

**IMPACT OF COMMUNITY PARTICIPATION ON DISASTER
MANAGEMENT: STUDY OF TEHSIL BALAKOT, DISTRICT
MANSEHRA, NWFP, PAKISTAN**

Ph.D. Dissertation



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**UNIVERSITY OF PESHAWAR
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**IMPACT OF COMMUNITY PARTICIPATION ON DISASTER MANAGEMENT:
STUDY OF TEHSIL BALAKOT, DISTRICT MANSEHRA, NWFP, PAKISTAN**

A Dissertation Submitted in Partial Fulfillment
of the Requirement for the Degree of
Doctor of Philosophy
in
Sociology
by
Muhammad Kaleem

**DEPARTMENT OF SOCIOLOGY
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PAKISTAN-2014**

DEDICATED

To the Resilient Survivors of October 08, 2005 Earthquake

**DEPARTMENT OF SOCIOLOGY
UNIVERSITY OF PESHAWAR**

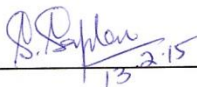
APPROVAL SHEET

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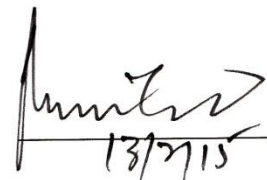
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ABSTRACT

The present study was conducted under the title “Impact of Community Participation on Disaster Management: Study of Tehsil Balakot, District Mansehra, NWFP, Pakistan”. Tehsil Balakot, the worst stricken area by the unfair jolts of the October 08, 2005 earthquake was selected for study. The main objectives of the study were to know about the impact of the local communities’ participation, attitude of local community and utilization of indigenous resources for coping with the problems posed by the disaster. A diagrammatic model “Organic Community Model for Disaster Survival by Alan Kirshenbaum” was applied under the assumptions that there was no significant role of the components of the model in disaster management and then followed the basic criteria for testing the model, hypothesis were developed and were operationalized through variables and indicators. Subsequently, the data was collected from the purposively selected 1012 respondents through a pre-tested interview schedule from the overall worst affected villages of the entire union councils of tehsil Balakot. Eventually, the data was transferred to SPSS for statistical analysis and results. Simple percentages as well as Chi square and Gamma statistics were applied in order to show the association and relationship of variables with one another.

The respondents of the study belonged to the multiple segments of the local communities with respect to their level of education, localities, age groups, family compositions, level of incomes and occupations. The data showed that majority of the sampled households had faced economic as well as human losses in one or the other forms. Keeping in view the gravity of situation the local communities notably participated in removing the rubble, providing first aid facilities to the injured, shifting the seriously injured to the hospitals, entombing the dead bodies themselves with the help of neighbors, friends, relatives and concerned local communities, supplying FIs and NFIs to the needy people, retrofitting the minor damages of their houses by themselves or by ERRA in addition to their own finances and labors, reconstructing their houses and rehabilitating their livelihood sources by themselves, communal help, donations of the communities or with the help of different organizations. The data indicated that the local communities participated in the adjustment of vulnerable orphans and widows, provision of shelters to the affected families, restoration and openings of potable water channels, drainage and irrigation water supply channels as well as the openings of small routes to the villages. The study also indicated that due to strong social cohesion and social networks the local community

involved the local volunteers and social capitals in the overall vulnerabilities reduction and execution of different activities. The local communities provided various types of psychological, emotional, moral, social and economic supports in the form of loan, or Zakat and Sadqat (Alms and Donations). Domestic agricultural instruments were used by the local communities for the removal of the debris, rehabilitation and reconstruction purposes in order to alleviate their dependency on the bureaucratic disaster management system. The local community highlighted their reliance and trust on the utilization of their existing traditional social capitals, networks and institutions. Statistically significant association and direct relation under the chi-square, P-value < 0.5 and Gamma statistics ($r = + 1, < + 1$) between the different variables was found. The entire statistical analysis and results reflected the significance and relationship of the affected community's survivor's participation with the locally available social capital, social network, social cohesion and social institutions in the vulnerabilities and crisis management.

The study on the basis of the research findings verified the validity of Alan Kirshenbaum's "Organic Community Model for Disaster Survival". Besides, the study tested some hypothesis under standard statistical procedures. Eventually, on the basis of the findings, the study recommended the utilization, strengthening and preservation of the existing social networks and social capitals for coping with the disasters in future. The bureaucratic disaster/emergency management should be amalgamated with the traditional and indigenous management techniques for reaching to the effective and desirable results. Training of the local community in accordance with the traditional helping mechanism, in order to revive the true spirit of self help in a socially desirable and sustainable way. And as per the plan and promises, the government should ensure and expedite the establishment of New Balakot City.

Muhammad Kaleem

**IMPACT OF COMMUNITY PARTICIPATION ON DISASTER MANAGEMENT:
STUDY OF TEHSIL BALAKOT, DISTRICT MANSEHRA, NWFP, PAKISTAN**

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LIST OF ACRONYMS

SERIAL NO.	ACRONYMS	WORDS
1.	AJK	Azad Jammu & Kashmir
2.	CBDRR	Community Based Disaster Risk Reduction
3.	CBDRM	Community Based Disaster Risk Management
4.	COs	Community Organizations
5.	CCBS	Citizens Community Board
6.	DDMA	District Disaster Management Authority
7.	DRM	Disaster Risk Management
8.	DM	Disaster Management
9.	DG	Director General
10.	DCO	District Coordination Officer
11.	ERRA	Earthquake Reconstruction & Rehabilitation Authority
12.	EDO	Executive District Officer
13.	FIs	Food Items
14.	GOs	Governmental Organizations
15.	GOP	Government of Pakistan
16.	GTZ	German Technical Cooperation Agency
17.	HFA	Hyogo Framework for Action
18.	ISDR	International Strategy for Disaster Reduction
19.	IDNDR	International Decade For National Disaster Reduction
20.	INGOs	International Non-Governmental Organization
21.	KPK	Khyber Pakhtunkhwa
22.	KTH	Khyber Teaching Hospital
23.	LGO	Local Government Ordinance
24.	MDMA	Municipal Disaster Management Authority
25.	MPA	Member of Provincial Assembly
26.	NFIs	Non-Food Items
27.	NDMC	National Disaster Management Commission
28.	NATO	North Atlantic Treaty Organization
29.	NGOs	Non-Governmental Organizations

30.	NDMA	National Disaster Management Authority
31.	NBC	National Broadcasting Corporation
32.	PDMA	Provincial Disaster Management Authority
33.	PATA	Provincially Administrated Tribal Area
34.	PDMC	Provincial Disaster Management Commission
35.	PERRA	Provincial Earthquake Reconstruction and Rehabilitation Authority
36.	SPSS	Statistical Product and Service Solutions
37.	UN	United nation
38.	UNICEF	United Nation Children Education Fund
39.	UNESCO	United Nation Educational Scientific and Cultural Organization
40.	USA	United States of America
41.	UNDP	United Nation Development Program
42.	WCDRR	World Conference on Disaster Reduction

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CHAPTER # ONE

INTRODUCTION

CHAPTER # I

INTRODUCTION

1.1 Background of the Study

The earthquake of the October 8, 2005, shattered not only numerous precious human lives, but also shattered buildings that left the dwellers shelter less and many of them came under the rubble. Consequently, the inhabitants of the affected community faced multi-dimensional problems, like shelter, food, first aid medical care, removal of the rubble from the injured and dead bodies, burial of the dead bodies in the grave yards, relaxing those who were in psychological trauma and helping those who were helpless. Thus, in a situation like this, the unfortunate community that faced the problem did not sit idle to wait for help from the outsiders. The local communities were really in dilemma but had worked vigorously as a front line manager of the disaster. The vigorous response that came from the local communities re-confirmed the fact that throughout the history of mankind, the response of the local communities to the disasters has remained an inherent trait among people throughout the world. In the past, organized disaster managements were primarily in reaction to life-threatening events arising in the natural environment. These reactions reflected man's adaptive aptitude in an often chaotic natural world to initiate organized social survival skills. This practice prevailed for hundred years in the

history of mankind. Now it is believed that traditional forms of disaster management through the active participation of the local community is alive and well, and that the front line manager for surviving disasters is not the bureaucratic disaster manager, but the affected persons, their families and neighbors as well. In today's world although we have specialized organizations for the disaster management, but yet despite the emergence of formal disaster organizations, the deeply embedded institutionalized norms defining disaster management behaviors remain unharmed. This point has been emphasized over and over again in hundreds of case studies of disasters that have documented how individuals, families, and affected communities have acted in the face of disasters (Natural Hazards Center: 2002). Like many other kinds of traditional forms of social relationships, the effectiveness of the local community participation in the disaster management cannot be easily dismissed. Keeping in view the importance of traditional forms of disaster management, I have tried to highlight the impact of the community participation on the disaster management which is the missing link that has never been documented especially in the traditional society of Pakistan, whereas the traditional management by the community still continue to play an extremely important role in societal survival.

1.2 Disaster Community and Disaster Management on the Community Level

Steckley, M.E. (2006) has defined Disaster as “a serious disruption of the functioning of the community or a society causing widespread human, material,

economic or environmental losses that exceed the ability of the affected community or society to cope using own resources”. While the disaster community is defined in terms of the physical and geographic boundaries within which a disaster occurs. In other cases, the entire community affected by the disaster—both directly and indirectly—is considered the disaster community (Karanci and Rustemli 1995).

According to Carter (1991, p.xxiii), disaster is “an event, natural or man-made, sudden or progressive, which impacts with such severity that the affected community has to respond by taking exceptional measures” (Faulkner, 2001). It is a product of social, political, as well as economic environments, which is different from natural environments (Wisner et al., 2004). While according to the Natural Hazards Research and Applications Information Center (2001) Disaster recovery is a process of loosely related activities that takes place before, during, or after a disastrous event to restore order in communities affected or that could be affected by a disaster. Moreover, the same report has also stated that the activities starting from evacuation and sheltering, search and rescue, re-development planning, and preparation for the next disaster, to damage assessments and environmental assessment. Usually these activities are delivered under an emotional, reactionary, time-sensitive, expensive, and politically charged atmosphere and are based upon incomplete information, disproportionate needs, and poor working conditions. While Hewitt (1983) was of the views that comprehension of the condition of population, economy, and infrastructure of the affected country are as important as its

geo-physical and biological processes and outcomes. Haque (2003) explained that poverty and the socio-economic marginalization processes are key factors that increase the level of human vulnerability to natural disasters. However, there is also another important factor that contributes to higher risk to natural disaster. According to Manuta et al. (2005) poor coordination across local community and line agencies, plus the absence of monitoring and evaluation of state agency has undermined the provision of effective disaster management. Decisions related to a disaster management approach used to rest solely on the government. However, according to Rubin (1991), affected communities become frustrated with closed decision making process on disaster management planning that directly affects their lives. However, Pearce (2003) was of the opinion that over time, community participation on the on form or the other has become an accepted part of disaster management process. The Pearce reports also highlighted that "...while a top-down policy is needed, it is really the local-level bottom-up policy that provides the impulsion for the implementation of mitigation strategies and a successful disaster management process". It was up to affected communities to initiate and implement the policies.

The disaster situation may be a very intense and terrifying moment for the victims, but it does not mean that they loose their rationality and become helpless victims like many would assume. Similarly, Aptekar (1994, p-6) established the opinion that "In the conventional relief formula, all kinds of agencies descend upon the disaster scene, all

with their separate objectives, styles of working and time frames, with very little coordination...In this formula, the victims of disasters are considered to be helpless “target populations”, and rehabilitation is something that is to be done for them, not by them”. He also pointed out that myths about disaster victims can include irrational behaviors under stress, looting during a disaster, epidemics, refusal to stay in the affected area, and helplessness. However, he also said that;

“Cross-cultural evidence suggests that immediately after a disaster the desire to help other people is very strong”.

The victims are able to take control over their lives soon after the disaster strikes.

Holistic disaster recovery incorporates the principles of sustainability in every decision and considers the community’s best interest. An ideal disaster recovery process requires a meaningful participation program for the affected community. The community should proactively take part in decision-making related to disaster response, recovery and redevelopment after the disaster to make sure that people’s interests are being considered and put together toward long-term and sustainable community benefits rather than short-term gains.

After the onset of the disaster the local community comes to help the disaster survivors. They meet, help and share each other’s grieves. Different studies gave us the idea that regular meetings and discussion among the victims as well as with the aid providers is a therapeutic way of dealing with grief and sorrow. The meetings and

discussions are also an opportunity to rebuild community ties and networks which may have been lost due to the disaster. Hence, Community participation in disaster management is a crucial factor for the success of every disaster recovery. However, the level of affected parties' participation in the decision-making process is low because they are perceived as victims rather than stakeholders in the relief operation.

1.3 Statement of the Problem

According to the National Disaster Management Authority of Pakistan (2007: p-56), the earthquake struck Mansehra District and its surroundings leaving destruction killing nearly seventy three thousand people and three million homeless people. According to Asian Development Bank Report (2005: p-12) “not only the spirit of self-help but also a strong civil society response throughout Pakistan as well as by the expatriates living abroad was a tremendous adherence for the relief of the affectees” The helping spirit was visible in the form of donations on the volunteer basis through the Relief Fund of the President of Islamic Republic of Pakistan and the local.

According to National Disaster Management Authority, Pakistan (2007: P-16) reports the inhabitants faced multi-dimensional problems but still they were busy in the activities like providing shelter, food, first aid medical care, removal of the rubble from the injured and the dead bodies, burial of the dead bodies in the grave yards, relaxing those who were in psychological trauma and helping those who were helpless. Thus, the unfortunate community did not sit idle to wait for the outsider help. Although the local

communities were really in dilemma after the disaster, but yet they had vigorously participated in the post disaster activities as a front line disaster manager. Similarly, the reports of World Bank (2005: p-5) also highlighted the role of the traditional disaster management behavior, social institutions and social organizations that have actively participated as a front line helpers in mobilizing the social structure. Strong social cohesion was a prominent action among the affected families, neighbors and communities. This was a strong support of their extended family and traditional Baradari system. Discovering these facts led me to examine the impact of community participation on the post-disaster management. Due importance is given to the community and family social roots of disaster management behavior, by viewing disaster communities in terms of the organized social system, and not simply physical areas. The study is supposed to give the insight to the readers that traditional disaster management behaviors are deeply embedded in social bonds we develop.

The statement of the problem of this study is “Impact of Community Participation on Disaster Management: Study of Tehsil Balakot, District Mansehra, KhyberPakhtunKhawa, Pakistan”. This research work has focused on the post-disaster response of the local community at the time of emergency, relief and rehabilitation and development activities. The study has highlighted the traditional disaster management behaviors of the local community as well as the theoretical and situational analysis of the subject in question.

1.4 Research Questions:

The study under consideration has tried to answer the following questions:

1. How did the community participate in disaster management in District Mansehra, Tehsil Balakot?
2. What was the impact of the community participation on the disaster management?
3. How the community attitude is workable in coping with the disaster by using their own resources at the time of emergency and what was its impact?
4. What was the role of the local community participation in the disaster management and what was its ultimate impact?
5. What was the impact of the survivor's resilience on the disaster vulnerabilities reduction?

1.5 Objectives of the study:

The following are the objectives of the research:

1. To analyze the impact of community participation on the disaster management;
2. To find out the impact of the attitude of local communities in the utilization of available resources in emergency management;

3. To know about the impact of the resilience of the local communities to the disaster;
4. To find out the problems of the local people in organizing support services for the needy;
5. To provide information to the related organizations for future planning;

1.6 Significance of the study:

The nature of the study is exploratory and descriptive. It involved intensive study of the related literature review and field work for primary and secondary data collection. The significance of the study is visualized in the following points.

- The study highlighted the importance of the most common, valuable and fundamental disaster's management strategy at local level;
- The present study has contributed to the existing knowledge of disaster management, mitigation, risk management and vulnerability reduction in the context of community based management approaches;
- The findings of the study are adequate to contribute to the policy formulation of the government of Pakistan to bring about changes and improvement in the program of disaster management accordingly;
- The study is a useful contribution to the academicians, planners, researchers and to the knowledge of disaster management and sociology at large.

1.7 Delimitations of the Study

The problem under study focused on the local community participation in the disaster management of the October 08, 2005, earthquake in Tehsil Balakot, District Mansehra. The focus of the study is on the specific detail of social cohesion, socio-cultural situation, social setting, social relations, social organization, social integration, social solidarity, social networking, communication, social interaction, social coordination, social collaboration, social supports, leadership, volunteerism, own resources utilization, resilience to the disasters and the collective abilities to cope with the disaster on their own level on the bases of the power of their tradition. It also focuses on identifying people and communities who were affected by the disaster and were the active part of the disaster management by involving themselves in the relief and rehabilitation activities. To conduct research practically in the short time and resources available, the study was narrowed down and focused on studying the local community participation in disaster management within the given social structure with major focus on the response of the people to disaster.

1.8 Organization of the Study

The present thesis has been organized in five chapters. A brief introduction of each chapter is given below.

Chapter-1: This chapter is focusing on a broader introduction of the subject in question, situation of the 8th October's post earthquake in Pakistan. It also includes statement of the problem, objectives, significance and delimitation of the study.

Chapter-II: This chapter reviews the literature based on research conducted on global and national level. This chapter briefly describes geographical and socio-cultural profile of the area. It includes a brief historical background of disasters and their managements, highlights theoretical perspectives and theories significant to the study under consideration, various models that reflect the importance of community in the disaster, definitions of disaster, natural hazards and emergency situations etc in terms of research reviews and finally brief conclusion of the reviewed literature in the light of the subject under study is also given.

Chapter-III: This shows the nature of the study, universe, parameters of the study, research matrix, sampling techniques used for the selection of respondents, tools, which were used for data collection and procedure of data analysis and presentation.

Chapter-IV: This chapter deals with data analysis and presentation. Data is presented in Uni-variate and Bi-Variate cross tabulations. Standard statistical techniques are applied for exploring association between the variables and testing hypothesis. Brief explanations of the tables have been given for the understanding of the readers.

Chapter-V: This Chapter includes; research findings and conclusion of the study, and then important recommendations have been given towards the resolution of the research problem.

At the end references and appendixes have been annexed consisting of the following:

1. Model questionnaire/Interview Schedules.
2. Maps of the targeted area.

CHAPTER # TWO

REVIEW OF THE RELATED LITERATURE

CHAPTER # II

REVIEW OF THE RELATED LITERATURE

2.1 Rationale of the Chapter:

The basic rationale of this chapter is to provide guidance in evolving a wide-ranging description of the study with the help of the relevant literature, the information included in this chapter are demographic profile of the area, conceptual framework and community based disaster management concepts, information regarding disasters and theoretical background related to the subject in question. All the theoretical information included in the chapter is clarifying the basic concepts and its associated factors, diverse mode of inquiry of the included studies and nature of the problem under consideration. For collecting and presenting the information of the study the research scholar have made utmost efforts to search out studies related to the community participation in the post disaster management activities within Pakistan and other countries of the world. The main focus of the chapter is on the materials related to the very concept of disaster behaviors, community based, community participation and volunteerism in the post disaster scenario.

Finally, it is also worth mentioning here that all the information included in this chapter have played considerable role in providing a rationale base to the research methodology and introducing suitable and helpful procedures on any required moment in the existing study.

2.2 AREA PROFILE

2.2.1 Introduction to the General Description of the District

Mansehra district was created on 1st October, 1976. The beautiful valley of Mansehra before its declaration as district in 1976 was a Tehsil of Hazara district. After the 1981 censuses of Pakistan it was bifurcated into Mansehra and Batagram districts. The district derives its name from its head quarter town "Mansehra" which is named after Man Singh, the Governor General under Ranjit Singh. The Mansehra district lies from 34° -14 to 35°-11 north latitudes and 72°-49 to 74°-08 east longitudes. It is bounded on the north by Kohistan and Batagram districts on the east by Muzaffarabad district of Azad Jammu and Kashmir, on the south by Abbottabad and Haripur districts and on the west by Shangla and Buner districts. The total area of the district is 4579 square kilometers. The district consists of Mansehra, Oghi and Balakot Tehsils and also includes Provincially Administered Tribal Area (PATA) of Kaladhaka, which has been upgraded to a separate district known as "district Torgar". Tehsils Oghi and Balakot were established in May 1985 and October 1986 respectively.

