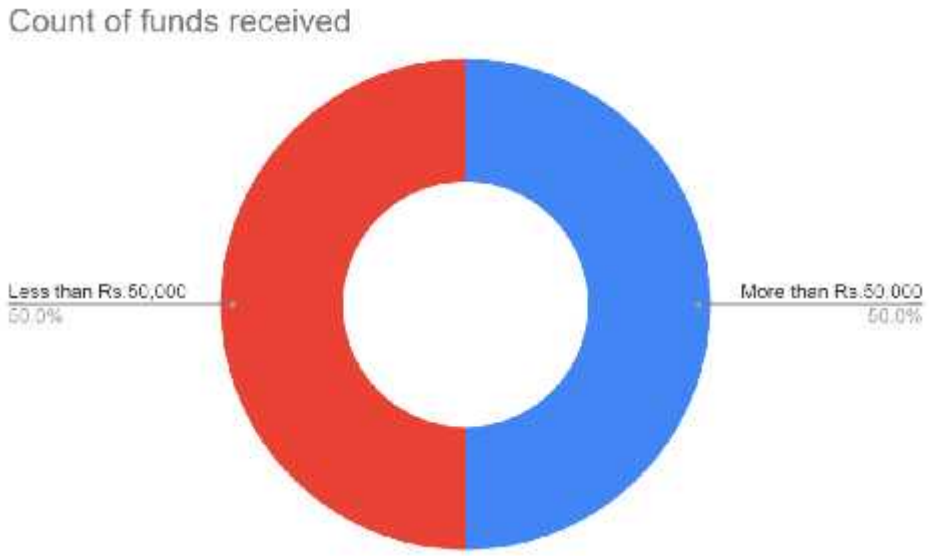

Figure 24 (Source: Field Survey, 2023)

Replying to the question related to amount of the funds being received, almost (50.0%) informed that the amount was more than Rs. 50,000. Likewise, similar proportion of respondents (50.0%) informed that they received less than Rs. 50,000.

Information on planning to get loan from bank/financial institutions

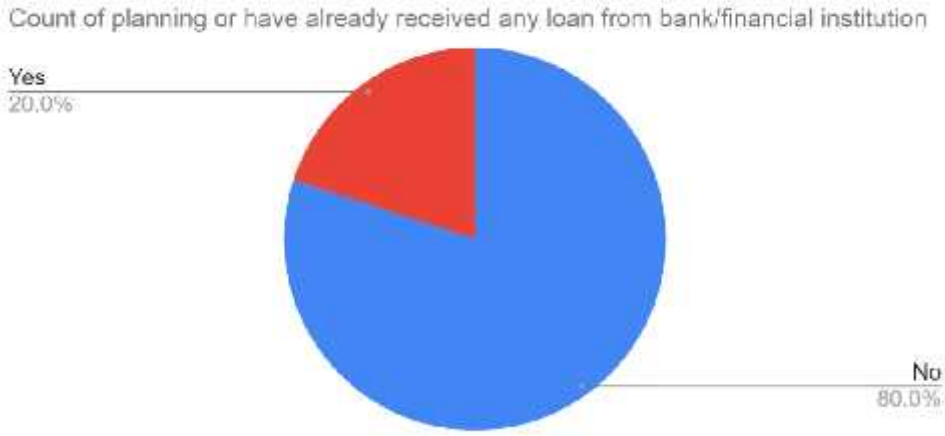

Figure 25 (Source: Field Survey, 2023)

Only about (20.0%) respondents replied that they were planning to get loan from bank/financial institution; whereas, (80.0%) replied this question in the 'negative'.

4.6 Resilience in Recovery and Reconstruction:

Information on community's strategy aimed at getting a proper response from officials

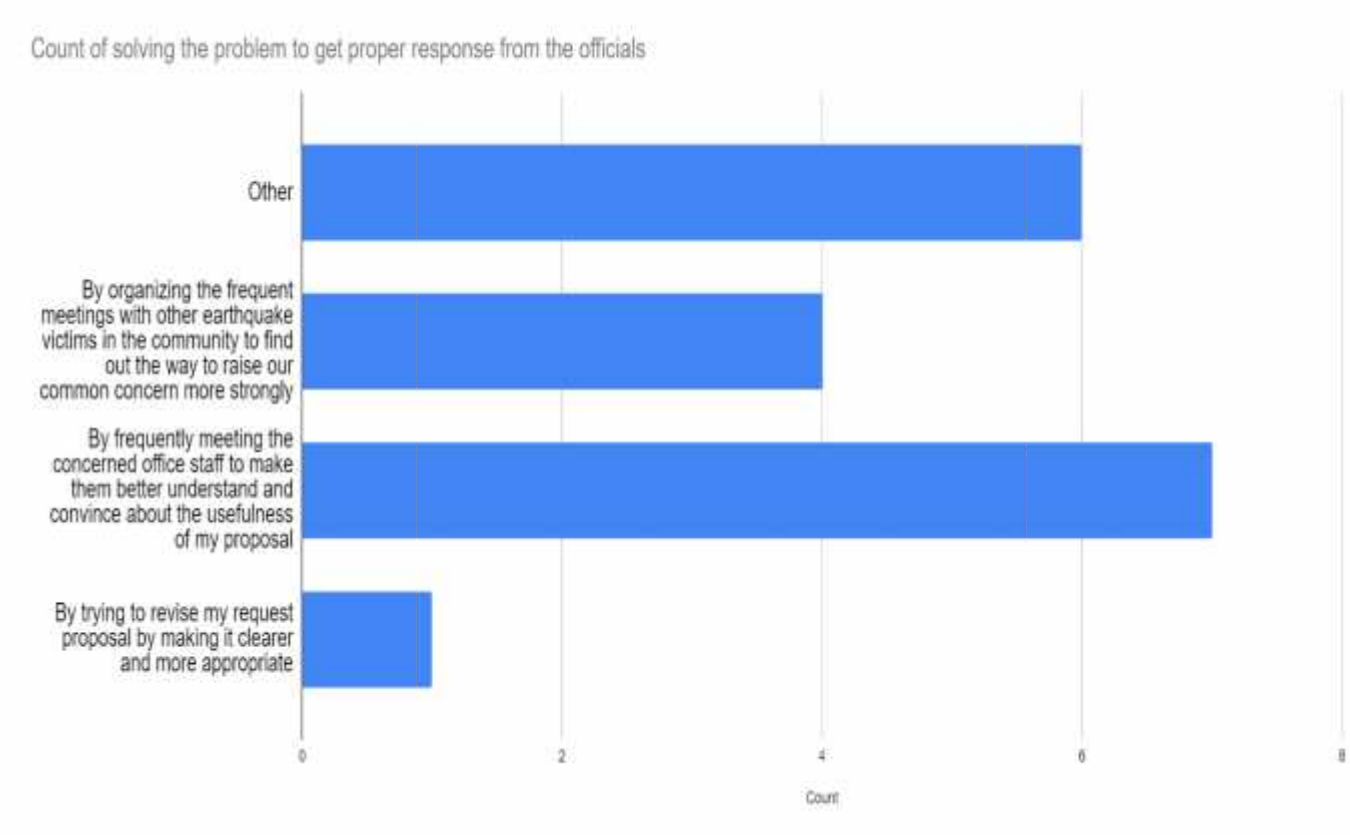

Figure 26 (Source: Field Survey, 2023)

When respondents were asked to share the information related to the strategy they had divised to get a proper response from the officials to their proposal for assistance, largest number replied that they succeded in getting a proper response from the officials by frequently meeting the concern office staff to make them better understand their proposal and convince them about its usefulness. A slightly smaller group mentioned that they had to adopt other strategy (but not clearly mention). Even smaller group of respondents share the information that they used to oreganize the frequent meetings with other earthquake-victims in the community to find out the ways to raise their voice more strongly infront of the concerned officials and even more smaller group replied that they were able to achieve their objective of getting a better response by revising the request proposal and making it more clearer and more appropriate.

Information on effectiveness of changed strategy in convincing officials

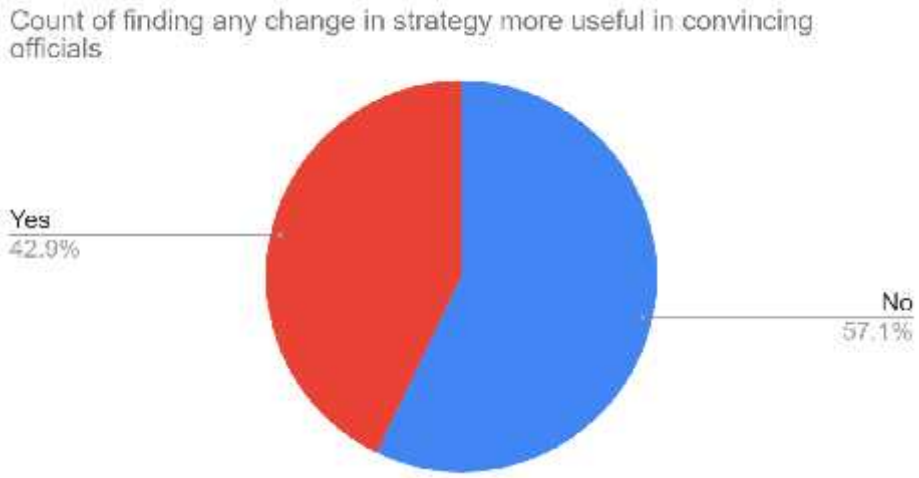

Figure 27 (Source: Field Survey, 2023)

When asked about the effectiveness of the changed new strategy to convince the officials in their favour, about (42.9%) admitted that their that their new strategy proved more effective as against (57.1%) respondent who believed that such changes have failed to change the attitude of officials significantly.

Information on discussion of issues related to rebuilding of damaged house with officials

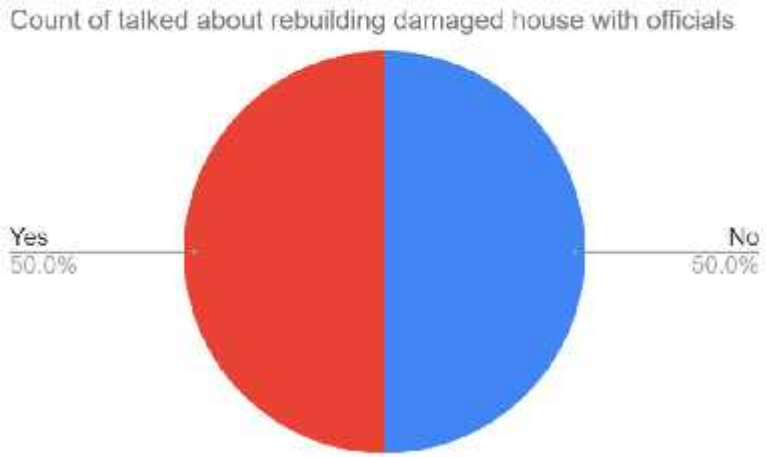

Figure 28 (Source: Field Survey, 2023)

When respondents were asked the question whether they had discussed the issues related to rebuilding of damaged house with officials, about (50.0%) replied in the 'positive' and same numbers in the 'negative' way.

Information on adequacy of preparedness to face Natural Disaster

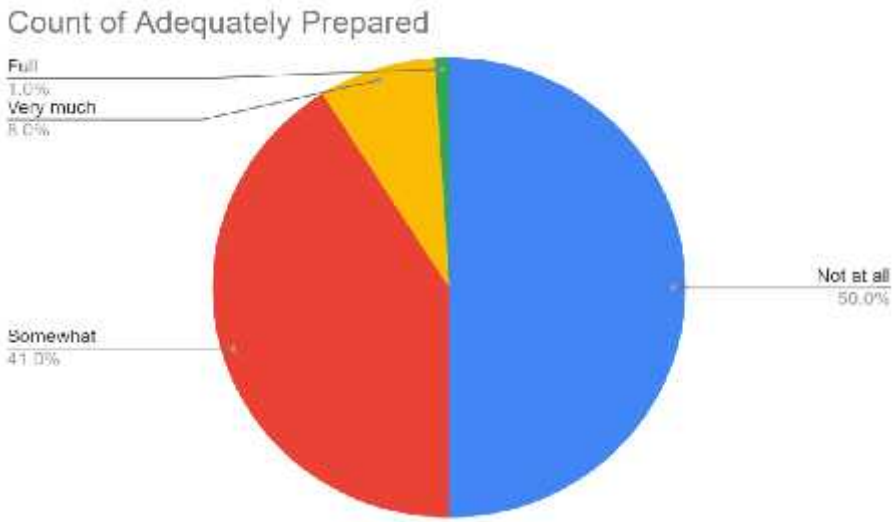

Figure 29 (Source: Field Survey, 2023)

When respondents were asked whether they were prepared to face the natural disaster like the recent earthquake, only (1%) replied that they were fully prepared; about (8%) said that they were very much prepared; about (41%) replied that they were somewhat prepared and overwhelming (50%) replied that they were not at all prepared.

These figure show that any kind of pre-disaster preparation among the community people is very negligible. Who should take the responsibility for this?

Information on necessity of pre-earthquake preparedness of community

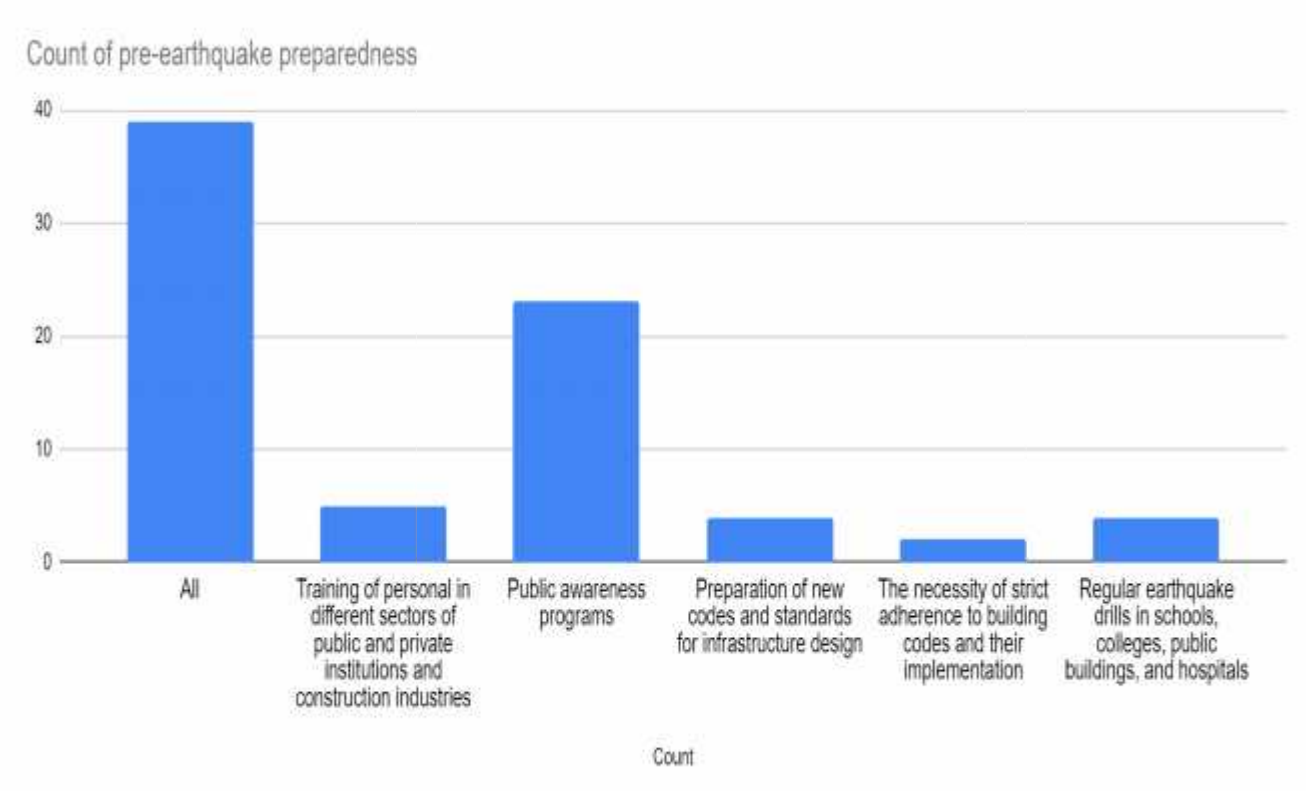

Figure 30 (Source: Field Survey, 2023)