Mansehra is at a distance of 24 kilometers to the north of Abbottabad. It has a very lively bazaar. The major tourist attractions of Mansehra are the three granite boulders on which edicts of Ashoka the great have been inscribed. This great Mauryan king ruled this area in the 3rd century BC. After his conversion to Buddhism he tried to dictate a new morality based on piety, moderation, tolerance and respect for life (Pakistan, 2000).

2.2.2 Physical Features

The general direction of the mountain ranges, in the district, is from north east to south west. There are two important mountain ranges. One range flanks the right bank of Kunhar and Jhelum rivers and terminates in the hills of Murree. At the northern end, its peak attains a height over 4500 meters which decrease at the southern end to only about 2000 meters above sea level. In this range the highest peak is Musa KaMussala, 4,078 meters above sea level. Another range diverges from this point towards the west skirting the northern end of the Bhogarmang and KuzKonsh valleys encircling the Agror valleys and along the boundary of Batagram district. Its western chain forms the Black Mountains with the highest peak about 3036 meters high. At the southern end of the black mountains, this range breaks up into numerous spurs and off-shoots and becomes a maze of hills constituting the Tanawal tract, where the highest point is 2587 meters above sea level.

The other range flanks the left bank of the Kunhar River and forms part of the boundary between Mansehra and Azad Kashmir. It has the highest peak in the district namely Malika Parbat, which is over 5000 meters above sea level. Shortly before the flowing together of the Kunhar and Jhelum rivers it passes into Azad Kashmir.

There are a few level tracts and fertile valleys in-between the mountains. The most important of these tracts is the famous Pakhli plain which is about 15 kilometers in length as well as in width. The plain lies at an altitude of about 1000 meters above sea level. At the southern edge of the pakhli plains the Mangal tract which is about 8 kilometers in length and 5 kilometers in width. The most important valley is that of Kaghan which is drained by the famous Kunhar River. The valley is about 150 kilometers from Balakot to Babusar.

The Indus River skirts the district on west for about 50 kilometers. The Siran River rises in the north of Bhogarmang valley in the mountains between Mansehra and Batagram. It flows through the Bhogarmang and western portion of the Pakhli plain and then in to the Tanawal hills and then falls in the Tarbella Lake. Several streams join the Sirn on either side. The Kunhar rises from Lalusar Lake at the head of the Kaghan valley and after a fairly turbulent course of about 180 kilometers joins the Jhelum river. It flows through deep mountains gorges from its source up to Balakot from where it enters a broader valley up to GhariHabibiullah. There are a few lakes in the Kaghan valley. These are Lalusar, Dudupatsar and Saif-ul-Malooksar.

The soil of Mansehra district is composed of Metamorphic rocks and silts of Mica granite. The same soil exists in Dor Valleys and north-west of Abbottabad. The area may be described geologically as a section of the earth's crust coming well with in the area of the Himalayans disturbances. The area has natural resources that are being explored and extracted from the mines. In Kaghan ores of paradox, whereas in Oghi and Battal ores of Graphite have been discovered and are being excavated (Pakistan, 2000).

2.2.3 Climate, Flora and Fauna

The climate of the district is warm in summer and cold in winter. However, the northern part of the district i.e the Kaghan valley is cold in summer and very cold in winter and receives heavy snowfalls on the mountains. May to August is the summer months. The mean maximum and minimum temperatures during the month of June are about 35 and 21 degree centigrade respectively. January is the coldest month with mean maximum and minimum temperatures of about 14 and 2 degree centigrade respectively.

The area has many herbs growing throughout the area. Many of these herbs are being used for medicinal purposes locally as well as outside the district. A large variety of fauna is available in the district like leopards, black bear, pheasant, jackal, wild goat, brown bear, wolf and migratory birds (Pakistan, 2000).

2.2.4 History and Ethnic Structure

The area, now belonging to Mansehra district was a part of Hazara, which was named as Urasha at the time of Alexander the great, and the part of Taxila. After him it remained the part of dominion of Ashoka who inscribed his edicts on different rocks near Mansehra city. These rocks still exist. In the seventeenth century it was a part of the kingdom Valu-lashi situated in the north west of Kashmir, capital city of the area was Mongal. In Mughal period it was called as Pakhli Sarkar. The inhabitants of Pakhli were Turks whose decedents still exist in the area. After the decline of Mughal a local tribe Pathan invaded the area. This invasion of Pakhli in the 17th century is a noble event. The invaders were Swatis who were driven out of Swat by other Pathan tribes. Sultan Pakhal of Swat captured the area which still borne the name of the leader. Turks were defeated and driven out by Swatis who established their power. Tanolis were also driven out of their Trans-Indus country by the

YousafZais. There is no written history of the events and it is impossible to give them a precise chronological order.

Sikh ruler in the district started in early 19th century, when Mukan Singh, Governor of Rawalpindi invaded Hazara and in the succeeding years Ranjit Singh annexed Kashmir to its dominion. Afterwards SardarHari Singh, governor of Kashmir, marched to Pakhli and subdued it after inflicting heavy losses on the Tanolis and the Jadoons. By 1825 whole area, except Kaghan, was under Sikh rule. Kaghan was even then independent.

In 1828 Mujahedeen led by Ahmad Ali Khan rose against Sikhs but were defeated at Phulra. In 1830 Mujahedeen re-appeared and captured Konsh, Bhogarmang and Balakot. Swatis and Syeds of Kaghan joined with them. But in an engagement at Balakot, between Sikhs and Mujahideens, latter were defeated. Khalifa himself was killed and thrown in to the river, his body recovered afterwards.

In the middle of 19th century the area was exchanged by the British government in return for a part of Azad Jamu and Kashmir, which at that time was not independent and given to Raja Ghulab Singh. This resulted in association of Sir, James Abbott with the area. People of the area welcomed him as they had badly suffered at the hands of Dogra regime. Abbot was a brave and intelligent person; he resorted to law and order and launched a campaign against Syeds of Kaghan, who refused to accept him as a ruler.

War of independence 1857 had its great reaction in the area but was easily controlled. After 1875 the pages of history described the development of roads education, communication and health etc. In 1894 construction of roads up to Kaghan valley and Chillas, extensions of roads from Mansehra to GahriHabibullah and Kashmir in 1901 made the district accessible to the world (Profile, 2007).

2.3. INTRUCTION TO BALAKOT

Balakot Tehsil is situated at the lower reaches of Himalayan Ranges, the town is a gateway to the country's most scenic valley: the Kaghan. The landscape of the area is marked with high mountains, blossoming forests, meadows, lakes, and clear rivers. The topography ranges from 3220 feet at Balakot to 17,390 feet at Malika Parbat. The beauty of the area and the hospitality of its people make it a popular yearly summer destination for a large number of domestic and foreign tourists. Placed on the bank of Kunhar river. Administratively Balakot is a Tehsil of Mansehra District. (1998). Some basic information of the area are given below;

Basic Information About Tehsil Balakot

1	Date of Creation of Tehsil	1 st September 1985
2	Date of Creation of Sub Division	1 st July 1993
3	Date of Creation of TMA Balakot	15 th September 2001
4	Total Population	214,630
5	Total Area	557,803 Acres
6	Total Cultivable land	35,115 Acres
7	Total Non-Cultivable land	522,688 Acres
8	Total Irrigated Land	7,079 Acres

9	Total Non-Irrigated Land	28,0636 Acres
10	Number of Union Councils	12
11	Number of Patwar Circle	16
12	Number of Police Stations	02
13	Total Number of House Holds	30,357

Source: (Ahmad, 2008)

2.3.1 The Pre-Earthquake Balakot

The pre-earthquake Balakot was a lively town of more than 214630 people. Due to its geographical and administrative placement, the area remained the center of activities round the year in general, and in the months of summer in particular. The town possessed average rural basic infrastructure like roads, bridges, schools, hospital, electricity and water supply etc. The overall economy of the area was rural in nature and primarily based on agriculture, forestry and livestock etc. However in addition to the prevailing natural resource base of the area, tourism contributed substantially to the generation of economic activity and well-being. Every year thousands of domestic and foreign tourists stayed and passed through the town, generated extra business and employment opportunities for the residents of the town. Garlat is another main village close by to Balakot on the right bank of river Kunhar with a population of 11956 (1998) developed several business opportunities consisting of market place of around 500 shops, hotels, restaurants, vendors and transport facilities. Thus in comparison to the surrounding and remote areas of the rest of the valley, the inhabitants in Balakot were economically better off (Mansehra, 2001).

2.3.2 The tribes living in Tehsil Balakot

Inhabitants of the districts are of a mix origin. Their culture and descent are a mixture of Punjabi, kashmiries and pathan etc. the important tribes of which are;

S #	Name of the tribe	Information of the tribe
1	Gujjar	It is an ancient tribe of district Mansehra as well as Hazara. They are scattered almost all over Indo-Pak. The majority of them are peasants.
2	Swati	They are said to have migrated from the area of swat and live in Pakhli, Ghari, Balakot and Battal. This tribe is prosperous in comparison to other tribes as they live mostly in plain areas.
3	Tanoli	They are second largest in number after Gujjars. They are living in former state of Tanawal, Pakhal and Balakot and most of them are peasants while some are government servants and traders.
4	Syed	Syeds live in the area of Kaghan, Balakot, GariHabibullahBhogarmang, Baffa, Timberkhola etc. they are not very large in number but have a lot of influence.
5	Awan	The people of this tribe mostly live in Mansehra, Agror and in some

		villages of Balakot Tehsil.
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Source: (Profile, 2007)

2.3.3 Culture

The area has its own culture and traditions. Elderly people are considered as the decision makers and have the right to veto. Usually such role is played by the grand fathers or grandmothers for whom it is considered as the responsibility to represent the family in the events of social gathering as the marriages and deaths etc.

The Young are supposed to visit their elders on a regular basis in case when they do not live together. Relatives also visit each other on occasions of gatherings such as Eid, marriages and deaths etc. Children are treated with mutual affection and given gifts on their visits. Also this exchange of gifts takes place between the family on marriage and other ceremonies. Congratulation or Mubarki is also a mentionable part of the culture in which gifts in the form of cloths and cash are given to others on events of mutual happiness, such as success in examinations etc. Parents are greatly concerned about the education of their children as well as their manners and respect to children show towards their elder and relatives. In case of rude behaviors or ill manners shown by the children, are harshly treated and punished. This helps to promote mutual harmony and respect among them. Neighbors are considered as very close and their events of happiness and sorrows are celebrated together. People help in such events by arranging their houses, the reception and hosting of guests and help arrangements of all sorts from buying the foods to its cooking and serving. Such times are easily cared for by mutual friendship and harmony. These traditions, no doubts though getting people weaker are still the strong ties that hold these people together like brothers (Pakistan, 2000).

2.3.4 Food, Dresses and Ornaments:

People of the area use to eat simple food especially locally cultivated wheat, maize and rice. However, the passage of time has led to a slight change and along with such simple food people have also started using different packed cereals in breakfast and for lunch to their children. Curry, locally known “Salan” is the essential constituent of meals no matter eaten with wheat or maize breads (Rotti). Meals are taken thrice a day and in between the meals tea along with different snacks as “Pakoras” and “Samusas” are generously served.

People of the area wear traditional dress consisting of Shalwar, Kameez and Pagri (Turban) or Jinnah cap. Old people prefer to have “Chadder” on their shoulders. Women wear shalwar, kameez, and Chadar or Dopata specially tailored to meet their specifications. In winter people prefer to use coats and jackets to keep themselves warm whereas women wear Shaals. In summers the people use light dresses with casual waistcoats (Profile, 2007).

2.3.5 Occupations and Dwellings

People of the area can be divided into the literate and illiterate classes, the former being employed mostly in government job, while the latter in various trades, business and labor. Significant number of the people have gone abroad to earn their livelihood mostly to Middle East countries especially to Saudi Arabia and Arab emirates. Major trading includes business on a small scale in well established markets. Among the literate class: doctors, engineers, teachers and college lecturers represent the area at the country level. Transportation is also one of major businesses and a large number of people are engaged in the carriage of goods and passengers.

Most of the people use to have houses made of stones and clay with similar roof tops. It is not unusual to find large houses with big rooms made in a row. In front of the rooms would be the veranda (courtyard) also covered with a tiled roof and then a large

yard which would serve various purposes, play ground of children, open kitchen, washing place and also considered as a fine place to sit, get sunbath and have a chat. Now a day such houses are getting rare and are found in villages where people are still simple and live mostly in joint family. The houses now being constructed are cemented styled to match with modern buildings and have more than one storey. The houses being constructed now show the change that has taken place in the traditions over the years. Instead of old one-roomed big kitchen which used to serve the purpose of a dining room as well, new kitchen designed can be seen. This is obvious in every other aspect of the dwelling which has been modernized. In general all types of houses from the old fashioned to the new ones can be seen throughout the area (Pakistan, 2000).

2.3.6 Births, Death and Marriages

The birth of the child is an occasion of great rejoicing. The parents of the baby receive felicitation from friends and relatives. The birth of the girl is not very much welcomed as compare to the male baby. If it is a male baby, great festivities begin soon after the birth and guns are fired. On the first day the imam (spiritual leader of Muslims) or the head of family says “Azan” in the baby’s ears in view to give him message of Islam. On third day the sweet dish i.e Halwa is distributed among the relatives and neighbors. On seventh day the head of the baby is shaved and a lamb is slaughtered in case of female and two in case of male baby. Some time circumcision of male baby also takes place on the same day. Relatives and friends are invited for lunch or dinner at that day. This is called Suhbat or Serkaly.

In cases of death, funeral ceremony is observed with great formality and sometimes it is an occasion of much expense. Immediately after the burial alms are distributed, out of which one fourth share is given to the village imam and the remainder to the poor’s. On the 3rd day “Qul” ceremony is observed in which the Holy Quran is

recited and the relatives and friends of the deceased are given a meal. For three days following death, cooking in the houses of the deceased's family generally does not take place and meals are sent by the relatives and friends.

The area has customs of betrothal and marriage similar to that of the rest of Pakistan. Betrothal is arranged in accordance with the wishes of head of family. The arrangement is usually made when the age of boy and girl is between 25-30 years and marriage takes place usually 2-3 years later. Engagement is first held to show the formal proposal and its acceptance. Proposal is sent by groom's parents and exchange of presents or Mubarki is not only mutual between the families, but also between close relatives and friends. Nikah is held in accordance with the Islamic traditions. It is being held at or after the Mangni (engagement). The girl or boy is not allowed to see or meet each other after Nekah or Mangni, and none of them even appears before close relatives of each other till Rukhsati. Formal marriage ceremony or Rukhsati takes place two or three years after betrothal. This is a very grand event and even far of relatives come to celebrate it with pleasure. Gifts are exchanged on this occasion and for almost fortnight the function of marriage continues. The event is specially a great one for women and young girls who prepare new dresses and enjoy it by shopping or preparing for the ceremony. Usually lunch is served to people who come and join the party. The lunch is heavy and consists of pullao, zarda (sweet dish), Quorma and many other dishes (Pakistan, 2000).

2.3.7 Union Councils and Villages of Tehsil Balakot:

Tehsil Balakot is consisting of 12 union councils. The basic criterion for the selection of union council/ villages was the more damage wherein due to the devastating earthquake of October 08, 2005. Therefore, the brief information of the union councils and their constituent villages are given:

Union Councils, Villages and Population Wise Distribution of Tehsil Balakot

S. #	Name of Union Council	Villages of the union council	Total population of the U/C
1	KAGHAN	Kaghan, Kalas, Jamal Kari, Kamal Ban, Phagal, Pattan Des,	22548
2	MOHANDARI	Arsala Khan Manoor, Jaraid, ManoorBostan Khan, Manor Hafeezullah, Manoor Mohammad Jan	22597
3	KAWAI	Bhonja, Kawai, Paras	13788
4	GHANOOL	BahangianJoshacha, Ghanool, Hasam Abad, Sangar	20274
5	HANGRAI	Bagir, Ban Begar, BelaSacha, Choshal, Ganalla,	18252

		Hangrai, Sawan, Shakorha	
6	SATBANI	Bampharapatlang, Jagan, KhaitSarash, Sat Bani	15949
7	BALAKOT	Balakot, MittiKot, Shohal Najaf Khan, Tarana	19255
8	GARLAT	Batkarar, Garlat, Hassa, Kanshian, Nokot	18466
9	SHOHAL MAZULLAH	BajMohari, JabriKalesh, Kami Khan Gehri, Kawara, LasoSultani, Patseri	13277
10	TELHATTA	Batorha, GulMera, Hassari, Jabbi, Kashtra, KotBahalah, Lundah, Pateka, Sukhdhar, Talhatta	13112
11	GARHI HABIB ULLAH	Bararkot GariHabibullah	19306
12	KARNOL	Boharaj, Bisian, Dohga, JagirBalola, Karnol, Khair Abad, Sial	17806
Total 12 union councils		Total 65 villages in Tehsil Balakot	214630

Source: (Ahmad, 2008)

2.4.1 Data Showing the Pre and Post Disaster Demographic Status of Tehsil Balakot

Union Coucil / Patwar Circle / Villages Wise Data of Population in Earthquake Affected Area Tehsil Balakot

	S.#	U/C	Patwar Circle	VILLAGE	Total Pre disaster Population
TEHSIL BALAKOT	1	Kaghan	Kaghan	Kaghan,	12655
			Phagal	Phagal, Kalas, Jiamari, Karnal Bar, Pattan Dais,	14155
	2	Mohandri	Manoor	ManoorArsala, Manoorbostan, Manoor Muhammad, Manoor Hafiz	11685
			Jarad	Jared,	15182
	3	Kowai	Kowai	Kowai, Paras , Bhonja	16394
	4	Ghanool	Ghanool	Ghanool,	9356
			Sangar	Sangar, Hassam abad, Bhangian,	14750

				Josacha,	
	5	Hangrai	Hangrai	Hangrai, Galeela, Ban Bigar,	13332
			BailaSach a	BailaSacha, Bageel, Sohan, Shahkria, Choshal	8369
	6	Sat Bani	Sat Bani	Satbani, KaithSirash, Jigari, BandbaraPatlang	18963
	7	Balakot	Balakot	Balakot, Mittikot, Tarrana, Shohal Najaf	22894
	8	Garlat	Garlat	Garlat, Nokot, Batkerrerr, Hassa, Kanshian	21956
	9	ShohalMaz ullah	ShohalMa zullah	ShohalMoizullah, JabriKalseri,Lasoosultani, Kanwara, LasooZamindari, Patseri, Bajmori, Kummi, Khangeri	15786
	10	Talhatta	Talhatta	Talhatta, Lunda, Jabbi, Gulmaira, Sughdar, Batora, Hassara, Khashtera, KotBala, Pateeka	15590
	11	GhariHabib ullah	GhariHabi bullah	Ghari, Bararkot	22955
	12	Karnol	Karnol	Doga, Bisian, Jageerbalola, Khairabad , Bhoraj, Sial , Karnol	
Total:-					255195