When asked about the necessity of pre-earthquake preparedness of the community, the respondents stressed the need for carrying out some interesting activities like public awareness programs; training of personnel and staff in different sectors of public and private institutions and construction industries; the preparation of new codes and standards for infrastructure design; the necessity of a strict adherence to building codes and its implementation; the regular earthquake drills in schools, colleges, public buildings and hospitals as well as implementing the combination of all these activities for a greater effect.

Information related to making preparation for future

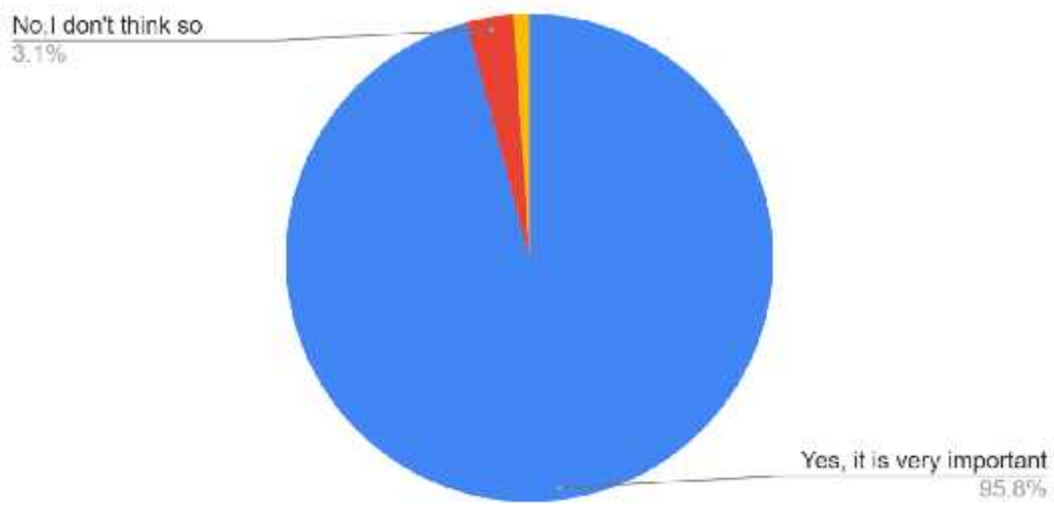

Figure 31 (Source: Field Survey, 2023)

When respondents were asked about the question related to the necessary preparation for the future to meet such disaster, an overwhelming majority (95.8%) emphatically replied that such preparations are very important and only a small number (3.1%) thought that such future preparation are not necessary. These answers show that almost community members have positive attitude towards need for making the pre-disaster preparations.

Information on presence/need for open spaces

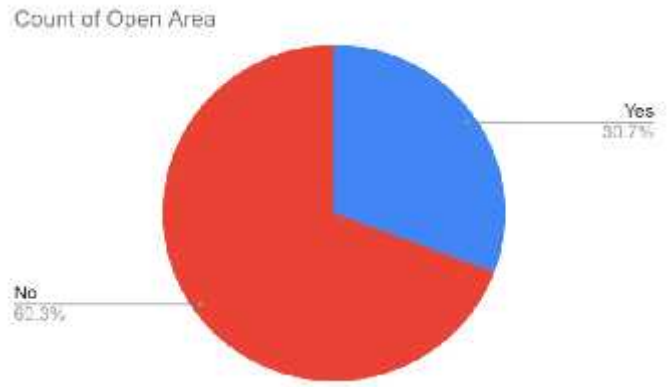

Figure 32 (Source: Field Survey, 2023)

When respondents were asked about the presence of the open spaces in the nearby places during the times of the earthquake, a big majority (69.3%) admitted that they do not exist any open spaces or parks which are close to their locality; whereas, about (30.7%) respondents replied that there exist open spaces in the locality. These figures attest to fact that our urban dwellings are very unscientifically planned, if that was ever done. The community people have left no open space for carrying out outdoor activities.

Types of Assistance needed to reconstruct house

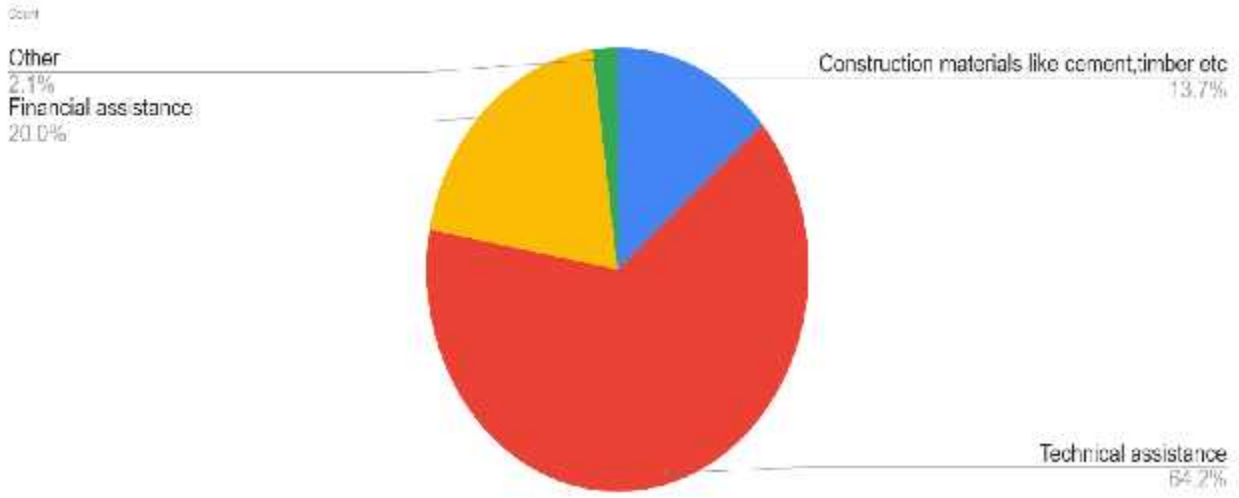

Figure 33 (Source: Field Survey, 2023)

When the respondents were asked the question related to the type of assistance they may need to reconstruct the house, a big majority (64.2%) gave emphasis on the need for technical assistance; about (20.0%) replied that they may need financial assistance; about (13.7%) thought that they may need construction materials like cement, timber etc and a small number (2.1%) thought that they may need other things as well.

4.7 Rescue and Recovery Efforts during Earthquake

Information on rescue efforts

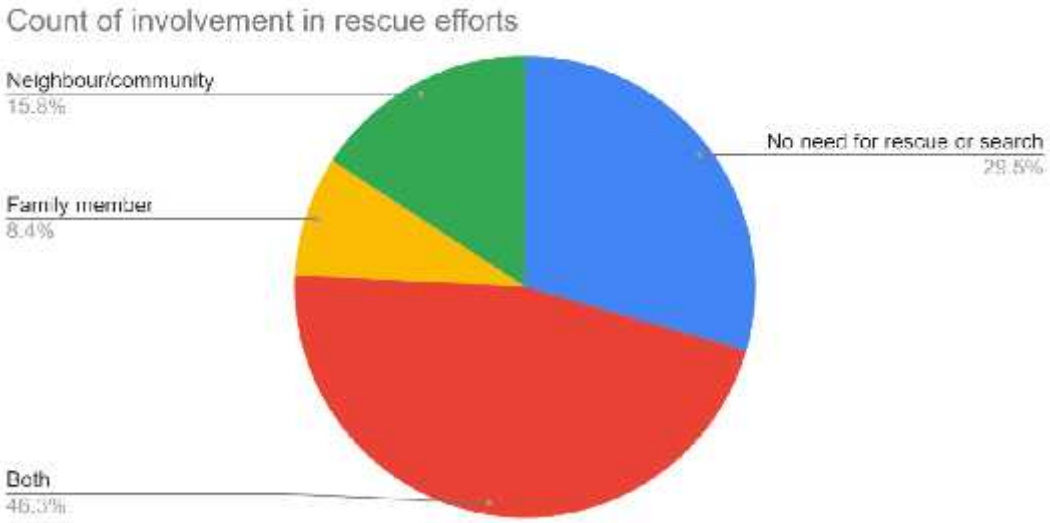

Figure 34 (Source: Field Survey, 2023)

When respondents were asked whether they were involved in the rescue efforts, (15.8%) replied that they were involved in rescuing the neighbor/community people, about (8.4%) said they had helped to rescue the family members, whereas, a significant number (29.5%) said that there was no need for the rescue or the search. A very large number of respondents (46.3%) admitted that they were involved in the rescue of neighborhood people as well as the family members.

Information on people helping in the rescue activity

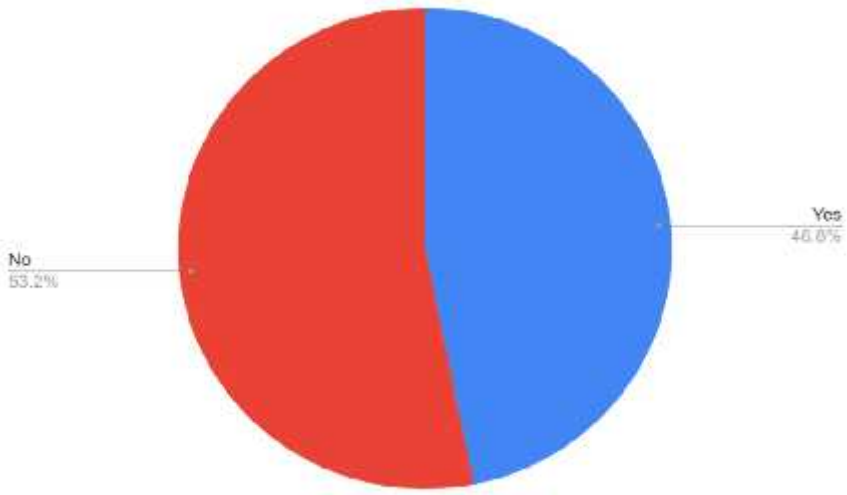

Figure 35 (Source: Field Survey, 2023)

Whether somebody had helped the family members in safely rescuing them from the house during the earthquake, (46.8%) replied' positively' compared to (53.2%) in the 'negative.'

If yes, who were the first rescuers?

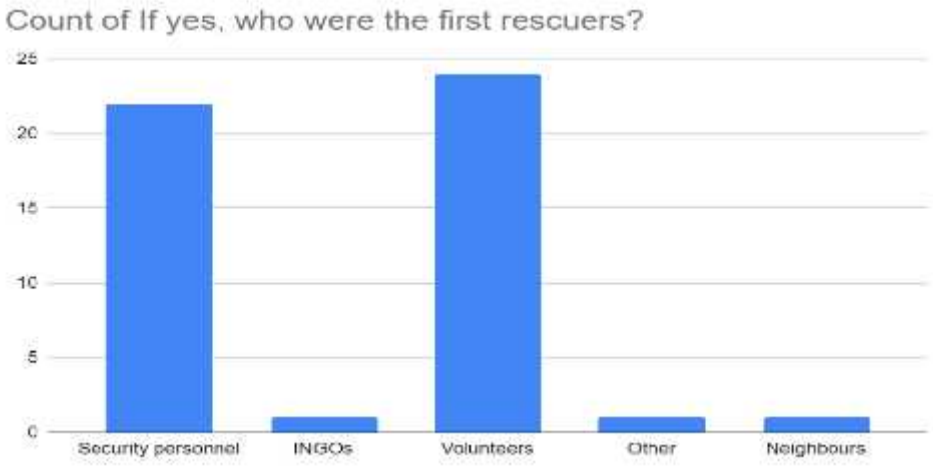

Figure 35.1 (Source: Field Survey, 2023)

In this question, the respondents cited volunteers as the first rescuers followed by the security personnel, neighbors, INGOs and some other people etc.

Information on knowledge/information of safety measure during earthquake

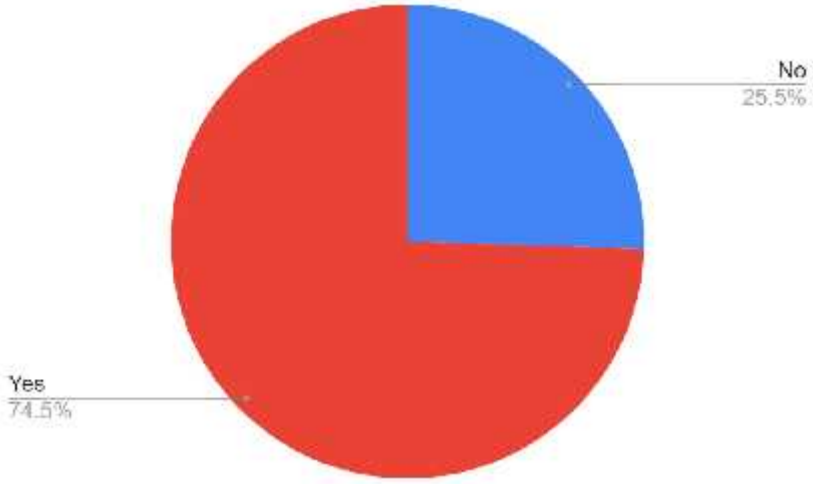

Figure 36 (Source: Field Survey, 2023)

When the respondents were asked whether they possessed any knowledge /information about necessary safety measures during the earthquake, a very large number (74.5%) replied in the 'positive' as compared to only (25.5%) respondents who gave the 'negative' replies.

If yes, how did you get such knowledge/information?

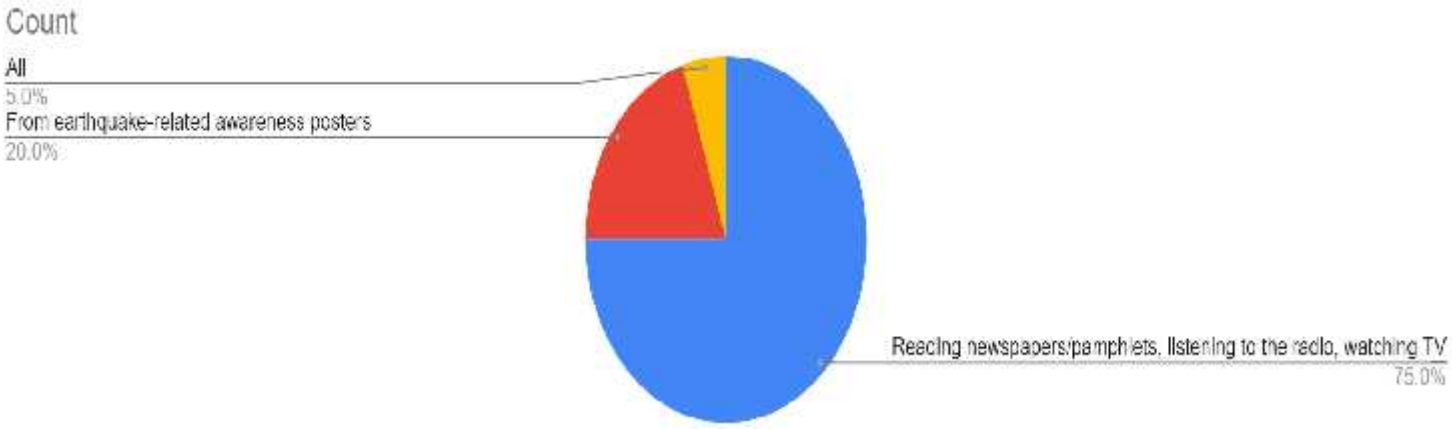

Figure 36.1 (Source: Field Survey, 2023)