Population Data of The Earthquake Affected Area Tehsil Balakot

L	S.#	U/C	Patwar Circle	Population (Census	Decease d	Injured	Houses
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				1998)				
				Total Pre disaster			Pre Disaster (Census 1998)	Unlivable
TEHSIL BALAKOT	1	Kaghan	Kaghan	10643	235	203	2949	880
			Phagal	11905	310	290		1327
	2	Mohandri	Manoor	9828	99	99	3043	1491
			Jarad	12769	702	175		2116
	3	Kowai	Kowai	13788	1451	522	1952	2420
	4	Ghanool	Ghanool	7869	932	214	2988	2046
			Sangar	12405	1192	390		2453
	5	Hangrai	Hangrai	11213	1496	305	2458	1749
			Baila Sacha	7039	233	217		1654
	6	Sat Bani	Sat Bani	15949	1692	425	2336	4695
	7	Balakot	Balakot	19255	2096	921	2777	4097
	8	Garlat	Garlat	18466	1549	1129	2608	3963
	9	Shohal Maz ullah	Shohal Mazu llah	13277	808	347	1925	2983
	10	Talhatta	Talhatta	13112	609	265	1908	2311
	11	Ghari Habib ullah	Ghari Habib ullah	19306	256	224	2713	2114
	12	Karnol	Karnol	17806	73	36	2700	918

Total:-	214630	13733	5762	30357	37217
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Source: (Ahmad, 2008)

Death Data of the Earthquake Affected Areas Tehsil Balakot

Tehsil	S.No	U/C	Patwar Circle	Deceased Persons
BALAKOT	1	Kaghan	Kaghan	235
			Phagal	310
	2	Mohandri	Manoor	99
			Jarad	702
	3	Kowai	Kowai	1451
	4	Ghanool	Ghanool	932
			Sangar	1192
	5	Hangrai	Hangrai	1496
			Baila Sacha	233
	6	Sat Bani	Sat Bani	1692
	7	Balakot	Balakot	2096
	8	Garlat	Garlat	1549
	9	Shohal Mazullah	Shohal Mazullah	808
	10	Talhatta	Talhatta	609

	11	GhariHabibullah	GhariHabibullah	256
	12	Karnol	Karnol	73
Total:-				13733

Source: (Ahmad, 2008)

2.4.2 Loss of Lives and Properties

S.No.	Name of Union Council	Total population of the union council	No. of Persons Dead	No. of Persons Injured	No. of Cattle Dead	No. of Houses Collapsed
1	Kaghan	22548	545	102	0	855
2	Mohandari	22597	844	115	747	3467
3	Kawai	13788	1451	129	945	2844
4	Ghanool	20274	2124	456	1533	4560
5	Hangrai	18252	2467	154	3982	3383
6	Satbani	15949	1741	130	2819	2484
7	Balakot	19255	1761	461	607	3746
8	Garlat	18466	1879	174	2850	4080
9	ShohalMazullah	13277	1093	63	2921	2458
10	Telhatta	13112	603	47	2021	2009
11	GarhiHabibUllah	19306	238	89	223	2005
12	Karnol	17806	78	26	215	1707
	Total	214630	14824	1946	18863	33598

Source: (Ahmad, 2008)

2.5 Sociological Perspective to Explain Community Participation in Disaster Management

The idea that every aspect of society has some kind of positive or negative consequences characterizes functional theory, which is also called structural-functional theory. The early functionalists began with the idea that societies should be viewed as analogous to the human body. Just as every anatomical structure of a human being has a specific function designed to keep the human alive and flourishing, so every part of society was viewed as having a vital function for adjustment and response to the new challenges (George Ritzer, 1979). The early structural-functionalists tended to see every structural feature of society as having a function, or a positive consequence, which affected an entire ongoing society. According to the structural-functionalist, a function, or a positive consequence, is one that is believed to be necessary for the continued existence of the society. While modern structural-functionalists have retained the notion of positive consequences, they have extended their approach. Kirschenbaum, (2004) is of the view that communities are organized social units. As such, they have the flexibility to adapt to change, and accommodate their physical and social environment. They represent the cumulative social assets of small-group interdependent relations built on the structure and functions of family–clan, friendship, and economic networks. Commonality is based on being ecologically distinct into natural and/or social areas that

remain functional against any type of dysfunction and disastrous threats (Hawley 1950). In contemporary sociology, therefore, functional analysis takes in to account both functions and dysfunctions of social structures. According to Dynes (1970) the structural functional theory interprets community responses to the disaster event. They view disasters as a catalyst for the structural-function of the social system and eventually the social system prepare itself aid in the adaptation and adjustment of a social system with the new challenges.

The Community Model

Kirschenbaum, (2004) is of the view that communities are organized social units. As such, they have the flexibility to adapt to change, and accommodate their physical and social environment. They represent the cumulative social assets of small-group interdependent relations built on family–clan, friendship, and economic networks.

Social Net Working Approach and Disaster Management

According to Wasserman, S., and Faust, K. (1994) Social network theory views social relationships in terms of ties and nodes. Ties are the relationships between the actors while Nodes are the individual actors within the networks. The utility of social networking has been very much recognized in the emergency and disaster management.

Social Capital Approach to Disaster Management

In order to conceptualize and research disaster one needs to define the social unit and the phase of a disaster. Dynes, 1991 normatively defined disaster as occasion in a community when extraordinary efforts are taken to protect and benefit some social resource whose existence is perceived as threatened. Social capital can also facilitate productivity and coordinated action (Nahapiet&Ghoshal, 1998; Putnam, 1993). Coleman gives the example of a group within which there is extensive trustworthiness and

extensive trust is able to accomplish much more than a comparable group without those assets (1988).

2.6 The Situation Demonstrating the Factual State of Pakistani Society

The destructive earthquake turned over the eastern part of the province of Khyber Pakhtunkhwa as well as Azad Jamu and Kashmir (AJK) on October 08, 2005, causing at least 73000 human deaths, injuring 70000 people and leaving 2.8 million people shelterless. It also caused extensive damages to economic assets and infrastructure, social services delivery, commerce and communication in the form of either being incapacitated or destroyed. (Asian Development Bank and World Bank, 2005).

Help Came from the Victims

The disaster happened suddenly and without prior warning. Immediate help came from those who survived. Help from outsiders arrived many hours after the disaster took place. The emergency situation was the same for everyone at the scene; people were assisting those who were in need. Local people were the first responders in the disastrous situation. For example, the Balakot city is surrounded by the hills and as a consequence of the devastating shocks of the earthquake the road side hills were slided and blocked the roads. The roads were the only way through which the outsider communities could approach for help but unfortunately all the linked roads were blocked and damaged (The Nation, Dec 31, 2005). According to the survivors the search and rescue operation was based purely on kindness during a disastrous time.

Local Level Response

The October 08th earthquake left the affected community in chaos and devastation. Those who survived were hysterically looking for lost family members. Neighbors helped each other as much as they could. Because they were the first ones at the scene, the affected parties immediately took on two different roles, victims as well as

aid providers. Fatima Bhutto (2006) authored a book in which she compiled and recorded the inspiring accounts of the affected victims and volunteers as a tribute to their hope, courage and resilience in the face of calamity. Bhutto (2006) said that there is a dire need to recognize and remember that the earthquake didn't just leave a lot of rubble behind. There are literally millions of people in the need of rehabilitation: physical, emotional and economic. The same writer visited the displaced people of Balakot, toured the medical camps and also witnessed the obscenity of the wreckage. In her book she recorded the stories of courage and hope from the earthquake in Pakistan. While she was driving through rubble in Balakot, she saw children sleeping outside in the cold and old men sitting by the ruins of the businesses that could no longer feed their families. Fatima Bhutto (2006) has very artistically compiled in her book the accounts of the disaster survivors, the affected communities' volunteers and the stories of their courage and resilience. Ultimately, the writer thanked the victims for the courage shown to her in action and not in pose.

Situation after Terrorist Activities and Disaster Management

During the terrorist attacks in Pakistan, mostly the victims looked for the traditional based responses which were more appealing and reliable as compare to wait for the bureaucratic organization's help in the emergency situations. When we look for information based role models about how to act or what to do a large number of us revert back to tried-and-true forms of disaster behavior accumulated through historical experiences. Even in cases of extreme disaster-type situations such as missile attacks, which have no reference in past disaster history, a fairly large proportion of the respondents continue to rely on traditional socially based means of disaster management.

What these reactions demonstrate is that there is a high level of reliance and trust in public sector disaster management, yet despite this trust, individuals still choose

traditional socially based disaster managements, not because of faulty services of public disaster agencies, but apparently on the basis of their social utility in providing both information and role modeling to survive disasters.

2.7 Conclusion of the Chapter

The overall reviewed literature reveals the importance of the community participation in the disaster management. The historical roots of the disaster management and its consequent development and gradual growth from the traditional disaster management system towards a modern and bureaucratic management system have been explained in proper length. The theoretical background of the study and its theoretical orientation in the existing knowledge has also described properly for general understanding. The overall study focuses on the role of local community participation in the disaster management by utilizing the indigenous and traditional social resources like social capital, social networking, social structure, social organizations and social institutions in the disaster management. The study takes in to account the October 08, 2005 earthquake, a devastating earthquake that killed about eighty thousands persons and also left great challenges and threats for the survivors. Although the modern technological and institutionalized disaster management practices were applied, but yet the traditional and locally applied practices that exist in the human societies since the emergence of human societies on the globe cannot be ignored. The help came from the survivor's families, neighbors, close friends, villagers, local community and volunteerism was a remarkable presentation of the local community at the time of test, which should not be neglected in the disaster management history.

The present study is justified on the ground that no such type of research has been conducted before to highlight and properly document the impact of the local community participation on the disaster management.

CHAPTER # THREE

METHODS AND PROCEDURES

management. The major objective of applying this method was to assess an easier way of finding the facts regarding the subject in question, the traditional community based approach in the disaster management in the targeted area. The study in question involved intensive study of the related literature review and field work for primary data collection as well as secondary data. The descriptive approach suits to the problem under investigation. Because the concept of community participation attributes to present a picture of the specific detail of social cohesion, socio-cultural situation, social setting, social relations, social organization, social integration, social solidarity, social networking, communication, social interaction, social coordination, social collaboration, social supports, leadership and volunteerism. As stated earlier that the aim of this research is to highlight the impact of the local community participation on disaster management, hence for that purpose quantitative method approach was adopted. Keeping in view the measurability of different variables although it is a difficult job but it has been clarified and made measurable.

3.2 Universe of the study

The study was conducted in the entire Tehsil Balakot. The area in question is very much important and is currently on the agenda of disaster management. Various Organizations are working in the area on reconstruction, rehabilitation and disaster recovery etc., and all of them are mostly dealing with the communities that were affected and coped with the disaster by their own efforts as a front line manager or by the facilitation of GOs and NGOs. Hence, the local community members whether involved or not in the activities of GOs or NGOs, but were the part of the unfortunate community were interviewed through a questionnaire, and this local and traditional community comprises the universe of the study.

3.3 Operationalization of Hypotheses

a. Hypothesis

The following hypotheses are made for under taking the study meaningful:

- 1) There is no significant association between the promptness of local community participation and the level of community participation in the disaster management.
- 2) There is no significant association between the resilience and attitude of the local community towards disaster and the utilization of the available traditional resources at the community level.
- 3) There is no significant association between the role of social web or social structure and the social cohesion after disaster.
- 4) There is no significant association between the spirit of altruism on the part of the community and the management of the disaster at community level.
- 5) There is no significant association between the Utilizations of the indigenous resources by the communities and the betterment of the management of the disaster.
- 6) There is no significant association between the Psycho-social support of the disaster's survivors and the participation of the survivors for the vulnerabilities reduction.
- 7) There is no significant association between the social adaptation and social organization on the part of the community and their participation in the disaster management.
- 8) There is no significant association between the existence of volunteerism in the community and the well-organized co-operative disaster behaviors.

b. Operationalization, Explanation and Comparison of Variables in the Given Hypothesis

HYPOTHESIS

1. *There is no significant association between the promptness of local community participation and the level of community participation in the disaster management.*

Independent Variable

a. Promptness/ Zeal of the community towards communal help: it means involvement in the management, without delay and on time response to the disaster rather than waiting for the outside help. It indicates the attitude or disaster behavior of the local community.

Dependent Variable

a. Level of community participation :it means the response of the local community towards the disaster in terms of participation in the disaster management.

2. *There is no significant association between the resilience and attitude of the local community towards disaster and the utilization of the available traditional resources at the community level.*

Independent Variable

a. Resilience, attitude and traditional disaster behavior of the local community means the sentimental determination of the locals to help the survivors of the disaster by utilizing the traditional knowledge, means and techniques.

Dependent Variable

a. Utilization of the available or traditional resources includes the use of both material and non-material cultural resources i.e. indigenous equipments for removing the rubbles and managing the dead bodies and injured. Whereas the non-material culture include the social net-work, neighborhood relations, local social institutions and organizations etc.

3. *There is no significant association between the role of social web or social structure and the social cohesion after disaster.*

Independent Variable

Dependent Variable

a. Social structure and social web: means the roll of social institutions, social organization, social setup, social norms and values, social or disaster behaviors and neighboring relations after the onset of the disaster.

a. Social cohesion after disaster: means social integration after the disaster.

4. *There is no significant association between the spirit of altruism on the part of the community and the management of the disaster at community level.*

Independent Variable

a. Spirit of altruism in the community: means the zeal for self help as well as of his own community. It is the sense of sacrifice for other's survival.

Dependent Variable

a. Management of the devastations of the disaster: it means management of the human, economic and social suffering of the disaster.

5. *There is no significant association between the Utilizations of the indigenous resources by the communities and the betterment of the management of the disaster.*

Independent Variable

a. Utilization of the indigenous resources by the outsider helpers: imply the governmental, civil society organizations and the volunteers who participated in the disaster management after the October 08, 2005 earthquake.

Dependent Variable

a. Management of the devastations of the disaster: it means the human, economic and social suffering of the disaster.

6. *There is no significant association between the Psycho-socials support of the disaster's survivors and the participation of the survivors for the vulnerabilities reduction.*

Independent Variable

a. Psycho-social support: Material aid, Informational aid, Psychological and emotional supports, Companionship, Esteem support, Religious or spiritual supports, giving hope of life, sharing, listening and understanding each other's grieves.

Dependent Variable

a. Participation of the disaster's survivors in disaster management for the reduction of their vulnerabilities.

7. *There is no significant association between the social adaptation and social organization on the part of the community and their participation in the disaster management.*

Independent Variable

a. Social Adaptation: social adaptation is predominantly referred to the social environment and nature. Through the advantages of learning from the past and the cognitive ability to imagine the future, people have accumulated a storehouse of survival skills.

b. Strong Social Organize: Like the individual fibers of a rope, these individual skills can be immensely strengthened when put together, and this is exactly what happens when individuals organize.

8. *There is no significant association between the Existence of Volunteerism in the community and the Well-organized co-operative disaster behaviors.*

Independent Variable:

a. Volunteers' localism groups: The local community comprising of the close relatives and friendship ties are voluntarily rushing for each other's help at the time of need. It also employ to the volunteer group of locals who are very much committed to help the sufferers.

Natural community: The organization of the community results in the Natural Community, a place in which social norms devised to increase survival are incorporated into the institutions that make up the community.

Organic indigenous grass roots: These classic traditional social institutions that exist in every society invoke images of "grass roots," "indigenous groups," "organic development," "volunteerism," and local orientations.

Dependent Variables:

a. Participation of the survivors in disaster management: It means the resilience, resistance and well organized response to the disaster by the local community.

Dependent Variable:

a. Co-operative Organized Disaster Behaviors: The overall behaviors of the community that increases the resilience of the community in any disastrous situation in terms of community's behaviors.

Social processes: Social institutions are supported by the strength of the social process like consensus, community attachment, family networks, friendship networks, neighborhood networks, social bonds and volunteer organizations, and in many cases reinforced by community-based social processes. Among the social processes that emerge are those that give "character" to the community. There is a feeling of attachment and identity to the physical place or neighborhood based on social

imaging (Orellana 1999).

3.4 Sample Size and Sampling Techniques

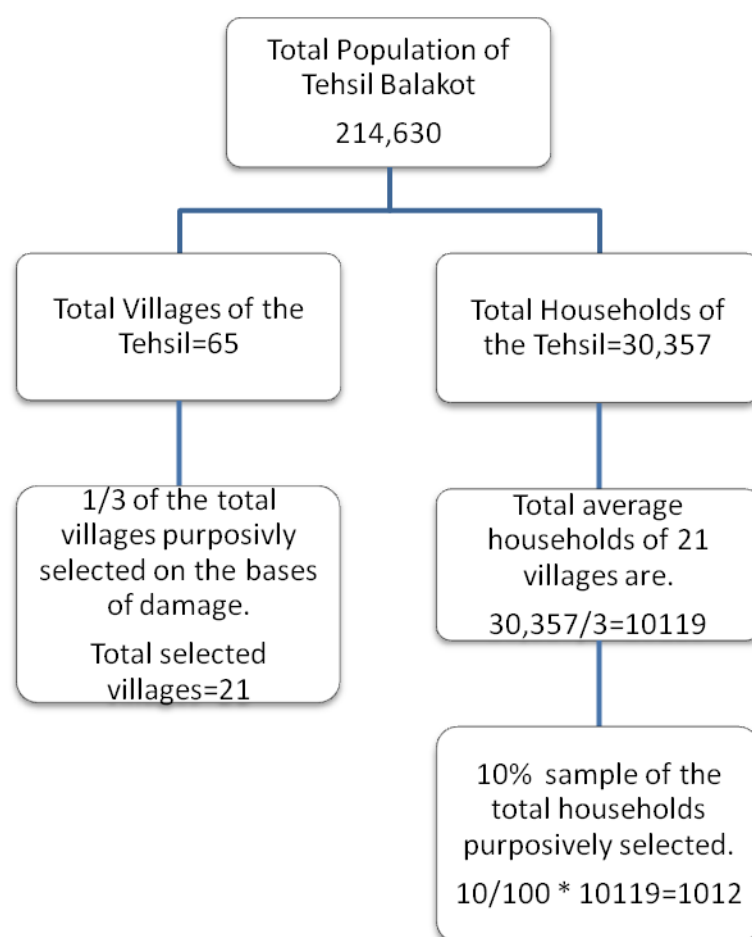
The samples were purely from the community of the targeted area in order to collect the relevant information on the subject. According to 1998 district census report the population statistics of Tehsil Balakot is 214,630 persons, 30,357 households and 65 villages (Pakistan, 2000). The 1998 census report shows that there is no urban proportion of Tehsil Balakot. Therefore, out of the total 65 villages one third villages were purposively selected on the bases of more damage by the Oct 08 disaster. Then 10% sample households were purposively selected out of the average households of the one third selected villages (equal sample households from each selected village). The purposive form of sampling is generally considered the most common type of sampling. It tries to figure out where the desired individuals can be found, and then tries to study them. Purposive sample is a form of non-probability sample in which the selected sample seems to meet the needs or purposes of the study (Baker, 1991). Hence, total 1012 sample households were selected. The following diagram shows the sampling methodology.

Those people/households who meet the following criteria were selected;

1. They were present during or after the October 08, 2005 earthquake in the same locality.
2. They were affected by earthquake.
3. They were active part of the community in disaster management.

4. They were the part of different social organizations and worked for the affected communities.
5. They were the representatives of NGOs and GOs/CCBs or Union council members who were being involved or facilitated the communities in the disaster management.
6. They were the part of big traditional Biradari system and helped each other.
7. They were available and willing to participate.

Methodology



3.5 Tools of Data Collection

The interview schedule was used to collect first hand information from the respondents. It is the method in which the presence of investigator in the field is

compulsory mainly for the reason of uneducated or less educated status of the respondents. However, more accuracy of data and less consumption of time are the salient features of such practice (Alam, 2007).

The questions of measuring scales in the study were thoroughly thought and finalized in the light of relevant literature, objectives and parameters of the study. Although the tool of data collection was designed in English, but interviewing respondents under the interview schedule method was conducted in Urdu or local language Hindko. It is worth mentioning that the tool of data collection was compiled within the frame of the per-determined hypothesis and their relevant variables and indicators.

3.6 Modality

The local community members were investigated through questionnaires. Some of the respondents filled the questionnaires directly on the spot, while those who were educated received, filled and returned on the next day. The researcher personally interviewed the respondents from the entire strata by using the tool of data collection properly. The main purpose of this act by the researcher was to observe by himself the impact and the extent of the community participation in disaster management.

3.7 Pre-Testing

Fifteen copies of the interview schedule were filled from the concerned respondents for the purpose to tryout the applicability of questions included in the interview schedule. After necessary editions and additions of questions, interviewing the respondents was initiated.

3.8 Data Analysis and Presentation Procedure

After the data collection, it went through data entry on SPSS (Version-16). The variables were properly defined and the data was entered for further analysis. Then the

data was tabulated. We have two types of tabulation, the one is the Uni-variate or Simple tabulation and the second type is the Bi-variate cross tabulations of the different variables.

The simple or uni-variate variables are the one variable analysis that were presented and analyzed in the forms of simple percentages and frequencies. These tables are properly explained as well as interpreted for further clarifications.

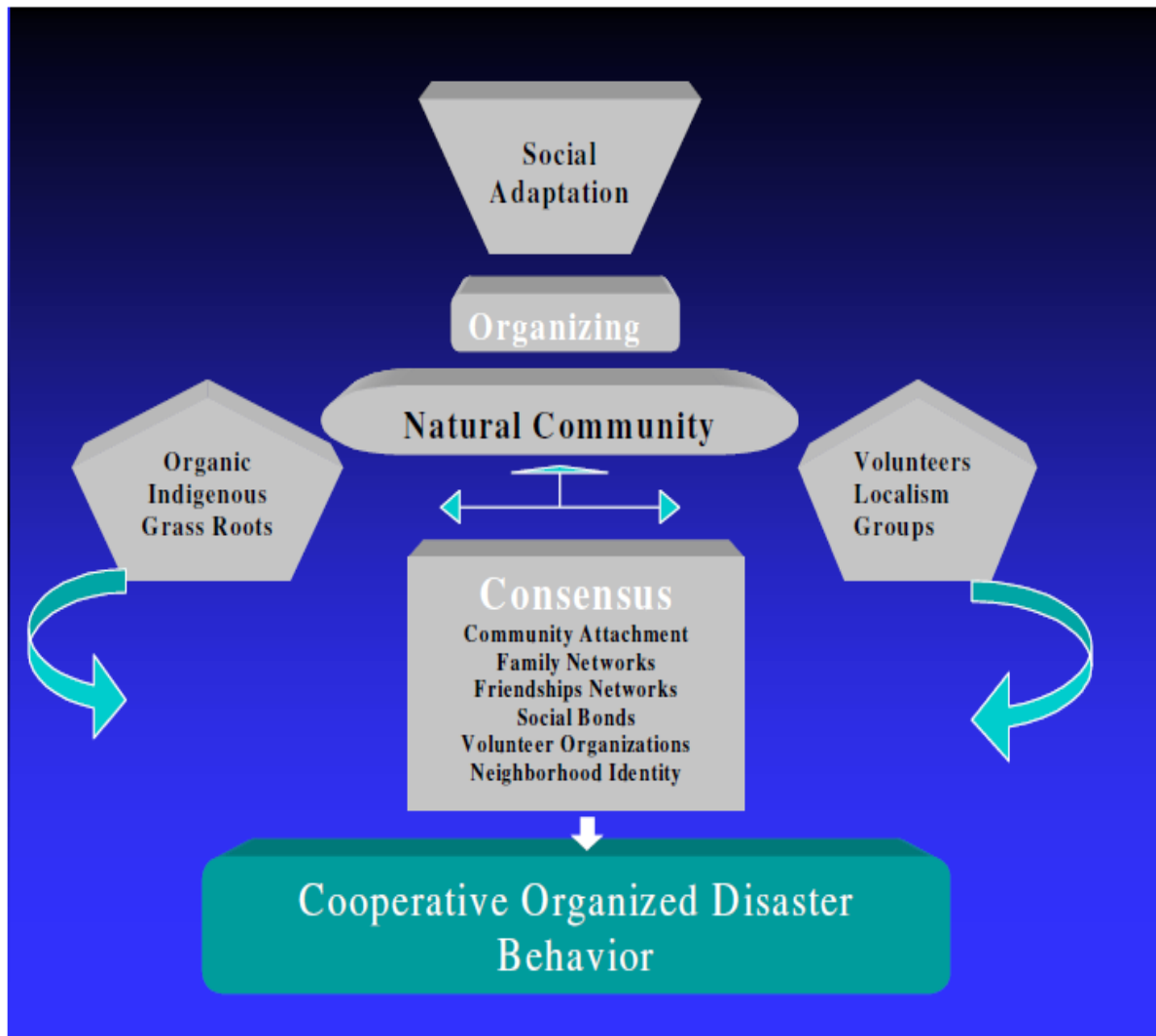
In order to explore the relationship or association between the two variables, Bi-variate or cross tabulations are made. Standard statistical procedures were applied in order to find the association between the variables. The variables under investigation were crossed and the Chi-Square (X^2) and Gama (G) statistics were applied, the basic purpose of the statistical procedures was to confirm the significance of the data variation or distribution and the significance of the association of the variables with one and other. In order to explore the association of the independent and dependent variables the Gama statistics was applied. These procedures were also applied for the subsequent acceptance of the null hypothesis or otherwise the acceptance of alternative hypothesis. The Gama statistics also showed us whether the variables are directly proportional or inversely proportional to one and other. After the data analysis and verification of the hypothesis, the main findings of the research were concluded and eventually recommendations were made.

3.9 Study Matrix

The study was conducted in the light of a model “Organic Community Model for Disaster Survival”. The model is providing proper footing to the study and is considered as the best in applying to the study. It covered all the pre and post study difficulties and helped in searching the objectives and indicators evaluation in an appropriate way. The components of the model were presented for verification under the concept that it has no

logical connection to the disaster survival. The model is given in diagrammatic form for further elaboration of all basic contents.

Organic Community Model for Disaster Survival



FIGUR: Organic community model for disaster survival.

3.10 Ethical Considerations

All the participants and respondents involved in the study were informed of the aims and objectives of the study undertaken for the academic purpose. All the reports, policy documents, articles and books, consulted for the research, were properly acknowledged and referenced (Creswell, 2002). Due to cultural sensitivity male respondents were approached, and women and children below 18 year of age were not

interviewed. At all steps the research scholar has tried utmost to keep all the ethical standards in to account in the entire course of the research.

CHAPTER # FOUR

DATA ANALYSIS & INTERPRETATION

CHAPTER-IV

DATA ANALYSIS AND INTERPRETATION

This chapter belongs to the data analysis and interpretations. As per methodology given in the last chapter (Chapter-III) after the data collection, it went through data entry on SPSS (Version-16). The variables were properly defined and the data was entered for further analysis. Then the data was tabulated. We have two types of tabulation, the one are the Uni-variate or Simple tabulation and the second type are the Bi-variate cross tabulations of the different variables. The simple or uni-variate variables are the one variable analysis that were presented and analyzed in the forms of simple percentages and frequencies. These tables are properly explained as well as interpreted for further clarifications.

In order to explore the relationship or association between the two variables, Bi-variate or cross tabulations are made. Standard statistical procedures are applied in order to find the association between the variables. The variables under investigation were crossed and the Chi-Square (X^2) and Gama (γ) statistics were applied, the basic purpose of the statistical procedures was to confirm the significance of the data variation or distribution and the significance of the association of the variables with one and others. In order to explore the association of the independent and dependent variables the Gama statistics were applied. Gamma statistics shows us the directions of the variables too. These procedures were also applied for the subsequent acceptance of the null hypothesis or otherwise the acceptance of alternative hypothesis. The Gama statistics also showed us whether the variables are directly proportional or inversely proportional to one and others. (Goodman and Kruskal's gamma, 1954).

PART-A

Simple or Uni-variate Tabulation, Exploring the Data Through Analysis and Interpretations:

The following simple tables are showing simple percentages and frequencies of the variables under investigations.

Table-4.1 Level of Education and Occupations of the Sampled Respondents

Education of the Sampled Respondents				Occupations of the Sampled Respondents		
Serial No.	Level of Education	Frequency	Percent	Occupations of the Respondents	Frequency	Percent
1	Illiterate	102	10.1	Agriculture	204	20.2
2	Primary	203	20.1	Business	202	20.0

3	Middle	151	14.9	Livestock	50	4.9
4	Metric	203	20.1	Service	252	24.9
5	Intermediate	151	14.9	Skilled Labor	101	10.0
6	Bachelor	101	10.0	Unskilled Labor	101	10.0
7	Master	101	10.0	Student	102	10.1
	Total	1012	100.0	Total	1012	100.0

Source: Field Survey

EXPLANATION

Table-4.1 shows the sampled respondents in terms of their level of education and diversity of occupations. Only 10.1 percent of the sampled respondents were illiterate, 20.1 percent were primary, 14.9 percent were intermediate, 10 percent were bachelor and 10 percent were Master degree holders. The different level of education of the sampled respondents reveals the diverse level of education and experiences. The interviewer had tried utmost to select those who had comparatively more education, had better knowledge about their own communities and willing to share information desired by the researcher. Likewise it reveals that 20.2 percent of the sampled respondents belong to the Agricultural occupation, 20 percent to Business, 4.9 percent to Livestock, 24.9 percent Service, 10 percent to Skilled Labor, 10.1 percent Students and 10 percent Unskilled Labors. The data shows that multiple sections of the community were involved for getting diversified information from the community. During the course of data collection the researcher had tried to select educated and the persons with sound knowledge and experiences, and those who could easily understand the questions.

Table-4.2 Age Groups and Income Levels of the Sampled Household Respondents

S #	Age Groups of the Respondents	Income Levels of the Respondents
-----	-------------------------------	----------------------------------

	Age Groups	Frequency	Percent	Income Groups of Respondents	Frequency	Percent
1	20 to 30	405	40.0	1000 to 5000	153	15.1
2	30 to 40	152	15.0	5000 to 10000	354	35.0
3	40 to 50	203	20.1	10000 to 15000	202	20.0
4	50 to 60	252	24.9	15000 and above	303	29.9
	Total	1012	100.0	Total	1012	100.0

Source: Field Survey

EXPLANATION

Table-4.2 reveals different Age groups and Income groups of the sampled respondents. The overall 40 percent respondents belong to the age group 20 to 30 years, while the remaining 15 percent, 20.1 percent and 24.9 percent belong to the age groups 30 to 40, 40 to 50 and 50 to 60 years respectively. As per criteria of the respondent's selection, the respondents were mature, responsible members of the community and were willing to share information in detail with the interviewers. Moreover, 15.1 percent respondents belong to the income group of 1000 to 5000 rupees per month, 35 percent respondents are in the income group 5000 to 10000 rupees, while the remaining 20 percent and 29.9 percent belong to the income groups 10000 to 15000 and 15000 and above rupees respectively. The young and elders having lot of experiences of social life had been involved in order to get rich data relating variety of experiences and perspectives. The variety of sampled respondents in terms of their age groups and income groups tells us that the data is collected from the persons of different segments of the community.

Table-4.3 Villages of the Sampled Respondents

S #	Name of the Villages	Frequencies	Percentages
1	ManoorArsala	48	4.7
2	Balakot	49	4.8
3	Mittikot	48	4.7
4	Sohal Najaf	48	4.7
5	Garlot	49	4.8
6	Nokot	48	4.7
7	Batkerrerr	48	4.7
8	Kanshian	48	4.7
9	ShohalMaozullah	48	4.7
10	Lasoosultani	48	4.7
11	Talhatta	48	4.7
12	Jared	48	4.7
13	Gharibullah	49	4.8
14	Sangar	48	4.7

15	Kowai	48	4.7
16	Ghanool	48	4.7
17	Bhangian	48	4.7
18	Hangrai	48	4.7
19	BalilaSacha	48	4.7
20	Satbani	49	4.8
21	BandbaraPatlang	48	4.7
	Total	1012	100.0

Source: Field Survey

EXPLANATION

Table-4.3 highlights the names of those villages that were purposively selected for the study under consideration. These villages belong to the different union councils of the entire Tehsil Balakot. These villages have observed many experiences due to the comparatively huge damages by the October 8th earthquake. As per research methodology the above villages were selected for data collection on the bases of more damage caused to the villages as a result of the October 08, 2005, devastating earthquake. Equal numbers of households were taken for interview from each village.

Table-4.4 Types of Families and Marital Status of the Sampled Household Respondents

Types of Families of the Respondents				Marital Status of the Respondents		
Serial No.	Type of Families	Frequency	Percent	Marital Status	Frequency	Percent
1	Nuclear family	303	29.9	Married	607	60.0
2	Joint family	608	60.1	Single	405	40.0
3	Extended family	101	10.0			
	Total	1012	100.0	Total	1012	100.0

Source: Field Survey

EXPLANATION

Table-4.4 highlights the type of families and marital status of the sampled household's respondents. The entire household's respondent's families are consisting of 29.9 percent Nuclear families, 60.1 percent joint families and the remaining 10 percent Extended families. Most of the people are residing in the rural areas where the joint family system is common, however, Nuclear and extended families are also there. While other side of the table shows that 60 and 40 percent of respondents were married and single/ unmarried respectively.

The table gives us information that most of the respondents were married and were the responsible residents of their communities. The researcher tried to consider the mature and responsible persons of the community for interviews, in order to collect complete and reliable information.

Table-4.5 Damages Caused to the Sampled Respondents

Serial No.	Responses	Frequency	Percent
1	Yes	911	90.0
2	No	101	10.0
	Total	1012	100.0

Source: Field Survey

EXPLANATION

Table-4.5 is about the damages caused by the October 08 earthquake to the households of the sampled respondents. As per data given in the aforementioned table, 90 percent of the sampled respondents' households were damaged by the devastations of

the earthquake. The damage was including human losses as well as loses to the livelihood sources and physical infrastructures. Whereas only 10 percent of the sampled respondents had no such losses. The researcher had tried to contact those families who had more loss due to the heavy jolts of the earthquake. Comparatively those families who had experienced more losses, had more reliable information about the after myths and realities of the post disaster. Whereas the small number of respondents that were present during and after the earthquake were affected directly by the jolts of the earthquake. It is also reflected from the data that most of the households experienced great quantity of losses.

Table-4.6 Damages Caused to the Families of Sampled Respondents in Terms of Human Losses (Number of Persons Wounded, Handicapped and Died)

Persons Wounded in the Respondents Families			Persons Handicapped in the Respondents Families			Persons Died in Respondents Families		
<i>No. of Persons Injured</i>	<i>Frequency</i>	<i>Percent</i>	<i>No. of Persons Handicapped</i>	<i>Frequency</i>	<i>% age</i>	<i>No. of Persons Died</i>	<i>Frequency</i>	<i>% age</i>
0	101	10.0	0	406	40.1	0	251	24.8
1	253	25.0	1	303	29.9	1	303	29.9
2	253	25.0	2	253	25.0	2	153	15.1
3	254	25.1	3	50	4.9	3	153	15.1

4	101	10.0				4	101	10.0
5	50	4.9				5	51	5.0
Total	1012	100.0	Total	1012	100	Total	1012	100.0

Source: Field Survey

EXPLANATION

Table-4.6 is about the losses that were caused to the families of the households of the sampled respondents by the earthquake. It is reflecting the sort of human losses that was faced by the families of the sampled respondents. Only 10 percent of the respondents said that no person of their household was injured, 25 percent said that one person of their family had been injured, 25 percent said that two persons had been injured in their households, whereas the remaining 10 percent and 4.9 percent said that 4 and 5 persons respectively were injured in their households.

The table also shows that 40 percent respondents reported that no person of their family handicapped, while the remaining 29.9 percent, 25 percent and 4.9 percent said that one, two and three persons respectively were handicapped in their families.

Similarly, 24.8 percent of the sampled respondents said that no person of their families died by the earthquake, 29.9 percent said that only one person of their families died and the remaining 15.1 percent, 15.1 percent, 10 percent and 5 percent respondents said that two, three, four and five persons respectively were died in their families due to the devastative earthquake of October 8th 2005. The aforementioned data is clearly reflecting the families of the respondents that were the victims of the October 08 devastations.

Table-4.7 Damages Caused to the Sampled Households in terms of Buildings, Agricultural Land and Other Miscellaneous Losses to Their Livelihood Sources in Rupees.

Type of Loss	Damage of Buildings		Damage of Agricultural Land		Other Miscellaneous Losses to the Livelihood Sources		
	Frequency	%	Frequency	%	Total in Rs.	Frequency	%
Partially damage	355	35.1	557	55.0	50000 to 100000	557	55.0
Half damage	203	20.1	153	15.1	100000 to 200000	153	15.1
Full damage	304	30.0	51	5.0	200000 to 300000	51	5.0
No damage	150	14.8	251	24.8	300000 to 400000 and above	251	24.8
Total	1012	100.0	1012	100.0	Total	1012	100.0

Source: Field Survey

EXPLANATION

Table-4.7 is about the damages caused to the sampled household respondents regarding their buildings, Agricultural land and other miscellaneous losses to the livelihood sources in terms of rupees. The table shows us that 35.1 percent responded with partially damaged houses, 20.1 percent reported that their houses were half damaged, 30 percent has fully damaged and 14.8 percent said that their buildings were not damaged by the jolts of earthquake.

While 55 percent of the sampled respondents reported that their agricultural lands were partially damaged, 15.1 percent said that their agricultural land was half damaged, 5 percent said that their land was fully damaged and only 24.8 percent said that their land were not damaged by the disastrous earthquake. The losses of the respondent's households in terms of rupees are divided in the following groups. Fifty five percent of the sampled respondents reported their losses between 50000 to 100000 rupees, 15.1 percent have reported it in between 100000 to 200000 rupees, 5 percent reported 200000 to 300000 rupees and the remaining 24.8 percent said their loses were 300000 to 400000 and above. The data in the above table reveals that the sampled respondents were the victims of the disaster. They have faced all types of loses. They had lost their houses, agricultural lands and other multiple sources of livelihood earning.

Table-4.8 Activities of Different Sections of Helpers Pertaining to the Removal of Rubble and Burial of the Dead Persons

Help provided by	Removal of rubble of damaged houses		Burial of dead persons	
	Frequency	Percent	Frequency	Percent
Own family	355	35.1	100	9.9
Communal help/ Friends/ Neighbors/ Relatives	456	45.1	709	70.1
By GOs and NGOs	201	19.9	203	20.1

Help provided by	Removal of rubble of damaged houses		Burial of dead persons	
	Frequency	Percent	Frequency	Percent
Own family	355	35.1	100	9.9
Communal help/ Friends/ Neighbors/ Relatives	456	45.1	709	70.1
By GOs and NGOs	201	19.9	203	20.1
Total	1012	100.0	1012	100.0

Source: Field Survey

EXPLANATION

Table-4.8 is pertaining to the activities of different sections of helpers in the removal of rubbles and burial of the dead persons. Responding to the question regarding the removal of rubbles of the damaged houses, 35.1 percent of the sampled respondents said that their families had removed the rubble by themselves, 45.1 percent were of the opinions that the rubbles of their families had removed by the their neighbors, relatives, friends and other persons of the concerned local communities and only 19.9 percent respondents were of the views that personnel of the Governmental and Non-Governmental organizations had removed the rubbles of their damaged houses. While responding to the question pertaining to the burial of the dead bodies, the sampled respondents said that only 9.9 percent were of the opinions that their families had buried the dead bodies by themselves, 70.1 percent responded that they had buried their dead persons with the help of the neighbors, friends, relatives and concerned local communities, while only 20.1 percent of the sampled respondents were of the view that their dead persons were buried by the personnel of the governmental and non-governmental organizations.

The data shows us that the survivors of the disaster had made commendable endowers in the emergency management activities. The neighborhoods, friends and

relatives network has also played positive role in the removal of debris and burial of the dead persons. As per information provided by the disaster survivors/ sampled respondents, it is very much obvious that the victimized families and their corresponding social network had offered a handsome amount of the social capital for minimizing the most terrible effects of disaster.