When those respondents who had replied in the 'positive' were asked to explain how they did get such useful knowledge/information, an overwhelming majority (75.0%) replied that they got such knowledge by reading the newspapers and listening to the radio and watching TV

programs; whereas, a small proportion (20.0%) said that they got such information by looking at the earthquake-related posters and even smaller group (5.0%) replied that they got information through the combination of all factors.

4.8 Miscellaneous Issues:

Information on social and economic consequences of earthquake

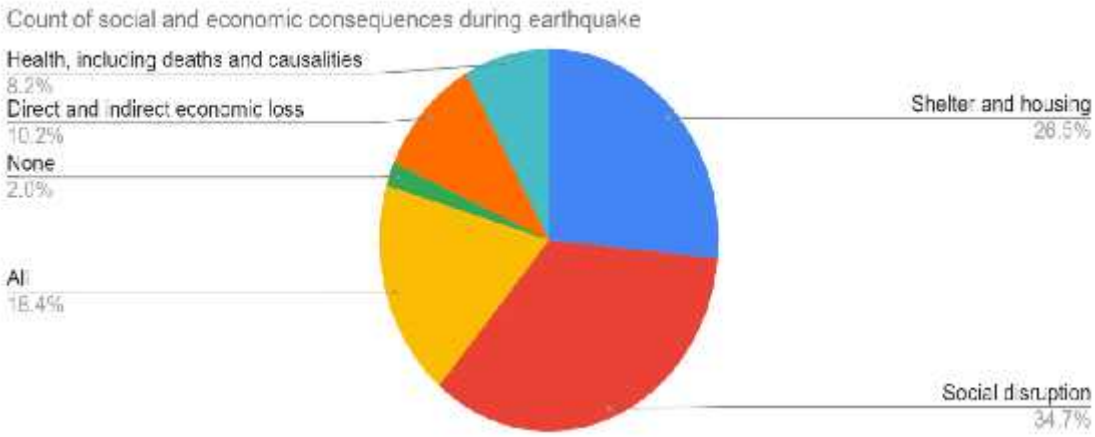

Figure 37 (Source: Field Survey, 2023)

In course of survey, the respondents also informed the researcher about various social and economic consequences of the earthquake like social disruption (34.7%), shelther and housing problems (26.5%), direct and indirect economic loss (10.2%), health problems, including deaths and injuries (8.2%) and combination of all consequences (18.4%). About (2,0%) thought that there were no earthquake related consequences at all.

Hardships/difficulties experienced during earthquake

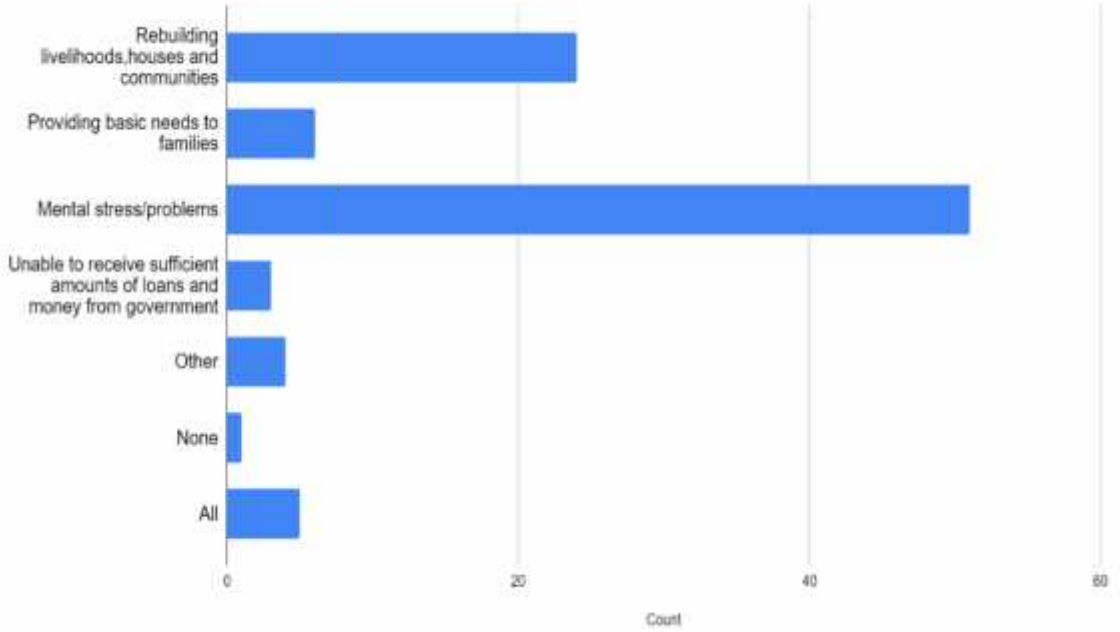

Figure 38 (Source: Field Survey, 2023)

The respondents also shared information about various hardships/difficulties which they had experienced during the earthquake, for example, mental stress, rebuilding problems related to rebuilding livelihoods, houses and communities, providing the basic needs to family, inability to receive sufficient amounts of loans and money from government, other miscellaneous problems and also combination of all above problems. The researcher also found that they were some people who did not experienced any of these problems and consequences.

Information on experienced of any caste-based discrimination/untouchability during earthquake

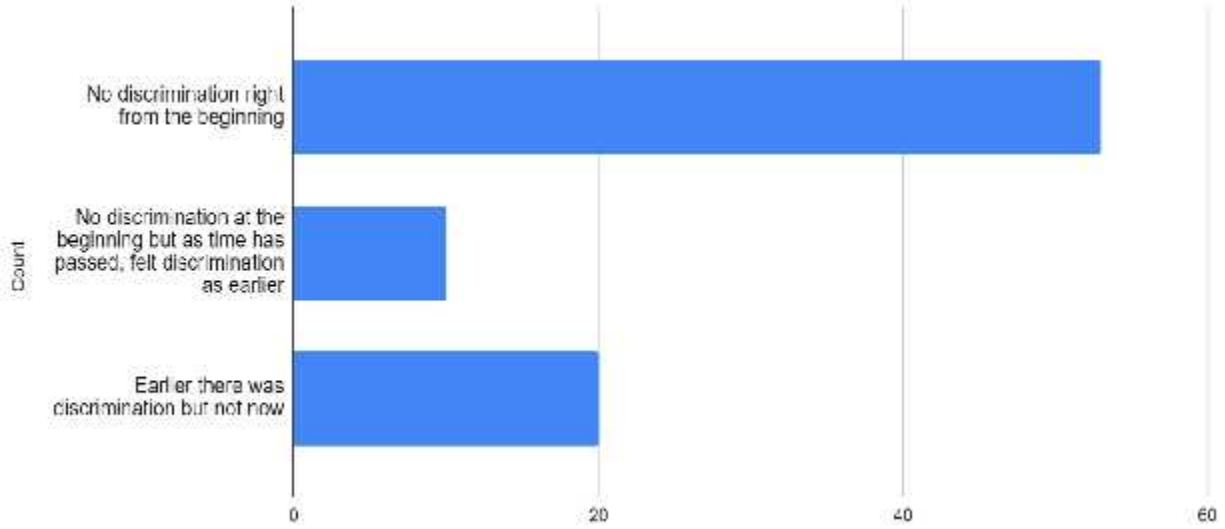

Figure 39 (Source: Field Survey, 2023)

When respondents were asked whether any of them had experienced any type of the caste-based discrimination/untouchability while being forced to live together after being displaced from their damaged houses, a larger number replied that they did not experienced that right from the beginning, a comparatively smaller number admitted that earlier there was no discrimination but the situation is different now and even a smaller proportion replied that there was no discrimination in the beginning but as time passed discrimination appears to have remerged.