Table-4.9 Table Showing the Status of the Reconstruction and Rehabilitation of the Following Damages

S #	Post Disaster Damages	Damages that Reconstructed & Rehabilitated Through Various Sources	Responses	
			Frequency	Percent
1	Damage to housing and buildings	Retrofitted the minor Damages by himself	101	10.0
		By ERRA but did the labor by himself	253	25.0
		financed by ERRA in addition to own finances	405	40.0

		and labor		
		By communal help in the form of labor and materials	101	10.0
		By donations of the communities	51	5.0
		By NGOs Partially	50	4.9
		Still living in the disastrous house or tent	51	5.0
		Total	1012	100.0
2	Damage to livelihood (e.g., shops of small traders)	Self help bases	252	24.9
		Through the Skill imparted	51	5.0
		Contributions by GOs or NGOs	151	14.9
		Contribution by relatives and friends	456	45.1
		Still not rehabilitated	102	10.1
		Total	1012	100.0
3	Damage to agriculture and animal husbandry (crops, fruit trees, livestock)	Self help bases	304	30.0
		Contributions by GOs or NGOs	253	25.0
		By local community, friends and neighbors	354	35.0
		Still not rehabilitated	101	10.0
		Total	1012	100.0
4	Damaged services (educational & health facilities) and government buildings	Contributions by GOs or NGOs	910	89.9
		By local community	---	----
		Still not rehabilitated	102	10.1
		Total	1012	100.0
5	Damaged infrastructure and utilities (water supply, sewerage, roads, bridges, electricity, Telecommunications, etc.)	Self help bases	203	20.1
		Contributions by GOs or NGOs	556	54.9
		By local community	203	20.1
		Still not rehabilitated	50	4.9
		Total	1012	100.0

Source: Field Survey

EXPLANATION

Table-4.9 is about the status of the Reconstruction and Rehabilitation of the Damage caused to the housing and buildings, livelihood sources of the local communities e.g shops of small traders, agriculture and animal husbandry (crops, fruit trees, livestock), services (educational & health facilities etc) government buildings and

damage caused to the infrastructure and utilities (water supply, sewerage, roads, bridges, electricity, Telecommunications etc.). The respondents responded to the question related to the reconstruction and rehabilitation of the housings and other private buildings, that 10 percent of the communities members retrofitted the minor damages by themselves, 25 percent by ERRA but the community did the labor by itself, 40 percent said that their houses constructions were financed by ERRA in addition to their own finances and labors, 10 percent said that they reconstructed their houses by the communal help in the form of labor and material help, 5 percent of the sampled respondents were of the opinions that they reconstructed their houses by the donations of the communities, about 5 percent of the respondents said that the houses were partially reconstructed with the help of NGOs, while the remaining 5 percent sampled respondents said that some of the community members are still living in the disastrous houses or tents. The livelihood sources rehabilitation and recovery by the affected communities was reported as 24.9 percent by self help basis, 5 percent through the skills imparted by different organizations, 14.9 percent reported that the community has recovered their livelihoods earning sources with the help of GOs and NGOs, 45.1 percent respondents reported that the communities have rehabilitated their livelihood earning sources with the help of relatives, neighbors and local communities, while the remaining 10.1 percent respondents were of the opinion that the affected communities have still not rehabilitated their livelihood earning sources.

Table-4.10 Safer Places and Shelters Mostly Provided to the Respondents Families by the Following Sections of the Society

Safer Places Provided By	Frequency	Percent
By self or own Family	202	20.0
By community/ neighbors/ friends/relatives	356	35.2

By GOs and NGOs	201	19.9
By self, friends, neighbors, GOs and NGOs	102	10.1
The outsider community	151	14.9
Total	1012	100.0

Source: Field Survey

EXPLANATION

Replying to the question regarding providing safer places to the affected communities, 20 percent of the respondents told that safer places were provided by the efforts of their own families, those who had joint or extended family systems and were having more man power or houses or shifted to some other cities immediately after the onset of the disaster were adjusted in safer places by their own families, 35.2 percent of the respondents informed that safer places were provided by the neighbors, relatives and friends. Those neighbors, relatives and friends who had comparatively less losses had helped the serious sufferers in the provision of safer places to those who were vulnerable to more losses. 19.9 percent of the respondents reported that safer places or shelters were provided by the NGOs or GOs, those families who had more losses and their relatives and neighbors were also unable to help the shelter less households were accommodated by the NGOs and GOs. 10.1 percent of the sampled respondents were of the opinions that safer places were provided by the joint efforts of the affected families, relatives NGOs and GOs. At the time of emergency evacuation all the relief providing quarters had by some means contributions. While the remaining 14.9 percent of the respondents were of the opinions that shelters or safer places were provided by the outsider volunteers. After the onset of the emergency, some of outsider volunteers donated tents and some came to help the affectees in shifting to the safer places. From the data it is concluded that the affected families, local community, the outsider communities, local

and non local volunteers, NGOs and GOs had helped the survivors of the disaster in providing safer places or shelters to the disastrous and vulnerable households.

Table-4.11 Response of the Local Communities to the Injured Persons of the Disaster

Serial No.	Response to the Injured persons	Frequency	Percent
1	Provided First aid to the minor injuries	353	34.9
2	Helped the serious injured in shifting to the hospitals	405	40.0
3	Psychologically soothed the injured	254	25.1
	Total	1012	100.0

Source: Field Survey

EXPLANATION

Table-4.11 is indicating the response of the local communities towards the injured persons. 34.9 percent respondents said that the local communities had provided first aid medical facilities to the minor injuries, the first aid facility was provided by the local communities in the form of their indigenous techniques and recipes, that happened only in the lesser damaged parts of the disaster's communities. 40 percent of the respondents said that the local communities helped the serious injured in shifting to the hospitals. Those who were seriously injured were not treated locally, that's why they were shifted to the hospitals by one or other sources. The remaining 25.1 percent respondents said that they have helped those who were affected by the psychological or physical trauma. The overall data in the table indicates that the local communities had greatly contributed in the management of both the minor and major injuries.

Table-4.12 Table Showing the Contribution of Different Sections of Aid Providers in the Following Areas

Different Sections of Aid Providers	Shelters Provided to the displaced families		Livelihood Sources Restoration		Provision of First aid and Medical care		Restoration of water supplies and distribution		Restoration of Toilets and Sanitation		Food Supplies		Relocation of displaced families		Psychological Counseling of the Survivors households	
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
Relatives/ Neighbors/ Friends	353	34.9	557	55.0	405	40.0	353	34.9	506	50.0	504	49.8	506	50.0	644	63.6
Local Community	304	30.0	303	29.9	252	24.9	457	45.2	202	20.0	305	30.1	202	20.0	346	34.2
GOs and NGOs	355	35.1	152	15.0	355	35.1	202	20.0	304	30.0	203	20.1	304	30.0	22	2.2
Total	1012	100.0	1012	100.0	1012	100.0	1012	100.0	1012	100.0	1012	100.0	1012	100.0	1012	100.0

Source: Field Survey

EXPLANATION

Table-4.12 indicates contribution of the different aid providers in the provision of shelters, livelihood source's restoration, provision of first aid medical care, restoration of water supplies, restoration of toilets and sanitation, food supplies, relocation of displaced families and psychological Counseling of the survivors' households. Responding to the question regarding the provision of shelter, 34.9 percent of the respondents said that shelters were provided by the relatives, neighbors and friends. Thirty percent of the respondents said that shelters were provided to the shelter less families by the local communities and 35.1 percent of the respondents said that shelters were provided by the NGOs and GOs. The overall status of the data in the table indicates that about 65 percent of the shelters were provided by the relatives, friends and other members of the local communities. Responding to the question pertaining to the restoration of the livelihood sources 55 percent of the respondents were of the opinion that the livelihood sources were restored with the help of close relatives, neighbors and friends. 29.9 percent of the respondents reported that livelihood sources were restored by the efforts of the local communities, while the remaining 15 percent of the respondents replied that the livelihood sources were restored by the NGOs and GOs. The data is reflecting that the local community had played great role in the restoration of the livelihood sources. Replying to the question regarding the provision of the first aid and medical care to the wounded persons, 40 percent of the respondents said that relatives and friends had helped the wounded persons, 24.9 percent were of the view that the local communities had helped the wounded persons at the time of emergency, while the remaining 35.1 percent of the sampled responded said that GOs and NGOs had helped the affected communities in the management of the wounded persons. That data's interpretation shows that local communities remained involved in helping the injured persons after the disaster's occurrence.

The respondents were asked about the water supplies and distribution, 34.9 percent were of the view that relatives and friends of the affected persons had helped in providing potable water to the affected communities. Overall 45.2 percent of the sampled respondents were of the view that the local community had restored the water supplies and the distribution of the potable water to the affected communities under the self help approach. The overall 20 percent of the sampled respondents said that the NGOs and the GOs had contributed in the restoration of the water supplies and distribution. The data shows that in the most affected communities the community had less involvement in the restoration of the water supply and distribution. While, those communities that were comparatively less affected were more involved in the restoration of the community's services. Responding to the question regarding the restoration of the toilets and sanitation, 50 percent responded that close relatives, neighbors and friends had helped in the restoration of sanitation. The toilets and sanitation channels in the houses or outside the houses in the streets were made functional by the physical labors of the relatives and neighbors. 20 percent of the respondents said that the local communities have contributed their efforts to help in the restoration of the sanitation system of their streets and houses. The overall 30 percent of the respondents were of the view that GOs and NGOs had worked to restore the sanitation systems of the community. Those communities that were seriously affected by the disaster had been mostly restored by the NGOs and GOs; the reason was more damage and inability of the local communities to help their own community. Regarding the supply of food items to the affected community 49.4 percent of the respondents were of the view that relatives, neighbors and close friends had contribution in the supply of food items to those who were foodless and whose livelihood sources were damaged. The local

community has provided each and every type of supports on the humanitarian grounds, to those who faced the food problems.

The table shows that 50 percent of the respondents reported that the close neighbors and friends had contribution in the relocation of the displaced communities. While 20 percent of the respondents were of the opinion that the local community had helped in the relocation of the displaced families. The overall 30 percent of the respondents were of the view that NGOs and GOs had contributed in the relocation of the displaced communities. The overall data signifies that local communities had made their own efforts for the restoration of their own families. The data in the table regarding the psychological counseling of the survivor's households shows that 63.6 percent relatives and close friends of the sufferers had performed the services like psychological counseling and sharing grief. While the remaining 34.2 and 2.2 percent of the respondents respectively were of the view that local community and the GOs and NGOs had provided psychological counseling to the sufferer's households.

Table-4.13 Table Showing the Measures of the Social Coherence and Involvement of the Community

MEASURES OF COMMUNITY INVOLEMENT							
S. No.	ITEMS / MEASURES	RESPONSES				TOTAL	
		YES		NO		YES+NO	
		<i>Frequency</i>	<i>Percent</i>	<i>Frequency</i>	<i>Percent</i>	<i>Frequency</i>	<i>Percent</i>
1	Know most of your neighbors	991	97.9	21	2.1	1012	100.0
2	Neighbor rush to help at the time of Adversity	860	85.0	152	15.0	1012	100.0
3	When request, neighbors help	858	84.8	154	15.2	1012	100.0
4	Neighborly relations are good	806	79.6	206	20.4	1012	100.0
5	Neighbor's involvement is good in general gatherings, community centers etc.	705	69.7	307	30.3	1012	100.0
6	Active in neighborhood watch	817	80.7	195	19.3	1012	100.0
7	Active in community committee	757	74.8	255	25.2	1012	100.0
8	Family members live close by in the neighborhood	758	74.9	254	25.1	1012	100.0

Source: Field Survey

EXPLANATION

Table-4.13 is regarding the measurement of the community involvement and social coherence. Multiple measuring items have been used to assess the social cohesion and community involvement with each other. When it was asked from the respondents that if they knew most of their neighbors? 97.9 percent said Yes, they knew most of their neighbors, while only 2.1 percent were of the view that they didn't know most of their neighbors. Those respondents who belonged to the comparatively populace communities had responded that they didn't know most of their neighbors. 85 percent of the respondents said that their neighbors rushed to help them at the time of adversity, while only 15 percent of the respondents reported that their neighbors didn't rush to help them at the time of adversity. The urbanizing society has often weak social cohesion amongst its members, while those respondents who were in the far flung rural areas were have more social cohesion and involvement. 84.8 percent of the respondents were of the view that when they requested to their neighbors, only then their neighbors are coming for help but on the other side 15.2 percent of the respondent said that their neighbors didn't use to come for help even if they requested them for help.

Replying to the question of the neighborly relations, 79.6 percent of the respondents said that their neighborly relations are good, while the remaining 20.4 percent of the respondents said that their neighborly relations are not good. Those whose neighborly relations were not good were mostly annoyed towards one another due to one or the other reasons. The overall 69.7 percent of the sampled respondents were of the view that their neighbor's involvement is good in general gatherings and community centers, while the remaining 30.3 percent replied that their neighbor's involvement is not good in general gatherings and community centers. In order to see the sense of responsibility among the community members the question regarding the neighborhood watch was

asked, 80.7 percent of the respondents replied that their neighbors were active in the neighborhood watch. However, 19.3 percent of the respondents replied that their neighbors were not active in the neighborhood watch. Mostly it was observed that the people residing in the small villages were active in the neighborhood watch, while those residing in the towns and big villages were not enough keen about their neighborhoods. The question regarding the devotion of the community in the community committee was asked, 74.8 percent of the respondent replied that their communities are active in the community committees. However, only 25.2 percent of the respondents said that their communities are not active in the community committees.

Replying to the question regarding the residence of the outside family members, 74.9 percent of the respondents replied that family members are living in their neighborhood, while the remaining 25.1 percent of the respondents replied that their family members are not residing in their neighborhood. The table pertaining to the measurement of the social cohesion and community involvement is clearly showing us the picture of the community; the community has greater social cohesion and community involvement. It has also been observed that in the rural communities the social cohesion and community involvement is usually more as compared to the urbanized and densely populated communities. The measures clearly shows that the communities in question are socially cohesive and having good communal involvement. On the disaster perspective, the main thing that is more desirable is to highlight the impact of the community members upon one and other. The social bond of the community in question is very much strong. The entire Tehsil of Balakot is having no urban proportion according to the 1998 district censuses report; the underling fact that exist in every rural society is the social cohesion and unity.

Table-4.14 Table Showing the Social Strength of Disaster Community Networks

SOCIAL STRENGTH OF DISASTER COMMUNITY NETWORKS											
	Networking component	Supply		Skill		Planning		Protection		Total	
		Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
Family based disaster community	Family Based Networks Family members live nearby Frequently visit family members Contact family by telephone Good family relation	152	15.0	202	20.0	205	20.3	453	44.8	1012	100.0
Micro-Neighborhood disaster community	Micro-Neighborhood Networks Familiar with neighbors Neighbor are helpful Good relations between neighbors	254	25.1	151	14.9	152	15.0	455	45.0	1012	100.0
Macro-Service based disaster community	Macro-community Networks Active in community gatherings or centers Active in neighborhood watch Active in neighborhood committees etc.	348	34.4	202	20.0	411	40.6	51	5.0	1012	100.0

Source: Field Survey

EXPLANATION

Table-4.14 shows the social strength of the disaster community network. After the onset of the disaster emergency, the local community remained involved in the relief and emergency response activities. Their social network and social capital might have role in the overall management activities. For the purpose to highlight the role of the social network and the existence and utilization of the social capital by the local communities, the community has been divided in three sections like Family based disaster community, Micro-Neighborhood and Macro-Service based or in other terms these sections are Family Based Networks, Micro-Neighborhood Networks and Macro- Service Networks. All the three levels of networking components has been evaluated in terms of supply of different items to the sufferers, skill provision during the emergency, relief and rehabilitation, planning for the rehabilitation of the sufferers and protection of the vulnerable sections of the community. Responding to the questions, 15 percent of the respondents said that the family based network or family based disaster community had role in the supply of different items required for the daily usage. 20 percent of the respondents said that family based network had imparted skills of the survivals over years of living in the family life. 20.3 percent of the respondents reported that family based network had significant role in the planning, while 44.8 percent of the respondent said that family based network had major role in protection of families. The table reveals that the family based network has significant role in the protection, after the disaster occurrence. Again looking at the column under the supply in table, the family- based network has 15 percent, micro-based network has 25.1 percent and macro-based network has 34.4 percent role in the supply of different items to the communities. The data reveals that mostly the macro-based

community networks has maximum role in the supply of different items of daily usage after the emergence of the disaster.

Talking about the provision of the skills, 20 percent of the respondents are of the view that the family based networks has imparted skills over years living in the families, 14.9 percent of the respondents said that micro-based networks had made the community skillful for coping with the adversities. 20 percent of the respondents said that macro-based networks had provided coping skills to the disastrous communities. The community had indigenous coping skills and these skills have been transferred to the next generation over time. The reason is that the community makes itself resilient as well as resistant to the disasters and adversities. So, it is revealed clearly that the local communities are viable in transferring their indigenous skills to the next generation for their survivals. Responding to the question regarding the role of different social networks in the planning for the disaster management, 20.3 percent of the respondents were of the opinion that family- based network has role in planning for the disaster sufferers, 15 percent of the respondents said that micro-based networks has role in planning, while 40.6 percent said that the macro-based network has role in the communal planning. While discussing the role of the family based network in the protection, 44.8 percent of the respondents said that family-based networks has role in protection of the disaster survivors, 45 percent said that micro-neighborhood network has role in the protection, while only 5 percent were of the opinion that macro-community network has role in the protection of the disaster survivors.

The table reveals that family-based network had maximum role in the protection of the family, while it has minimum role in the supplies. Micro-neighborhood networks has also maximum role in protection, while it has minimum role in providing coping skills and

planning. Macro-community networks has maximum role in planning and supplies, while it has minimum role in protection, its role is mostly contrary to the role of the family-based networks. The data in the table reveals the social strength of the disaster communities networks, the local communities are socially cohesive and had multiple roles in the disaster management. And it is the role of these social networks that had greatly reduced the vulnerability of the communities at risk after the emergence of the disaster.

Table-4.15 Respondents Opinions on the Major Problems Faced by the Local Communities after the Emergence of the Disastrous Earthquake

S/ No.	Major problems of the community after earthquake	Frequency	Percent
1	Psychological trauma	48	4.7
2	Weak communication system with one an others	48	4.7
3	Lack of safer shelters for the victims	48	4.7
4	Cold weather and the holy month of Ramadan	48	4.7
5	Loss of valuable lives and properties	48	4.7
6	Search & rescue operations with proper trainings & instruments	48	4.7
7	Lack Finances for the rehabilitations of the infrastructure	101	10.0
8	Devastated livelihood sources of the community	101	10.0
9	Widows and orphans problems	48	4.7
10	Roads and routes blockage	51	5.0
11	Haphazard and hard work on the part of community	54	5.3
12	The aftershocks after disaster	53	5.2
13	Removal of the huge debris from the dead bodies and its burial and funeral	104	10.3
14	Removing the debris from the wounded	53	5.2
15	The thievery of valuables from the sufferer's families	53	5.2
16	Shortage of food items and potable water	53	5.2
17	Lack of first aid facilities	53	5.2
	Total	1012	100.0

Source: Field Survey

EXPLANATION

Table-4.15 is pertaining to the problems that the local communities faced after the emergence of the disastrous earthquake. During the survey the respondents were asked to mention one of the major problems that they thought was a major problem faced by the community after the disastrous earthquake of Oct 08. Consequently, the respondents pointed out many problems. The detail discussion of these identified problems is as follow. Psychological trauma was mentioned as a major problem by 4.7 percent of the respondents. After the onset of the fatal disastrous shocks and jolts of the earthquake many casualties were seen by the local community and most of them faced the psychological trauma, due to which they were unable to do something. 4.7 percent respondents termed weak communication system amongst the community members as the major problem faced by the local communities.

After the fatal quake the people were not aware about one and others which created multiple problems for the community. Each and every action of the community was hap hazard due to the lack of communication. The same number of the respondents said that lack of shelter for the victim of the quake was a big problem during the emergency evacuation. They said that hard cold and rainy day in the holy month of Ramadan (Holy month of fasting), it was very much difficult for the local communities to manage shelters for the shelter less communities. 4.7 percent respondents reported that loss of valuable lives and prosperities was a major problem of the communities after the earthquake. It is usually observed in the field during the survey that many respondents were missing their fathers, mothers, wives, sons and daughters. The loss of human lives and other valuables assets was really a great loss for the sufferers. 4.7 percent of the respondents were of the views that a search and rescue operation without proper

training, instruments and management was big for the local community. They were paralyzed by the severe blow of the quake on the one hand and on the other hand and on the hand to they had to face many challenges in terms of rescue and rehabilitation activities. 10 percent respondents reported that lack of finances for the rehabilitation of the damaged infrastructure was a great problem for the poor and deserted communities. The disaster has left the community helpless and deserted; it was difficult for them to rehabilitate themselves without some external help. Hence, governmental interventions as well as communal solidarity were inevitable sources of the rehabilitation of the local communities. 10 percent of the respondents said that devastated livelihood sources of the community was a big problem in the ways of their rehabilitation. 4.7 percent of the respondents said that widows and orphans adjustment in the society was a big problem of the community. 5 percent of the respondents said that roads and routs blockage was a big problem of the communities. 5.3 percent of the local respondents termed the hap hazard activities on the part of the local community as a major problem. 5.2 percent of the respondents termed the aftershocks as a major problem. 10.3 percent said that removal of the huge debris from the dead bodies and its funerals and burial was a major problem faced by the communities. 5.2 percent respondents said that removal of the rubble from the wounded persons was a major problem of the local communities. The other 5.2 percent of the said that thievery of the valuables from the sufferers families was a major problem faced by the local communities. And the remaining one 5.2 said shortage of food items and potable water as a major problem, while 5.2 percent also had termed the first aid facilities as the major problem of the local communities.

The data in the table in question reveals that the affected communities faced many problems after the fatal and terrible shocks of the disaster. Multiple communities had multiple

kinds of problems. The nature of problems faced by the one community was different from the other communities. And that may be the reasons that we have multiple responses in the aforementioned table. However, it is obvious that the local community faced many problems after the terrible and fatal disaster of Oct 08, 2005.

Table-4.16 Respondents Opinions Regarding the Rehabilitation and Restoration of the Irrigation Channels, Opening of Drainage Channels and Small Routes to the Villages

Support Providing Agents	Respondents views regarding the Rehabilitation of irrigation channels to the agricultural fields		Respondents views regarding opening of drainage channels		Respondents opinions regarding opening of small routes to the villages	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
The local community jointly	252	24.9	406	40.1	355	35.1
The local Community, NGOs and GOs	463	45.8	556	54.9	557	55.0
The NGOs and GOs	249	24.6	50	4.9	100	9.9
No ones	48	4.7				
Total	1012	100.0	1012	100.0	1012	100.0

Source: Field Survey

EXPLANATION

Table-4.16 reveals the respondents opinions regarding the rehabilitation and restoration of the irrigation channels, opening of drainage channels and small routes to the villages. Some of the rehabilitative activities were carried out by the local communities jointly, some were carried out jointly by the local communities NGOs and GOs, and others were by the NGOs or by the GOs. 24.9 percent of the respondents said that the rehabilitation and opening of the irrigation channels to the fields was carried out by the local communities, while the other 45.8 and 24.6 percent said that the irrigation channels were rehabilitated or opened jointly by the local communities, NGOs and GOs respectively. While the remaining 4.7 percent of the respondents were of the opinions that the irrigation channels has not yet rehabilitated. The overall responses reveal that mostly the work has been done jointly by the NGOs, GOs and the local communities. The overall 40.1 percent of the sampled respondents replied that the drainage channels were mostly opened by the local communities jointly, while 54.9 percent of the respondents were of the views that the local community, NGOs and GOs had contributions in opining of the drainage channels outside the houses. Only 4.9 percent of the respondents said that the NGOs and GOs opened the drainage channels of the community. The data in the aforementioned table reveals that most of the drainage channels were made workable by the joint contribution of the local communities, NGOs and GOs.

The overall 35.1 percent respondents reported that the local community had jointly opened the small routs to the villages. 55 percent said that the small routs to the villages were opened by the joint efforts of the local community, NGOs and GOs. While the remaining 9.9 percent reported that the small routs were opened by the GOs and NGOs. The data reveals that the NGOs and GOs worked jointly with the local communities and had opened the pedestrian's

routs to the villages. The table under discussion indicates that the NGOs and GOs had fully utilized the local human capital as well as the indigenous social capitals for the executions of the aforesaid activities. Most of the NGOs came up with the community participatory approaches and that was the reason that these organizations fully mobilized and utilized the local knowledge, practices and resources as well. Similarly, it had also been observed that many of the activities had been executed only by the governmental and non-governmental organization too.

Table-4.17 Respondents Views Regarding the Different Sorts of Psycho-social Supports provided to the Deserted Families or Community Members.

Serial No.	Sorts of Psycho-social supports provided	Frequency	Percent
1	Material Aid	148	14.6
2	Informational Aid	51	5.0
3	Psychological or emotional support	102	10.1
4	Companionship	201	19.9
5	Esteem support	50	4.9
6	Religious support	460	45.5
	Total	1012	100.0

Source: Field Survey

EXPLANATION

Table-4.17 is about the various types of Psycho-social supports that were provided by the local community to the exasperated families. As the victim were highly in need of the psycho-social support, so the local communities had to morally support their grieve in the form of lamenting over their losses and by having soft corners in their minds for the sufferers. The data

shows that various types of responses that are reflecting the psycho-social supports have been recorded and reported by the respondents. The overall 14.6 percent of the respondents said that they had provided material aid in order to psycho-socially soothe the sufferers. Material aid is provided by the respondent's households for the purpose to reduce victims' suffering. 5 percent of the respondents said that informational aid is provided to the sufferers. Informational aid was mostly required and provided in order to have clear information to reduce victims' suffering, confusion, fear and anxiety. 10 percent of the respondents had provided Psychological and emotional support to the victims. Psychological and/or emotional supports are those efforts given by helpers who empathize to victims' sufferings and grievances. Empathy and understanding of victims' suffering and grievances had greatly reduced the victims' emotional distress. 19.9 percent of the respondents were of the opinions that they had provided companion support to the sufferer's households. Companionship was provided to those sufferers who had experienced emotional loss, helplessness, and those with the tendency or had the experience of attempting suicide. Companionship is also needed by withdrawing victims whose minds are wandering. 4.9 percent of the respondents were of the opinions that they had provided esteem support to the sufferers. Esteem support is a sort of support which is provided to the victims to give the meaning of life to those who are psychologically disturbed, it is very important for helpless victims who lost their esteem and self worth. And the remaining 45.5 percent of the respondents were of the views that they had provided religious or spiritual support to the sufferers. Religious or spiritual support are prayers and also guidance to understand meanings behind experiences and difficulties of life. Many people have many skills while living in the society of human beings. Human being is an intelligent sort of creature on the earth. Man can understand each other's grieves and can share it;

human beings can reduce each other problems and can support each other even by the moral values.

The data in the table under discussion indicates that the community is socially and morally rich. According to Rohde (2005) the community is having noteworthy and strong human and social values. The local communities have greatly helped the psychologically and socially trodden survivors of the disaster. The community under study is a traditional one. Religious practices are strongly followed there. They mostly believe in Allah's will. They had been greatly soothed both psychologically and socially by their religious beliefs. And in the same ways religious functionaries had also played significant role in providing psycho-social relief to the sufferers.

Table-4.18 Respondents Views on Providing Psycho-Emotional Supports to the Victims of the Disaster.

Serial No.	Psycho-Emotional supports	Frequency	Percent
1	Smile	50	4.9
2	Listening	151	14.9
3	Empathy	206	20.4
4	Care	304	30.0
5	Choice of Words	50	4.9
6	Action	251	24.8
	Total	1012	100.0

Source: Field Survey

EXPLANATION

Table-4.18 reveals the psycho-emotional behavior of the local communities with the rigorously suffered persons and families. A technique that was used to know about the local communities behaviors with the sufferers. SLESCCA is an acronym of Smile, Listening, Empathy, Sensitive, Care, Choice of wise words and Action. All these gestures and actions are in common use in the human societies to psycho-emotionally support the victims; it is just to show sympathy and empathy with those who have almost lost the hope of recovery to get back to their normal previous lives. When questions regarding the psycho-emotional support were asked, 4.9 percent of the sampled respondents replied that they had psycho-emotionally supported the victims with Smiles. Smile is a symbol of social acceptance. However, smiling sometimes is not an easy job. More often, one feels that one's heart is accepting but the face is not. Hence, smile is considered and is even an acceptable psycho-emotional support on such occasions. Other 14.9 percent of the sampled respondent were of the views that they had listen the stories and grieves of the sufferers in order to give them psycho-emotional supports. Listening to others is also not easy. It has a function as a cathartic media. According to the theory of frustration-aggression being listened may reduce the potential to be aggressive. Hence, listening to others on such occasion is also considered therapeutic and it provides sufficient amount of psycho-emotional relief to the victims.

Other 20.4 percent of the respondents said that their attitudes were empathetic with the sufferers. Empathy is a sort attitude that is adopted in order to understand others' feelings. While Sensitive is one's ability to identify signs and changes in others' conditions. Empathetic attitude for the victims is also having therapeutic function for those who are gravely psycho-emotional due the valuable losses. While 30 percent of the sampled respondents reported that

they had cared the sufferers. Caring the sufferers means giving support to them. Care gives strength to the victims for recovery. Care means to raise a question on what one can do for victims. Hence, it is also important to give psycho-emotional support to the sufferers. Choice of wise words is also a very therapeutic sort of support, 4.9 percent of the sampled respondents said that such type of support was provided to the victims. Choice of wise words including praise giving is a media to educate others. One principle of classical conditioning theory is that behaviors producing reward tend to be repeated, while those leading to no reward or even punishment tend to be avoided. Praise has some positive effect that the one who is praised will focus one's behavior on those being praised. Wise words are those consoling and not agitating, may encourage the victim to strengthen their effort for living. Hence, it was an important tool to strengthen the sufferers. The remaining 24.8 percent of the sampled respondents were of the opinions that they have encouraged the sufferers the victims by their actions. Thomas Alva Edison emphasizes that positive behaviors should become one's habit in ones' life. Therefore, actions reflect one's behaviors too. The victims had been supported by the actions of the others. When they looking others being involved in certain positive actions, they get inspiration and increasing their efforts to maintain their routine lives. The overall discussion and that data in the table reveal that the local communities had fully supported the sufferers of the disaster both psychologically and emotionally by using multiple psycho-therapeutic techniques.

Table-4.19 Respondents Views Regarding the Local Communities Management Pertaining to the Human Sufferings after the Fear-Provoking Disaster.

S/ No.	Respondents views	Frequency	Percent
1	Managed the injured and buried the departed	609	60.2
2	Provided Shelters	401	39.6
3	The Community did nothing	2	.2
	Total	1012	100.0

Source: Field Survey

EXPLANATION

Table-4.19 is pertaining to the attitude of the local communities towards the human sufferings that were left behind by the fear provoking earthquake disaster. During the survey, questions regarding the human sufferings were asked from the respondents. Multiple replies received, 60.2 percent of the respondents reported that they removed the rubble of the houses, evacuated the injured and the dead bodies. They managed the injured persons for first aid and other medical facilitations and helped the deceased persons in the burial in the traditional ways.

The terrible earthquake left behind itself many thousands of the families' shelter less. 39.6 percent respondents reported that they tried to provide shelters to the shelter less families. Those families whose houses were less damaged they had mostly tried to accommodate their close relatives in their houses. The criteria of managing the close relatives had usually observed in the communities that were lesser damaged by the jolts of the quakes. These families were away from the tent villages that were established by the NGOs of the GOs. While only 0.2 percent respondents reported that the local communities had neither helped in the management of the injured persons and nor had provided help in providing shelters to the

shelter less families. They were of the opinion that the shelter less families were living under the open sky in the harsh and cold weather. The data reveals that majority of the local community significantly contributed in the management of the human sufferings.

Table-4.20 Respondents Views Regarding Community's Contribution in Economic Sufferings after the Ruinous Earthquake

Serial No	Different Types Contributions	Frequency	Percent
1	Lend money to the relatives	305	30.1
2	Zakat, Sadqat i.e. Alm and Donations	605	59.8
3	No Contribution by community	102	10.1
	Total	1012	100.0

Source: Field Survey

EXPLANATION

Table-4.20 is regarding the local community contributions in terms of economic sufferings after the ruinous earthquake. The respondents were asked about the contributions of the local communities in the monetary terms. They reported different sorts of contributions that were in routine practice of the local communities. 30.1 percent of the respondents said that the local communities made economic contributions in the form of loans. Usually the local community uses the practice in order to provide relief to others. The overall maximum number of the respondents was of the views that the local communities had made economic contributions in terms of Zakat, Sadqat (Alm and Donations). However, the remaining 10.1 percent of the sampled respondents were of the opinions that the local communities had no contributions like Zakat, Sadqat i.e. (Alm and Donations) to the sufferers.

The overall data of the table reveals that the local communities as mostly contributed donations to the sufferers in many ways. The local practice of giving alms and donations to the marginalized sections of the society is very common in the project area and it has an important function in the society.

Table-4.21 Respondents Views Regarding Community Contribution in Managing Psycho-Social Sufferings after the Fear-Provoking Disastrous Earthquake

Serial No	Different types of psycho-social contributions	Frequency	Percent
1	Shared each other's miseries	307	30.3
2	Honored the Orphans and disables	354	35.0
3	Re-married the widows	103	10.2
4	Searched the missing ones	198	19.6
5	the local community did nothings	50	4.9
	Total	1012	100.0

Source: Field Survey

EXPLANATION

Table-4.21 is pertaining to the views of the sampled respondents regarding the community contribution in managing the psycho-social sufferings after the fear-provoking disastrous earthquake. 30.3 percent of the respondents reported that local community had shared each other's miseries by one or the other way in order to psycho-socially support the sufferers. Majority (35 percent) of the respondents reported that the local communities honored the orphans and disabled in order to give them hope of life. While 10.2 percent respondents

said that the local community's members re-married the widows. The main concern of the re-marriage of the widows was to give hope of life to the serious victims of the disaster. By re-marrying the widows the local communities strengthened psycho-socially in the society. However, only 4.9 percent of the sampled respondents said that the local communities did nothing through which they can give psycho-social support to the exasperated families. The table indicated that majority of the respondents reported that the local communities have supported the exasperated families both socially and psychologically by sharing the miseries, by honoring the orphans and disables and by re-marrying the widows after the fear-provoking environment left behind by the ruinous jolts of the October 08 earthquake.

Table-4.22 Respondents Views about the Indigenous Skills of the Local Communities That Were Mostly Utilized in the Emergency Left behind by the Injurious Jolts of Earthquake

Serial No	Indigenous Skills	Frequency	Percent
1	Removed the rubble skillfully	355	35.1
2	Skillfully buried the departed	409	40.4
3	Skillfully Shared each others problems, miseries and panic	248	24.5
	Total	1012	100.0

Source: Field Survey

EXPLANATION

Table-4.22 is regarding the views of the sampled respondents about the indigenous skills utilized by the local communities after the emergence left behind by the cruel jolts of the earthquake. Usually the communal life is transmitting the skill of communal living to the next generations and by this way the knowledge is rolling over the centuries from one generation to the other generation along with necessary evolutionary changes. Hence, every society has variety of indigenous skills that is utilized mostly by the society at the time of adversities. According to table 35.1 percent of the sampled respondents replied that the local community removed the rubble skillfully by using their indigenous knowledge and instruments. 40.4 percent of the respondents said that the local communities had skillfully buried the departed ones. The local communities managed almost their casualties by their own selves. While the remaining 24.5 percent of the sampled respondents replied that the local communities skillfully shared each other's problem, miseries and panics.

The information reveals that the local communities had fully utilized their indigenous practices for alleviation of the panicked situation of the disastrous communities.

Table-4.23 Respondents Views Regarding the Locally Available Instruments and Machinery Used Mostly by the Local Communities While Coping with the Devastations of the Disaster

Serial No	Different Types of local Instruments and Machinery	Frequency	Percent
1	Domestic agricultural Instruments	911	90.0
2	Agricultural machinery like Tractors etc.	50	5.0
3	Small industrial equipments	51	5.0
	Total	1012	100.0

Source: Field Survey

EXPLANATION

Table-4.23 is regarding the utilization of the locally available instruments and machineries that were mostly used by the local communities while coping with the devastations of the disaster. The locally available instruments and machinery that were available, used in the devastation management. According to table, 90 percent of the respondents reported that domestic agricultural instruments were used by the local communities for the removal of the debris and rehabilitation and reconstruction purposes. While 5 percent respondents said that the local communities utilized the local agricultural machinery like Tractors etc. in the multiple activities that led the communities towards the alleviation of problems. However, the other 5 percent respondents reported that the local

community had used the traditionally used small industrial equipments like Saw, Sickle and Hammers etc. for various purposes. Husnain (2005) also reported the same in his report. The overall information pertaining to the table reveals that the traditionally available instruments and machinery was utilized by the local community in order alleviate the dependency on the bureaucratic disaster management.

Table-4.24 Views Regarding the Sources of Help, Call for Help and Reliability on the Help of the Different Sources of Helps when Faced with the Problems in Routine Lives

Different sources of help	Call for help when faced with problems		Sources that helped the most after Oct 8th		Reliability on help by the local community	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Government	101	10.0	103	10.2	51	5.0
Civil Society Organizations	51	5.0	151	14.9	51	5.0
Neighbors/Friends/Relatives	860	85.0	758	74.9	910	89.9
Total	1012	100.0	1012	100.0	1012	100.0

Source: Field Survey

EXPLANATION

Table-4.24 indicates some different sources of helpers to the local communities and the local communities' reliabilities upon these sources. Different questions were asked during the survey from the respondents pertaining to these help providers. According to the table, 10 percent respondents reported that they were calling Government for help when they are faced with the emergency or the worst situation. Only 5 percent reported that they are calling the civil society organizations for help when they are faced with emergencies and worst situation. While majority (85 percent) of the sampled respondents reported that they are calling their neighbors, relatives and close friends whenever they are faced with the adversities. The response of the majority of the respondents shows that the local communities are utilizing their social capitals for coping with the emergencies. The respondents were asked about the extent of help of these sources of help. 10.2 percent of the respondents said that government had

provided more help in the entire course of disaster management. While 14.9 percent respondents were of the view that civil societies had helped the more in the entire course of emergency management. However, 74.9 percent of the sampled respondents were of the opinion that the relatives, close friends and neighborhoods networks had helped the more during the entire course of disaster management. The overall information of the survey indicates that the close relatives and neighborhood networks were more supportive in the traditional rural setup of the affected communities.

While replying to the question pertaining to the reliability of the respondents on the different sources of help 5 percent respondents reported that they rely on the governmental help at the time of adversities. These persons reported that without the governmental help the local communities can't survive. While 5 percent respondents reported that they rely more on the help of the civil societies organizations on the grounds that they are helping the victims without discrimination. However, majority (89.9 percent) of the sampled respondents were of the views that they are more relying on the help provided by the close relatives, friends and neighborhood networks whenever they are faced with the worst situation or emergencies. Naqvi (2010) has also pointed out that the survivors have much contribution in the overall disaster management. The overall information from the above discussion reveals that close relatives, friends and neighborhood networks are the most reliable and easily available helpers in the traditional rural societies of the areas under study.