Information on problems related to continuation of traditional occupation/business of family

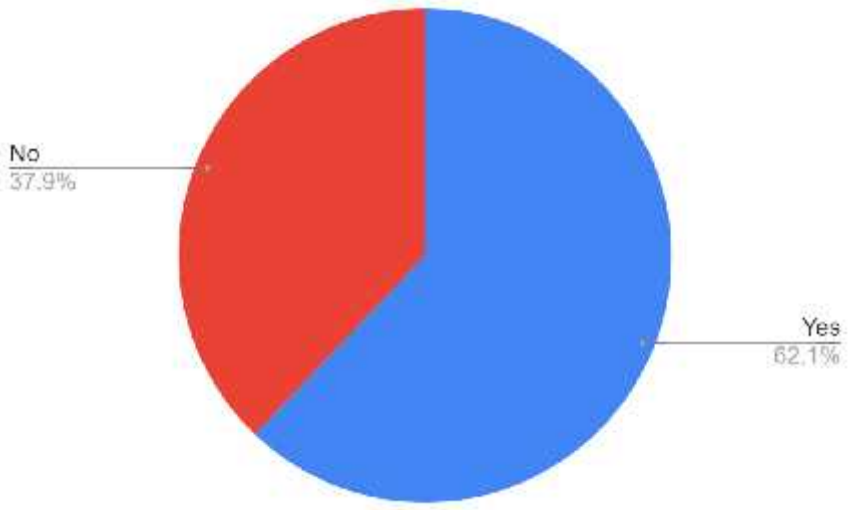

Figure 40 (Source: Field Survey, 2023)

When respondents were asked whether the earthquake affected the continuation of their traditional occupation/business of the family, about (37.9%) replied that there was no effect at all as compared to (62.1%) who admitted that it had affected.

Managing of the food in the evening/night on the earthquake-hit day

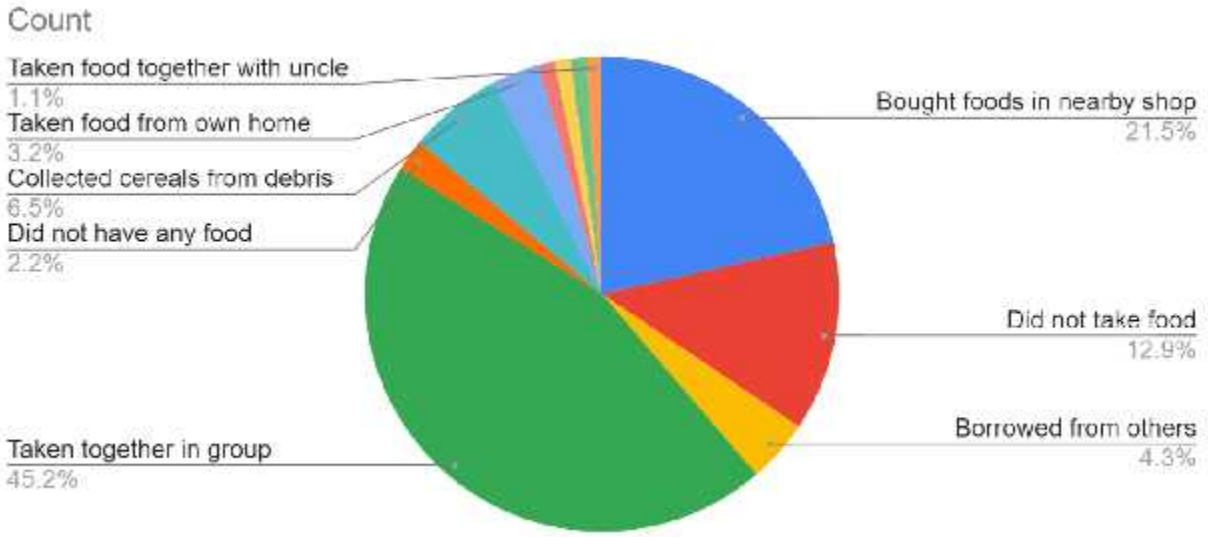

Figure 41 (Source: Field Survey, 2023)

When the respondents were asked the question as how did they manage the food in the evening/night of the earthquake hit-day, a large number (45.2%) replied that they took food together in the group, another group (21.5%) replied that they had bought the foods in a nearby shop, another group (12.9%) replied that they did not eat any food on that day, still another group (6.5%) replied that they had collected cereals from debris of damaged house, a small group of respondent replied that they took food from their own house and a smaller group (1.1%) said that they had taken the food together with their uncle.

Effectiveness of work of rescuers (Government/NGOs/INGOs etc.)

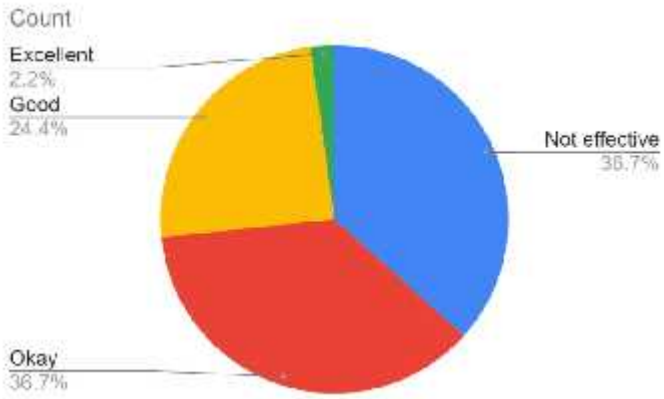

Figure 42 (Source: Field Survey, 2023)

When the respondents were asked to assess the effectiveness of work of the rescuers like (Government/NGOs/INGOs etc.), during the earthquake, the largest group (36.7%) thought it was 'not effective.' However, similar proportion of respondent (36.7%) thought it was 'okay', a smaller group (24.4%) replied that it was 'good' and a very smaller group (2.2%) consider it to be 'excellent.'