Table-4.25 Opinions Regarding Different Helper's Role in the Recovery of Psychological and Emotional Distresses and Sharing of the Communities Sorrows

Serial No.	Different Types of Helpers	Help in the Emotional and Psychological Distress Recovery		Sharing of Community's Sorrows	
		Frequency	Percent	Frequency	Percent
1	Local community and neighbors	404	39.9	355	35.1
2	Friends and Relatives	557	55.0	607	60.0
3	Outsider community, NGOs and GOs	51	5.0	50	4.9
	Total	1012	100.0	1012	100.0

Source: Field Survey

EXPLANATION

Table-4.25 is pertaining to the opinions of respondents regarding different helper's role in the recovery of psychological and Emotional distresses and sharing of the communities sorrows. According to table 39.9 percent of the respondents reported that the local community and neighborhood networks had helped the victims in the emotional and psychological recovery after the fear-provoking jolts of the earthquake. While 55 percent of the respondents reported that close relatives and friends had played significantly positive role in the recovery of the victims from the psychological and emotional distresses. However, only 5 percent of the respondents said that the outsider communities, GOs and NGOs had significant role in the psycho-emotional recovery of the serious victims.

While responding to the question of sharing of community's troubles, 35.1 percent respondents reported that the local communities and neighborhood networks had mostly shared the sorrows of the local communities. Majority (60 percent) of the respondents was of the view that close friends and relatives had played significant role in sharing of sorrows of the victims.

However, only 4.9 percent respondents reported that the outsider communities, GOs and NGOs shared the sorrows of the local communities. Makeshift hospitals are run mainly by religious groups and some NGOs. In a situation like this, it is only the survivor's communities that are supporting life in the area. The overall information indicates that the neighborhoods networks in the local communities had mostly helped in the recoveries of psycho-emotional distresses and troubles sharing.

Table-4.26 Respondents Views Regarding the Role of Traditional Social Institutions in the Entire Course of Alleviation of the Ruinous effects of Disaster

Serial No.	Traditional Social Institutions	Frequency	Percent
1	Family institution	705	69.7
2	Religious institution	251	24.8
3	economic institution	8	.8
4	Political institution	48	4.7
	Total	1012	100.0

Source: Field Survey

EXPLANATION

Table-4.26 is about the role of traditional institutions in the disaster management. Social institutions are the pillars of the society. The society sustains itself on the bases of the existence of the role and functions of the social institutions. The overall 69.7 percent of the respondents reported that family institutions had great role in the alleviation of the disaster's devastations. The other 24.8 percent of the respondents reported that religious institution had played significant role in the alleviation of the overwhelming effects of the disaster. However, 4.7 percent of the respondents were of the view that the political institution had helped in the disaster recovery. The over all information of the discussion reveals that the traditional institution had played vital role in the alleviation of the bad effects of disaster. The role of the social institutions is usually very important in the utilization of the existing traditional social capitals. It keeps the social network viable and also adds to its strength positively. And most importantly it does not let the society anomic functions for long time.

Table-4.27 Respondents views on the Attitude of the Local Community towards Rehabilitation, When the Emergency Situations were Mitigated

Serial No.	Attitude of the local Community towards Rehabilitation	Frequency	Percent
1	Self interest based attitude	612	60.5
2	Communal interests	251	24.8
3	A frustration/Curse and disappointment	149	14.7
	Total	1012	100.0

Source: Field Survey

EXPLANATION

Table-4.27 reveals the attitude of the local communities in the rehabilitation phase. It was the time when the emergency situation mitigated and the local communities were busy in the recovery and rehabilitation of the disastrous lives. Siddiqui (October 08, 2012) published an article in “The Express Tribune” under the title “Living in Limbo”; in the article Siddiqui has reflected the strong courage and altruistic attitude on the part of the disaster survivors. The table also shows that 60.5 percent of the respondents reported that at the time of rehabilitation phase the local community was mostly exhibiting self interest based attitude, 24.8 percent of the respondent reported that the local community had positive attitude towards the communal interests, while the remaining 14.7 percent of the sampled respondents reported that the local communities were had frustrated and disappointed attitude towards each other at the time of recovery and rehabilitation phase. The information reveals that most of the communities were more interested in the rehabilitation of their household’s activities. It is natural among all the human societies that human beings are self centered and considers the development of their household’s development as their prime responsibility.

Table-4.28 Respondents Views on the Re-marriages of Widows and Adaptation of Orphans by the Communities

Serial No	Re-marriages of Widows	Frequency	Percent
1	Yes	657	64.9
2	No	355	35.1
	Total	1012	100.0
Respondents opinions regarding the adaptation of orphans			
	Adaptation of Orphans	Frequency	Percent
1	Yes	611	60.4
2	No	401	39.6
	Total	1012	100.0

Source: Field Survey

EXPLANATION

Table-4.28 is regarding the re-marriages of the widows and adaptation of orphans by the local communities. Many wives had lost their husbands as a result of the unfair fatal jolts of the earthquake. The local communities had to face the problems of adjustment of the widows. Some families were totally ruined and there was no elder male or earning hands left in the households. On the other hand many young virgins were also living dejected lives; these families had mostly lost their livelihood earning hands. The issue of the adjustment of the thousands of orphans was also a vital challenge for the local communities. Thousands of children were made orphans either by mother or by father or in many cases by both father and mother.

Therefore, keeping in view the gravity of the situation the local communities tried to adjust the widows by re-marriages. Most of the vulnerable virgins were married in the local communities in order to re-establish their routine lives. The table's data shows that about 65 percent of the respondents were of the view that many widows were re-married either in their

local communities or in the outside communities. The overall 60 percent of the respondents reported that the orphans were adjusted by the local communities. Many children who were made orphans either by father or by mother were socially and morally or economically supported either by their close relatives, or by the neighbors and local communities to adjust in their routine social lives. While those children that were orphan by both fathers and mothers were mostly adopted either by their close relatives, villagers or by the outsider community members. The overall situation shows that the local communities had significantly participated in the adjustment of the widows, helpless and vulnerable virgins and the thousands of orphans by one way or the other. Therefore, the efforts, determinations and strong resolve of the local communities in the disaster management cannot be ignored. Let's salute to the courage and strong commitment of the disastrous communities, who participated in the management of those who were lap less, those who had lost the hope of lives and also to those who had lost their legs and hands.

PART-B

BI-VARIATE DATA ANALYSIS AND INTERPRETATION

In order to explore the relationship or association between the two variables, Bi-Variate or Cross tabulations are made. Standard statistical procedures are applied in order to find the association between the variables. The variables under investigation were crossed and the Chi-Square (χ^2) and Gama (r) statistics were applied, the basic purpose of the statistical procedures was to confirm the significance of the data variation or distribution and the significance of the association of the variables with one and others. In order to explore the association of the independent and dependent variables the Gama statistics were applied. These procedures were also applied for the subsequent acceptance of the null hypothesis or otherwise the acceptance of alternative hypothesis.

Table-4.29 Bi-variate Association between Participation of Sampled Respondents Households in Emergency Response and their Extent of Participation in Emergency Response Activities

Extent of Participation in Emergency Response	Count / % (Row) / % (Column)	Participation of Respondents Households in Emergency		Total	Statistics
		Yes	No		
More at family level	Count	450	6	456	(X ²)=0.894 P-value =0.640 γ =0.012
	Percent	98.7%	1.3%	100.0%	
	Percent	45.2%	37.5%	45.1%	
More at community level	Count	446	9	455	
	Percent	98.0%	2.0%	100.0%	
	Percent	44.8%	56.2%	45.0%	
More at Tehsil and District level	Count	100	1	101	
	Percent	99.0%	1.0%	100.0%	
	Percent	10.0%	6.2%	10.0%	
Total	Count	996	16	1012	
	Percent	98.4%	1.6%	100.0%	
	Percent	100.0%	100.0%	100.0%	

Source: Field Survey

EXPLANATION

Table-4.29 is about the Bi-variate cross tabulated statistical association between participation of sampled respondent's households in emergency response and their extent of participation in emergency response activities. The variables were crossed and statistically tested under the assumption that there is no significant association between these variables.

Bi-variate significant association was found between the participation of sampled respondent's households in emergency response and their extent of participation. It has been indicated by the Chi-Square Value = 0.894 and P-Value = 0.00. According to the statistics the assumption is

rejected on the ground that $P\text{-Value} < 0.05$, and it is confirmed statistically that these two variables have significant association with one and other. Hence, the assumption that there is no significant association between these variables is rejected.

Moreover, about 98 percent of the sampled respondent's families participated in the emergency response activities while about two percent of the sampled respondent's families were of the opinion that they had not participated in the emergency response by one or the other reason. Most of families shifted from Balakot and that was the major reason of no participation of several household in the emergency response or we can say their response to the emergency was limited to their families shifting from Balakot to some safer places.

When asked about the extent of participation, they responded that 45.1 percent had participated at family level 45 percent participated at community and neighborhood level, while only 10 percent had participated in the emergency response activities at the Tehsil and District levels.

The data regarding the level of community participation in the emergency response activities shows that the local community has promptly responded to the emergency and tried their level best to cope with the worst situation created by the severe jolts of the earthquake. It is also reflecting from the figures of the table that the local communities have mostly worked in their own communities at the time of emergency activities. The positive Gamma value ($\gamma = +0.012$) indicates the direct relation between the two variables i.e participation of sampled respondent's households in emergency response and their extent of participation in emergency response activities. It confirms the fact that the more the participation of the communities in the emergency response activities the more will be the extent of participation of the local communities in the emergency management.

Table-4.30 Bi-variate Association of the Presence of Sampled Respondents at the Time of Emergency and their Immediate Response to Disaster

Serial No.	Respondents Immediate Response to Disaster	Counts/ %	Presence at the time of Earthquake		Total	Statistics
			Yes	No		
1	Sounded the Alert	Count	51	0	51	$(X^2)=1.012$ $P\text{-value} =0.00$ $\gamma =0.383$
		%	5.3%	.0%	5.0%	
2	Declaration of Emergency Evacuation	Count	51	0	51	
		%	5.3%	.0%	5.0%	
3	Provided First Aid Medical Support	Count	101	0	101	
		%	10.5%	.0%	10.0%	
4	Search and Rescue operations	Count	151	0	151	
		%	15.7%	.0%	14.9%	
5	Distribution of NFIs and FIs	Count	101	0	101	
		%	10.5%	.0%	10.0%	
6	Removed The Rubble	Count	202	0	202	
		%	21.0%	.0%	20.0%	
7	Provided Safer place to the victims	Count	151	0	151	
		%	15.7%	.0%	14.9%	
8	Buried the dead persons	Count	153	0	153	
		%	15.9%	.0%	15.1%	
9	Called others for help	Count	0	51	51	
		%	.0%	100.0%	5.0%	
	Total	Count	961	51	1012	
		%	100.0%	100.0%	100.0%	

Source: Field Survey

EXPLANATION

Table-4.30 is a Bi-Variate cross tabulation that indicates association of the presence of sampled respondents at the time of emergency and their immediate response to disaster. The variables were crossed and statistically tested under the assumption that there is no significant association between these variables. The statistics shows significant association (Chi-Square Value = 1.012 and P-Value = 0.00) between the presence of sampled respondents at the time of emergency and their immediate response to it. According to the statistics the assumption is rejected on the ground that $P\text{-Value} < 0.05$. Hence, the assumption that there is no significant association between these variables is rejected.

Moreover, the Bi-variate or Cross tabulation is indicating the presence of sampled respondents at the time of emergency and their immediate response to the disaster. First the researcher asked questions regarding the presence of the respondents at the time of emergency and then asked about their immediate response to the emergency situation. Only 5 percent of the sampled respondents were not present at the time of emergency while the remaining 95 percent were present in the locality of Tehsil Balakot or district Mansehra at the time of emergency and earthquake. Replying to the question pertaining to the immediate response to the emergency situation, only 5 percent of the respondents said that they had sounded or called the community to be alert for the jolty situations of the earth, the other 5 percent respondents said that they have contribution in the declaration of emergency and the community should try to keep himself aware regarding the problems ahead, ten percent of the sampled respondents said that they had provided first aid medical support to the injured persons, 14.9 percent have shown their opinions that they have helped in the search and rescue operation during emergency and relief activities, 10 percent of the sampled respondents helped in the

distribution of food and non food items for the victims of the fatal jolts of the earthquake. About 20 percent of the sampled respondents replied that they were busy in removing of debris of the damaged buildings, 14.9 percent of the sampled respondents were of the view that they immediately helped in shifting the victims, vulnerable persons and families to the safer places, 15.1 percent of the respondents involved in the burial of the dead persons immediately after the onset of the emergency activities and only 5 percent of the sampled respondents called others for help after the onset of the emergency. The data in the table in question indicates that the people of the local community had great deal in the management of the emergency and relief activities. The local communities played multiple roles in the overall disaster management activities. As the data has been collected from the diversified communities, due to which we can see the diversity in the responses to the disaster by the different community members. The data also shows that most of the communities did their level best by utilizing indigenous knowledge, skills and practices at the time of need. However, minor numbers of the respondents reported that they had helped their communities by their own selves but keeping in view the gravity of the situation they had tried to call some outside helper as well as the governmental machinery to help the survivors in coping with the worst situation.

The positive Gamma value ($\gamma = + 0.383$) reveals that direct relation exists between the two variables under the present study. It confirms that presence of sampled respondents at the time of emergency is directly proportional to the immediate response of the local community to disaster's emergency.

Table-4.31 Bi-variate Association of the Survivors Attitude towards Each Others and the Local community's Immediate Response to Disaster

Survivors Attitude Towards Each Others	Counts / %	Local Community's Immediate Response to Disaster		Total	Statistics
		Rushed to help the sufferers	Rushed but also waited for outsiders help		
Sympathetic and Accommodative	Count	607	204	811	$(X^2)=3.191$ $P\text{-value} = 0.00$ $\gamma = 0.131$
	%	74.8%	25.2%	100.0%	
Annoyed/ Frustrated and Un-Accommodative	Count	151	50	201	
	%	75.1%	24.9%	100.0%	
Total	Count	758	254	1012	
	%	74.9%	25.1%	100.0%	

Source: Field Survey

EXPLANATION

Table-4.31 indicates Bi-variate association of the survivor's attitude towards each other's and the local community's immediate response to disaster. Various inferential statistical techniques are applied for the analysis of the cross tabulation of the aforesaid table. The variables were crossed and statistically tested under the assumption that there is no significant association between these variables. Statistically significant association has been found between the two variables under the Chi-Square value = 3.191 and P-Value = 0.00. According to the statistics the assumption is rejected on the ground that P-Value < 0.05. Hence, the assumption that there is no significant association between these variables is rejected.

The association shows that the behaviors' and attitude of the disaster survivors is having significant association with the immediate response of the local communities to the

disaster. According to the table 75 percent of the respondents were of the opinion that as a result of the positive attitudes and humanitarily sympathetic disaster behaviors of the local communities, the survivors had immediately responded to the disaster. Moreover, majority of the respondents were of the views that the overall behaviors and attitude of the local communities remained sympathetic and co-operative and that was the reason that had not only invoked the immediate response to the disaster but also had invoked local volunteerism. Similarly, Walsh (2006) pointed out in his article on April 23, 2006 that the victims have helped the victims just after the onset of the emergency in the area. Exemplary services had been contributed by the survivors to the victims. The positive value of the Gamma statistics ($\gamma = 0.727$) shows that the attitude of the community and their response of the disaster are directly proportional to each others. Hence, the present study has confirmed that the better the attitude and behaviors of the local communities towards disaster, the more prompt and immediate will be the response of the local communities to the disasters.

Table-4.32 Bi-variate Association of the Attitude of Community towards Disaster and the Resilience of the Local Community

Attitude of Community towards Disaster	Counts/ %	Opinions Regarding Local Community's Resilience			Total	Statistics
		Resilient	Less Resilient	Not Resilient		
Considered it Wrath or Curse	Counts	51	152	0	203	$(X^2)=3.918$ P-value =0.000 $\gamma = 0.224$
	%	25.1%	74.9%	.0%	100.0%	
Considered it a test of patience	Counts	100	203	50	353	
	%	28.3%	57.5%	14.2%	100.0%	
Considered it opportunity to help each others	Counts	0	51	50	101	
	%	.0%	50.5%	49.5%	100.0%	
Considered it an act of nature	Counts	254	50	51	355	
	%	71.5%	14.1%	14.4%	100.0%	
Total	Counts	405	456	151	1012	
	%	40.0%	45.1%	14.9%	100.0%	

Source: Field Survey

EXPLANATION

Table-4.32 indicates Bi-variate association of the survivor's attitude towards each other's and the local community's resilience to disaster. The variables were crossed and statistically tested under the assumption that there is no significant association between these variables. Statistically significant association has been found between the two variables under the Chi-Square value = 3.918 and P-value = 0.00. According to the statistics the assumption is rejected on the ground that P-Value < 0.05. Hence, the assumption that there is no significant

association between these variables is rejected. The association shows that the behaviors' and attitude of the disaster survivors is having significant association with the resilience of the local communities to the disaster. According to the table majority of the respondent considered the disaster a test of their patience or an act of nature, while some considered it the wrath or curse. Moreover, about 40 percent, 45 percent and 15 percent of the respondents termed their communities more resilient, less resilient and not resilient to the disaster respectively. The resilience of the communities to the disaster is significantly associated with the resilience of the local communities under the present study.

The entire story of rehabilitation by itself speaks the story of resilience and attitude of the disaster's survivor. The positive value of the Gamma statistics ($\gamma = 0.224$) shows that the attitude of the community and their resilience to disaster vulnerabilities are directly proportional to each others. Hence, the present study has confirmed that the better the attitude and behaviors of the local communities towards disaster, the better would be the resilience of the local communities to the disasters.

Table-4.33 Bi-variate Association of the Disruptions of Routine Social Structure and Disruption of Routine Social Function Immediately after the onset of Earthquake Devastations

Views regarding the disruption of social structure	Count %	Views regarding the disruption of routine social function		Total	Statistics
		Yes disrupted	Not disrupted		
Yes disrupted	Count	557	150	707	(X ²)= 5.344 P-value = 0.012 $\gamma = 0.727$
	%	78.8%	21.2%	100.0%	
Not disrupted	Count	0	305	305	
	%	.0%	100.0%	100.0%	
Total	Count	557	455	1012	
	%	55.0%	45.0%	100.0%	

Source: Field Survey

EXPLANATION

Table-4.33 is a Bi-variate cross tabulated statistical analysis that shows the association of the disruptions of routine social structure and disruption of routine social function immediately after the onset of earthquake devastations. The variables were crossed and statistically tested under the assumption that there is no significant association between these variables. But often it is observed that when a disaster occurs, eventually the routine social activity remains at halt. Statistically significant association has been found between the two variables under the Chi-Square value = 5.344 and P-value = 0.012. According to the statistics the assumption is rejected on the ground that P-value < 0.05, and it is confirmed statistically that these two variables have significant association with one and other. The association shows

that the disruption of the social structure is significantly associated with the disruption in the social function. According to the table, 55 percent of the respondents were of the opinions that the disaster had disrupted the social function of the society. Moreover, majority of the respondents were of the views that the disaster had not only disrupted the function of the society but also has disrupted the structure of the society.

The social milieu was fully dominated by the tragedy and a different structural and functional system was observed after the earthquake. The positive value of the Gamma statistics ($\gamma = 0.727$) shows that the disruption of the structure of society is eventually disrupting the function of the society and vice versa. Hence, it can be confirmed that the disruption of social structure is directly proportional to the disruption in the social function of society.