Causes of ineffectiveness of rescue work

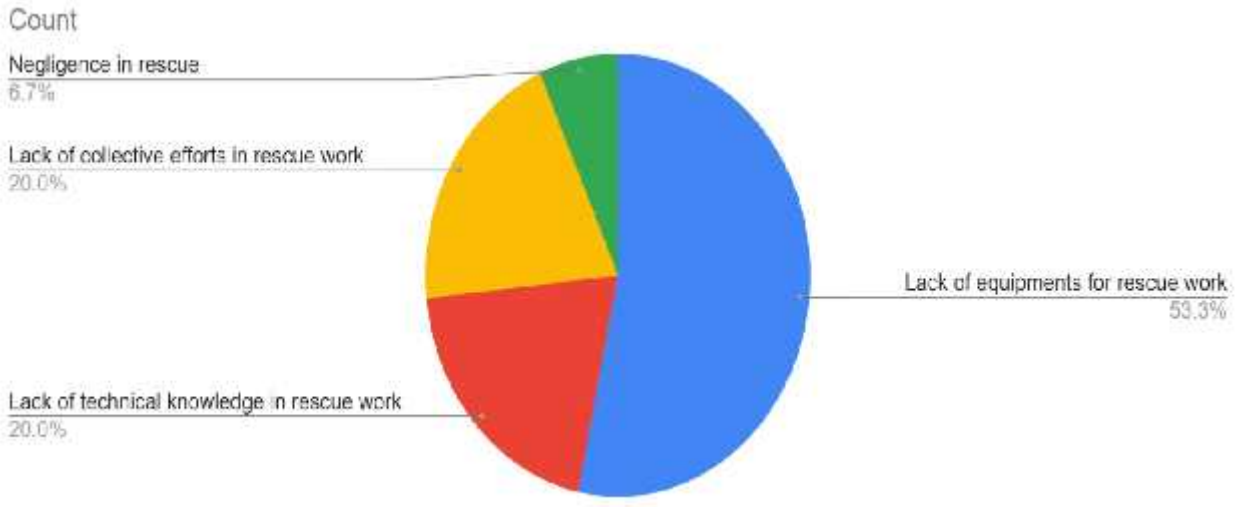

Figure 43 (Source: Field Survey, 2023)

When respondents were asked to identify the causes of the ineffectiveness of the rescue work, the largest group (53.3%) cited the lack of proper equipments for the rescue work, about (20.0%) attributed it to the lack of the necessary technical knowledge in the rescue work and almost similar number (20.0%) thought it could be due to the lack of collective efforts in the rescue work and a smaller number (6.7%) felt that it could be due to negligence in the rescue work.

CHAPTER V

SUMMARY AND CONCLUSION

5.1 Summary:

The study of various issues and factors related to Nepal's recent mega-earthquake and the valiant efforts made by both the government of Nepal and the common earthquake-victims to recover from its disastrous effects as well as in rebuilding comparatively much more earthquake safe houses and buildings can have very important long-term implications for the Nepali state and society.

This present research which is based on the field survey and opinion of the people living in the Gongabun and Balaju areas of Kathmandu Metropolitan city focuses on the relevant issues related to the rebuilding and reconstruction of the damaged buildings as well as the capacity of the recovery and resiliency demonstrated by the community people. In the process, this study also sheds light on the numerous issues that can have a critical bearing on the proper understanding of the community people in the study area in formulating an appropriate strategy and programs to deal with the important problems which were being experienced and observed by the local earthquake-victims. In course of the survey, the respondents freely shared the information and the opinion about their social economic, educational status life and livelihood problems which they had experienced during the earthquake and post-earthquake period, their immediate needs; problems; hopes; and expectations; problems and challenges in rebuilding and reconstructing their damaged houses etc. The valiant attempts made by the victims to resolve the problems and challenges that they had faced in the process by developing a sense of resiliency, unity and collective response as well as the very remarkable and commendable response by the Nepali government to assist the struggling earthquake-victims in numerous ways.

Here an attempt will be made to briefly present the aforementioned observations and findings:

Socio-economic-educational status:

It has been noticed that the overwhelming majority of the respondents belong to the upper-caste people and janajati. No Dalits were included. Moreover, the study area being located in an urban area, it was found that most of the respondents were either highly educated people with a university degree or fairly educated ones. It was also found that the majority of the respondents were engaged in business and service profession.

Activity at the time of earthquake:

Since the disastrous earthquake struck in the late morning hours on the Saturday, the time when people are generally alert and the day when school/college-going children and office holders are not required to go to schools or offices, could also be attributed to the comparatively low number of fatalities and injuries.

Attitude towards the earthquake:

As the study area was located in the urban area where majority of respondents were fairly literate and conscious, it was found that their understanding of the earthquake was scientific and rational one. Very few respondents attributed it to irrational and superstitious factors.

Injury and causality in the earthquake:

Since the study area is a sub-urban locality where most of the buildings are either newly and properly constructed ones, an overwhelming number of respondents expressed their ignorance of any earthquake related causalities or fatalities that may have occurred in the neighborhood areas.

Pre-disaster preparation:

A very big majority of respondents admitted that they had not made any pre-disaster preparation for such unexpected disaster. Neither was they expecting such disaster to happen, in spite of some discussion and informative ads in the media and TV shows. Nevertheless, learning lesson from this unexpected natural event now an overwhelming majority of the respondents seemed to have realized the need for making some the advance preparation to meet such calamity.

Lack of open spaces:

The respondents also shared the information about the lack of open spaces in the locality, which experts considered as the most important necessity during the post-disaster shelter and relief activities. This lack of open spaces in the city highlights the need for a systematic urban planning.

Lack of sufficient knowledge and information about the assistance by government/NGOs/INGOs:

Earthquake-damages to their houses and buildings also seemed to have raised a great concern among the house owners for having a properly constructed house/building made by the good quality, construction materials and need for seeking the opinion of engineers on this subject. They also expressed their opinion on the issues like the need for getting some technical training from the professionals, the inadequate assistance provided by the government, the superficial talk of assistance by NGOs/INGOs. in spite of their tall claims , lack of a proper information or knowledge among the large number of respondents about accessing for the assistance from different sources in spite of being educated etc.

Role of National Reconstruction Authority (NRA):

A small number of respondents admitted that they have received financial assistance ranging between less than Rs.50, 000 to over Rs.50, 000. However, a big majority of respondents admitted that they have not received any assistance from any sources so far.

Changing the strategy to get a better response:

In order to get a better response from the generally indifferent-looking government officials and staffs in getting the necessary assistance, the victims community decided to change their strategy a bit by organizing more frequent meetings and interactions among themselves to explore more appropriate ways to raise their voice effectively in an attempt to draw the attention of the officials to their problems. To achieve these objectives, they decided to have meetings with the office staffs more frequently to convince them about the usefulness of the proposal and also by trying to revise their proposal making it simpler and clearer.

Post earthquake hardships and stresses:

The respondents also shared more information about numerous hardships and difficulties during the immediate post-earthquake period like the mental stress, problems related to rebuilding their damaged houses, livelihood problems, getting sufficient loans from the government agencies and others etc. However, respondents admitted that they did not experience any caste-based discrimination during the period when they had taken shelter in an open space following the earthquake.

Need for pre-earthquake preparation:

Learning lesson from their unpreparedness to meet the natural disaster earlier, the respondents emphasized the need for initiating the effective awareness programs, developing and implementing a more practical and effective building codes and standards which are incompliance with earthquake-prone countries in different parts of the world, conducting regular earthquake-safety drills in the schools, colleges, hospitals and public buildings as well as providing necessary training and orientation to the individuals from different walks of life etc.

5.2 Conclusion:

Almost 9 years have passed since the 7.8 Richter magnitude mega-earthquakes also referred as the 'Barpark Earthquake' as its epicenter was located in the Northern part of Gorkha, a mid-western district in Nepal, struck Nepal on the 25th April, 2015. Since then, the government of Nepal has made a commendable attempt, without much international support and assistance which it had expected earlier, the National Reconstruction Authority (NRA), and a powerful specialized agency instituted by the government to take the lead in the heavily damaged or destroyed thousands of priceless old heritage-type temples, monuments and palaces, public buildings, schools and houses of the hundreds of thousands of common people.

Likewise, the Nepali people and communities, which includes the present study area of Balaju and Gongabun in the Kathmandu Metropolitan City, have demonstrated a remarkable resiliency, creativity and collective spirit to successfully overcome numerous bureaucratic, legal,

procedural, attitudinal, funding and technological deficits. It is worth noting to observe that the earthquake victim communities in the Central Nepal, through their sheer will and courage succeeded in reconstructing and rebuilding thousands of much the stronger and earthquake-resistant houses and community school buildings without much outside assistance.

Thus, this critical post-earthquake reconstruction and rebuilding period in the recent Nepali history can obviously be remembered as a period of big lesson learning for all the politicians, decision makers, bureaucrats, planners, earthquake victims; historians, sociologists, geologists, scientists, social scientists, social workers, security personnel who were actively involved in the daring rescue works.

Finally, it must be admitted that during this post earthquake period, our country Nepal and its people (this time the earthquake victims) have all proudly redeemed and restored the nation pride and self-respect through their good works.

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Annex:

Questionnaire/Schedule

(This is a research questionnaire for the partial fulfillment for the degree of Master of Arts in Sociology. All the information provided will be kept confidential; I would appreciate your honest opinion and answers)

Respondents no:

Personal questions:

1) Name: ……..

2) Address: Permanent: ……..

Temporary: ……..

3) Age: ……

4) Gender: a) Female b) Male c) Others

5) Ethnicity:

a) Brahmin b) Chettri c) Newar d) Other……

6) Educational Level:

a) SLC and below

b) +2

c) Bachelor level

d) Masters level

7) Marital status:

a) Married b) Unmarried

8) Number of family members……..

9) Do you have own house or rent?

a) own b) rent c) other

10) What are your main sources of income?

a) Agriculture c) Service

b) Business d) Other……

Thematic questions:

11) What is earthquake?

a) Earthquake is caused by big landslide

b) It occurs because of movement of plates within landmass

c) It could be result of curse of gods

d) Any others…….

12) Which one of the following do you think causes an earthquake?

a) Due to sudden release of energy in the earth's crust

b) Due to bad luck

c) Excessive rainfall

d) Big mass of people standing/walking movements on the ground

e) Any other……

13) Where were you during the earthquake of Baisakh 12, 2072?

a) Home b) Office

c) Road d) Others (specify)

14) What were you doing during the earthquake?

a) Sleeping b) Working

c) Walking d) Others (specify)……

15) Were there any casualties due to earthquake in your family?

a) Yes, if yes (specify)_____

b) No

16) To what extent do you think that you are adequately prepared for an earthquake?

a) Very much

b) Somewhat

c) Not at all

17) Do you think we should prepare ourselves for earthquake in the future?

a) Yes, it is very important

b) No, I don't think so

c) I don't have any idea

18) Is there any open area near your home to stay during earthquake?

a) Yes b) No

19) As far as you know how many houses were destroyed by earthquake in your locality?

a) More than 100

b) Between 50-100

c) Less than 50

d) About 10

e) Not at all

f) I don't know

20) Was your home damaged by earthquake?

a) Full b) Partial

c) No d) Don't have any idea

21) Did you show your house to professional engineers?

a) Yes b) No

22) Why did many people die and became injured during earthquake?

a) Lack of open space
b) Poor quality of construction materials
c) Lack of safety awareness
d) Punishment of God
e) Others…….

23) Did any GO/INGO's/NGOs provide any help and support during the earthquake?

a) Yes b) No

23.1) If yes, what kind of help?

a) Cash b) Food and medicine

c) Construction materials d) Any other _____

24) How are you planning to build your future house?

a) Using stronger materials

b) Taking some advice or training from professionals

c) Same construction as before

d) Relocate to a safer place

25) What kind of assistance do you need to reconstruct your house?

a) Technical assistance

b) Construction materials like cement, timber etc.

c) Financial assistance

d) Any other_____

26) Which agency provided assistance to reconstruct your house?

a) NRA

b) I/NGO

c) Local government

d) Any other_____

27) Are you satisfied with the assistance provided to you by the government and other agencies for your reconstruction works?

a) Very much satisfied

b) Somewhat satisfied

c) Not satisfied

d) I did not get any help so far

28) What problems did you face when reconstructing your house?

a) Lack of good quality construction materials

b) High cost of construction materials

c) Lack of mason and technicians

e) Lack of money

d) Any other _____

29) In your opinion, how a strong earthquake resistance building should be built in your locality?

a) By providing proper technical support and good building design

b) By using good construction materials through personal care and attention

c) Any other_____

30) Did NRA provide you any fund to reconstruct your damaged buildings?

a) Yes b) No

31) If you have received the fund, how much you have received?

a) Less than Rs. 50,000

b) Rs. 50,000

c) More than Rs 50,000

32) Did you face any problems in getting loan/assistance from NRA?

If yes, what kind of problems did you face:

a) Administrative and legal problems

b) Difficulty in convincing staff in NRA staff to provide assistance

c) Complicated and time-consuming bureaucratic processes

d) Any other

33) When you failed to get a proper response from the officials to your request for the assistance, how did you try to solve the problem?

a) By trying to revise my request proposal by making it clearer and more appropriate

b) By frequently meeting the concerned office staff to make them better understand and convince about the usefulness of my proposal

c) By organizing the frequent meetings with other earthquake-victims in the community to find out the way to raise our common concern more strongly

d) Any other……..

34) Did you find this change in your strategy more useful in convincing the government officials to accept your proposal for assistance?

a) Yes b) No

35) Are you also planning or you have already received any loan from the bank or financial institution to reconstruct your house?

a) Yes b) No

36) What kind of social and economic consequences that you have been affected from earthquake event of Baisakh 12, 2072?

i) Shelter and housing
ii) Direct and indirect economic loss
iii) Health, including deaths and causalities
iv) Social disruption
v) All

37) What hardships/difficulties did you experienced during an earthquake event of Baisakh 12, 2072?

i) Mental stress/problems

ii) Rebuilding livelihoods, houses and communities

iii) Unable to receive sufficient amounts of loans and money from government

iv) Providing basic needs to families

v) Others (Specify)……

38) In order to avoid or at least minimize the human casualties and property and infrastructure damage and loss, which of pre-earthquake preparedness is most important for you?

i) Public awareness programs
ii) Regular earthquake drills in schools, colleges, public buildings, and hospitals
iii) Training of personal in different sectors of public and private institutions and construction industries
iv) The necessity of strict adherence to building codes and their implementation

v) Quality construction practices

vi) Upgrading the existing buildings

vii) Preparation of new codes and standards for infrastructure design

viii) All

39) Have you talked about rebuilding damaged house with NGO/INGO, staff/ government officials/other individuals?

i) Yes

ii) No

40) Have you experienced any caste-based discrimination or untouchability during earthquake crisis?

i) No discrimination at the beginning but as time has passed, felt discrimination as earlier

ii) No discrimination right from the beginning

iii) Earlier there was discrimination but not now

41) Who was involved mainly in the rescue efforts in your household immediately after the earthquake from your community?

i) Family member

ii) Neighbour/community

iii)Both

iv) No need for rescue or search

42) Did the earthquake cause any effects in the main traditional occupation/ business of your family?

i) Yes

ii) No

43) Did anyone other than the members of your community, came to help in the rescue activity in your house?

i) Yes

ii) No

43.1) If yes, who were the first rescuers?

i) Security personnel

ii) Volunteers

iii) NGOs

iv) INGOs

v) Other (Specify)…….

44) Before the 25 April earthquake did you know anything about safety measure during earthquake, rescue and relief materials?

i) Yes

ii) No

44.1) If yes, how did you get this information?

i) Hearing about the 1934 and later earthquakes

ii) From an earthquake risk reduction training

iii) Reading newspapers/pamphlets, listening to the radio, watching TV

iv) Reading textbook

v) From earthquake-related awareness posters

vi) Other (Specify)……

45) How did you manage the food at the evening/night on the day of earthquake hit?

i) Did not take food

ii) Did not have due to no food

iii) Collected cereals from debris

iv) Borrowed from others

v) Bought foods in nearby shop

vi) Borrowed from shop

vii) Searched naturally grown vegetables

viii) Taken together in group

ix) Other (Specify)……..

46) How was the work of rescuer (INGOs/NGOs, government)?

i) Excellent

ii) Good

iii) Okay

iv) Not effective

46.1) If rescue work was not effective what was the reason for not being effective?

i) Lack of equipment's for rescue work

ii) Negligence in rescue

iii) Lack of collective efforts in rescue work

iv) Lack of technical knowledge in rescue work

v) Other (Specify)……