Table-4.34 Bi-Variate Relationship between NGOs Techniques of Social Awareness and Self Help Programs and NGOs Role in Facilitation of Community Participation

Serial No.	Opinions Regarding NGOs Techniques of Social Awareness and Self Help Programs	Count and Percentages	Views Regarding NGOs Role in Facilitation of Community Participation		Total	Statistics
			Yes	No		
1	Through campaigns	Count	0	50	50	(X ²)=5.432 P-value =0.00 $\gamma = 0.074$
		Percentages	.0%	100.0%	100.0%	
2	Through working by Themselves	Count	153	0	153	
		Percentages	100.0%	.0%	100.0%	
3	Through financing	Count	99	0	99	
		Percentages	100.0%	.0%	100.0%	
4	Through community Trainings	Count	149	0	149	
		Percentages	100.0%	.0%	100.0%	
5	Through provision of Physical items	Count	258	0	258	
		Percentages	100.0%	.0%	100.0%	
6	Through community Organizations	Count	253	50	303	
		Percentages	83.5%	16.5%	100.0%	
	Total	Count	912	100	1012	
		Percentages	90.1%	9.9%	100.0%	

Source: Field Survey

EXPLANATION

Table-4.34 presents Bi-variate analysis / association of the NGOs Techniques of Social awareness and self help programs and NGOs role in facilitation of Community Participation in the disaster management. The variables were crossed and statistically tested under the assumption that there is no significant association between these variables. Statistically significant relation was found (Chi-Square Value = 5.432 and P-Value = 0.00) between the two variables. According to the statistics the assumption is rejected on the ground that P-Value < 0.05, and it is confirmed statistically that these two variables have significant association with one and other. The strong association of the variables under study is justifying that the various techniques that were used by the NGOs for social motivation, social awareness and self help programs has strong association with the NGOs role in facilitation of communities participation in disaster management. The table shows that the NGOs have used various types of techniques for the utilization of the locally available social capital. These NGOs had mostly used the practice like social awareness campaigns, working in the communities by themselves in order to motivate the local communities for self help, through financing and various sorts of trainings in order to enhance their coping capabilities, through provisions of food and non food items to the sufferers or other necessary physical items and mostly through the local communities organization for the purpose of maintaining the viability of social structure and ultimate utilization of the available social capital. The aforementioned table also reveals that about 84 percent of the sampled respondents were of the views that the NGOs had played vital role in the facilitation of the local communities in the disaster management. Moreover, Mustafa (2012) reported that the NGOs also fully mobilize the local resources for the vulnerabilities management. These organizations had mostly focused upon the local resources utilization, they

organized the local social capitals and social networks and imported trainings and harnessed their skills and their available resources for meaningful utilization. The positive Gamma statistics ($\gamma = + 0.074$) shows direct relation of the two variables. The statistics indicates that the practices used by the NGOs for the motivation of the local social capitals had positive effects of the communities especially in terms of their facilitation of the communities in the disaster management.

Table-4.35 Bi-variate Association of the Decisions of the Local Community through Joint Consensus and the Enhancement of Social Cohesion in the Communal Lives after the Shock of Disaster.

Decisions through joint consensus by community	Counts and Percentages	Enhanced social cohesion in the communal lives		Total	Statistics
		Yes	No		
Yes	Count	593	108	701	$(X^2)=57.263$ P-value =0.00 $\gamma=0.238$
	% Row	84.6%	15.4%	100.0%	
	% Column	75.2%	48.4%	69.3%	
No	Count	196	115	311	
	% Row	63.0%	37.0%	100.0%	
	% Column	24.8%	51.6%	30.7%	
Total	Count	789	223	1012	
	% Row	78.0%	22.0%	100.0%	
	% Column	100.0%	100.0%	100.0%	

Source: Field Survey

EXPLANATION

Table-4.35 is pertaining to the Bi-variate association of the decisions of the community through joint consensus and the enhancement of social cohesion in the communal lives after the shocks of disaster. The variables were crossed and statistically tested under the assumption that there is no significant association between these variables. The Chi-Square Value = 57.263 and P-Value = 0.00 have found that there is highly significant association between the two variables i.e. the decisions of the community through joint consensus and the enhancement of social cohesion have significant association with one another. According to the statistics the assumption is rejected on the ground that $P\text{-Value} < 0.05$. Hence, the assumption that there is no significant association between these variables is rejected. It had also been observed that the joint consensus on the part of the local community leads the community towards strong social cohesion, and the phenomenon was observed after the fatal jolts of the earthquake. The majority of respondents reported that the local community had made their decision with the joint consensus, while only a minimum number of the respondents were of the views that there was no joint consensus in the decisions. Moreover, 78 percent of the respondents had reported that the social cohesion was enhanced in the communal lives after the fatal disaster. While the other 22 percent said that there was no social cohesion in the community.

The positive Gamma ($\gamma = 0.238$) reveals that these variables are directly proportional to each others. It exhibits the fact that as long as the social cohesion in the communal lives of the communities is getting stronger, the decisions of the communities will be made through the joint consensus of the communities.

Table-4.36 Bi-variate Association of the Working of NGOs in the Affected Communities and Participation of the Local Communities in the NGOs Activities

Working of NGOs at their communities	Count/ % within Rows/ % Columns	Participation of local communities in the NGOs activities		Total	Statistics
		Yes	No		
Yes	Count	799	11	810	(X ²)=2.149 P-value = 0.00 γ =0.461
	%	98.6%	1.4%	100.0%	
	%	86.0%	13.3%	80.0%	
No	Count	130	72	202	
	%	64.4%	35.6%	100.0%	
	%	14.0%	86.7%	20.0%	
Total	Count	809	203	1012	
	%	81.8%	18.2%	100.0%	
	%	100.0%	100.0%	100.0%	

Source: Field Survey

EXPLANATION

Table-4.36 shows Bi-variate cross tabulation, in order to analyze the statistical association of the two variables i.e. working of NGOs in the affected communities and participation of the local communities in the NGOs activities. The variables were crossed and statistically tested under the assumption that there is no significant association between these variables.

The Chi-Square Value = 2.149 and P-Value = 0.00 shows significant relation of the two variables. According to the statistics the assumption is rejected on the ground that P-Value < 0.05, and it is confirmed statistically that these two variables have significant association with

one and other. Hence, the assumption that there is no significant association between these variables is rejected. It indicates that the working of NGOs in the affected communities has significant association with communities' participation in the NGOs initiated activities. The table reveals that 86 percent respondents were of the views that the NGOs has worked in their communities. While, 81.8 percent respondents reported that the local communities had participated in the NGOs initiated activities. The statistical inferences have found association between the activities of NGOs and the participation of local communities in the NGOs activities. Similarly, on October 02, 2006 Deiller said in his article “ *Disaster Management: Rebuilt or Move*” that not only the government departments and army has contributed towards the disaster management but the INGOs, NGOs and the local volunteers has also provided every possible help to the disaster survivors. Moreover, the statistical positive Gamma ($\gamma = + 0.461$) indicates the direct relation of the variables. It confirms that the activities of NGOs are positively related with the local communities' participation in the disaster management activities. The communities where the NGOs initiated relief or rehabilitation activities had been fully supported by the local communities in terms of participation in the disaster management.

Table-4.37 Bi-variate Association of the Recovery of Social Structural and Functional Disruptions and the Status of Social Norms when an Adversity is faced

Recovery of social structural and functional disruptions	Count/ % (Rows)	The status of social norms		Total	Statistics
		Cooperative social norms	Uncooperative social norms		
By their own efforts	Count	204	50	254	(X ²)=25.43 P-value =0.00 γ =0.013
	%	80.3%	19.7%	100.0%	
By the outsiders help	Count	51	0	51	
	%	100.0%	.0%	100.0%	
A new social structure and function developed	Count	405	48	453	
	%	89.4%	10.6%	100.0%	
By the help of local community and outsider volunteers	Count	204	50	254	
	%	80.3%	19.7%	100.0%	
Total	Count	864	148	1012	
	%	85.4%	14.6%	100.0%	

Source: Field Survey

EXPLANATION

Table-4.37 presents Bi-variate analysis / association of the recovery of social structural and functional disruptions and the status of social norms when an adversity is faced. The variables were crossed and statistically tested under the assumption that there is no significant association between these variables. Statistically significant relation was found (Chi-Square Value = 25.43 and P-Value = 0.00) between the two variables. According to the statistics the assumption is rejected on the ground that P-Value < 0.05, and it is confirmed statistically that these two variables have significant association with one and other. It justified that the status of

social norms (Co-operative or un-cooperative social norms) has significant association with the recovery of the structural and functional disruptions of the society after the devastating disruptions of the disaster. According to the table 89.4 percent of the respondents revealed that a new social structure and function developed in the emergency, that emerging structure and function was reflecting co-operative social norms in the society. Similarly, majority of the sampled respondents reported that the routine social structure and social function was greatly recovered by the own efforts of the local communities and volunteers of the outside communities. The table also shows us that 85.4 percent of the respondents reported that the social norms were very much co-operative among the local communities. However, a little number of the respondents was of the views that in emergency the actions of the community were chaotic and unorganized; hence, the respondents termed it un-cooperative social norms.

It reflected not only the social solidarity in the existing social milieu but also reflected that some positive social norms have been developed in the society. The positive Gamma statistics ($\gamma = + 0.013$) shows the direct relation of the two variables. The statistics indicates that the co-operative social norms at the time of emergencies lead the affected communities towards an easy recovery of the routine social structure and function.

Table-4.38 Bi-variate Association of the Types of Techniques Used by the Volunteers and the Invoking of Volunteerism by the Traditional Society

Types of techniques used by the volunteers	Count/ % Rows	Invoking of volunteerism by the traditional society		Total	Statistics
		Yes	No		
Indigenous techniques	Count	354	48	402	(X ²)=49.095 P-value =0.00 γ =0.140
	%	88.1%	11.9%	100.0%	
Modern techniques	Count	154	0	154	
	%	100.0%	.0%	100.0%	
Both Indigenous and Modern techniques	Count	355	101	456	
	%	77.9%	22.1%	100.0%	
Total	Count	863	149	1012	
	%	85.3%	14.7%	100.0%	

Source: Field Survey

EXPLANATION

Table-4.38 exhibits Bi-variate association of the types of techniques used by the volunteers and the invoking of volunteerism by the traditional society. The variables were crossed and statistically tested under the assumption that there is no significant association between these variables. The two variables were identified in order to check the ability of the traditional society in terms of invoking of volunteerism and the techniques that were used by these volunteers, when they were trying to help the dejected communities. The statistics shows significant association between the variables (Chi-Square Value = 49.095 and P-Value = 0.00). According to the statistics the assumption is rejected on the ground that P-Value < 0.05, and it is confirmed statistically that these two variables have significant association with one and other. The data revealed that the existing traditional society has ability to invoke volunteerism and also has ability to provide various indigenous techniques or skills to the survivors to help at their level best. According to the data in the table majority of the volunteers had used various types of

techniques like indigenous and modern types of techniques, while many of them reported about the use of both type of skills in providing help to the victims after the disaster. Similarly, 85.3 percent of the respondents had reported that their indigenous culture has the capability of invoking volunteerism at local level at the time of adverse situations. Likewise, Rohde (2005) had also reported the same situation on the part of the survivors. The positive Gamma statistics ($\gamma = 0.140$) reveals that the variables under considerations has direct relation with one another. It shows that increase in the use of various techniques used by the volunteers, enhanced will be the capability of the traditional societies in invoking volunteerism on the local level.

Table-4.39 Bi-variate Association of the Existence of Spirit of Altruism in the Community and the Unity of Survivors when Faced with the Disaster

Existence of the Spirit of altruism in the community	Count / % Rows	Unity of survivors, when faced with disaster		Total	Statistics
		Yes United	Not United		
Yes	Count	803	3.6	833	(X ²)=6.543 P-value =0.00 $\gamma = 0.804$
	%	96.4%	3.6%	100.0%	
No	Count	28	151	179	
	%	15.6%	84.4%	100.0%	
Total	Count	831	181	1012	
	%	82.1%	17.9%	100.0%	

Source: Field Survey

EXPLANATION

Table-4.39 is a Bi-variate association of the existence of spirit of altruism in the community and the unity of survivors when faced with the disaster. The variables were crossed and statistically tested under the assumption that there is no significant association between these variables. The table shows the Chi-Square value = 6.543 and P-value = 0.00, these value indicates that the association is significant. According to the statistics the assumption is rejected on the ground that P-Value < 0.05, and it confirmed statistically that these two variables have significant association with one and other. The data shows association between the spirit of altruism and unity of the survivors at the time of disasters. According to the table, majority of the respondents confirmed the existence of the spirit of altruism and the unity of the survivors, when they are faced with the disasters. The table shows that 82.1 percent of the respondents reported that the survivors' communities were united for coping with the miseries of the disaster.

The positive Gamma value ($\gamma = + 0.804$) indicates that there is direct relation between the two variable. It reveals that the increase in the unity of the survivors, the enhanced will be the spirit of altruism in the survivor's communities. The existence of the spirit of sacrifice for each other and the unity of the survivors have direct effect on each others.

Table-4.40 Bi-variate Association between the Workability of Community Attitude in Emergency Management and the Free Use of Natural Resources of the Village by the Disaster Survivors.

Workability of community's attitude	Count/ % (Rows)	Free use of natural resources of the village		Total	Statistics
		Yes	No		
Yes workable	Count	394	61	455	$(X^2)=89.273$ P-value =0.00 $\gamma =0.095$
	%	86.6%	13.4%	100.0%	
Somehow workable	Count	387	19	406	
	%	95.3%	4.7%	100.0%	
Not workable	Count	98	53	151	
	%	64.9%	35.1%	100.0%	
Total	Count	879	133	1012	
	%	86.9%	13.1%	100.0%	

Source: Field Survey

EXPLANATION

Table-4.40 is Bi-variate cross tabulation, shows association of the workability of community attitude in emergency management and the free use of natural resources of the village by the disaster survivors. The variables were crossed and statistically tested under the assumption that there is no significant association between these variables. The statistical inferences shows significant association under the Chi-Square value = 89.273 and P-Value = 0.000. According to the statistics the assumption is rejected on the ground that P-Value < 0.05, and it is confirmed statistically that these two variables have significant association with one and other. The data depicts that there is strong association of the workability of community attitude

in the emergency management and the free use of the natural resources of the village or community. The overall 86.6 percent respondents reported that the attitude of the local community was workable, 95.3 percent of reported that the attitude of community was somehow workable, while 64.9 percent reported that the attitude of the local community was not workable in the disaster management. Moreover, 86.9 percent respondents stated that the natural resources of the communities were left open and free for the use of the disaster survivors.

The positive Gamma statistics ($\gamma = + 0.095$) reveals that there is direct relation of the two variables. Simply it can be stated as more the workable attitude of the local community at the time of emergency, the more the natural resources will be opened for the free use of the disaster survivor's communities.

Table-4.41 Bi-variate Association of the Zeal of community participation and Community Participation in the Disaster Management

Zeal of community participation	Count/ % (Rows)	Community participation		Total	Statistics
		More than 50%	Less than 50 %		
Highly enthusiastic	Count	448	57	505	$(X^2)=1.927$ P-value =0.00 $\gamma =0.436$
	%	88.7%	11.3%	100.0%	
Less enthusiastic	Count	208	150	358	
	%	58.1%	41.9%	100.0%	
Unable to participate due to psychological trauma	Count	53	96	149	
	%	35.6%	64.4%	100.0%	
Total	Count	709	303	1012	
	%	70.1%	29.9%	100.0%	

Source: Field Survey

EXPLANATION

Table-4.41 shows the Bi-variate cross tabulated association of the zeal of community participation and level of community participation in the Disaster Management. The variables were crossed and statistically tested under the assumption that there is no significant association between these variables. The statistics with Chi-Square Value = 1.927 and P-Value = 0.00 shows that the association of the variables is significant. According to the statistics the assumption is rejected on the ground that P-Value < 0.05, and it is confirmed statistically that these two variables have significant association with one and other. The zeal of the community

participation is associated with the level of community participation in the disaster management. The table shows that 88.7 percent respondents were highly enthusiastic to participate in the disaster management. Other 58.1 percent were less enthusiastic and the other 35.6 percent were unable to participate due to psychological trauma. While 70.1 percent respondents reported that more than 50 percent of the local community had participated in the disaster management at their level best. The overall 29.9 percent of the respondents reported that less than 50 percent of the local community had participated in the disaster management at their community level.

The positive Gamma statistics ($\gamma = 0.436$) reveals that there is direct relation between the community participation and their zeal and enthusiasm in the disaster management. Consequently, it can be said that the higher the zeal and enthusiasm of the local community the more will be the participation of the local communities in the disaster management.

Table-4.42 Bi-variate Association of the Respondents Opinions Regarding the Solution of their Problems and the Resilience of the Local Community to Disaster

Role in problems solutions	Count/ % (Rows)	Resilience of the local communities to disaster		Total	Statistics
		Yes	No		
Local community/Neighbors/friends/Relatives	Count	452	206	658	$(X^2)=13.620$ P-value =0.00 $\gamma = 0.116$
	%	68.7%	31.3%	100.0%	
NGOs and GOs	Count	202	152	354	
	%	57.1%	42.9%	100.0%	
Total	Count	654	358	1012	
	%	64.6%	35.4%	100.0%	

Source: Field Survey

EXPLANATION

Table-4.42 shows Bi-variate association of the respondent's opinions regarding the solution of their problems and the resilience of the local community to disaster. The variables were crossed and statistically tested under the assumption that there is no significant association between these variables. The statistics in the above table reveals significant association under the chi-Square Value 13.620 and P-Value = 0.00. It indicates that the relationship is significant and there is strong association of the variables in question. According to the statistics the assumption is rejected on the ground that P-Value < 0.05. Hence, the assumption that there is no significant association between these variables is rejected. The data shows that there is strong association between the role of local community in problems solutions and the resilience of the local community. The overall 68.7 percent of the respondents reported that the local community/ Neighbors/ Relatives had major role in the solutions of the problems. While on the other side the

data reveals that 64.6 percent of the respondents were of the views that the local communities were very much resilient to disaster and the other 35.4 percent reported that the local communities were not resilient to the disaster. Hence, the problem solutions and the resilience on the part of the local communities have close significant association and correlation.

While the positive value of Gamma ($\gamma = 0.116$) reveals that there is direct relation between the two variables i.e the resilience on the part of local community has strong correlation with the problems solution. It reveals that the increase in the resilience of the local community will increase the problem solutions mechanism on the community level.

Table-4.43 Bi-variate Association of the Adaptations of the Local Community with the Harsh, Cold and Mountainous Life and the Willingness of the Victims to leave their Communities for Safer Places

Adaptations to the harsh, cold and mountainous life	Count/ % within Rows/ % Columns	Willingness to leave their community for safer places		Total	Statistics
		Yes	No		
Yes	Count	309	498	807	$(X^2) = 4.419$ P-value = 0.036 $\gamma = -0.066$
	%	38.3%	61.7%	100.0%	
	%	76.5%	81.9%	79.7%	
No	Count	95	110	205	
	%	46.3%	53.7%	100.0%	
	%	23.5%	18.1%	20.3%	
Total	Count	404	608	1012	
	%	39.9%	60.1%	100.0%	
	%	100.0%	100.0%	100.0%	

Source: Field Survey

EXPLANATION

Table-4.43 is a Bi-variate cross tabulation, that shows the statistical test of two variable under the assumption that there is no significant association between these variables. The Chi-Square Value = 4.419 and P-Value = 0.036 shows significant association of the variables pertaining to the adaptation of the local communities in the rough physical environment of the area and their consent or willingness to leave their localities or communities for safer places. According to the statistics the assumption is rejected on the ground that P-Value < 0.05, and it is

confirmed statistically that these two variables have significant association with one and other. Hence, the assumption that there is no significant association between these variables is rejected. The table shows that 80 percent of the respondents reported that the local communities are well adopted with the harsh, cold and mountainous life of the physically rough geographical terrain.

Similarly, on the other hand about 60 percent of the respondents were of the opinions that they are not willing to leave their local communities for safer places. While the remaining 40 percent of the respondents showed their will for leaving their communities for safer places. It reflects the idea that the majority of the local community don't want to leave their communities even in the worst situations.

The negative Gamma value ($\gamma = -0.066$) reveals that there is inverse relation of the two variables. It means that the higher the adaptation of the local communities with their social and physical environment the lesser would be the trend of shifting to the safer places. The entire story shows that the people are not willing to leave Balakot, even if there are risks in the red zone.

Table-4.44 Bi-variate Association of the Past Disasters Experiences of the Community and their Ancestor's Stories of Past Disaster Experiences

Past disasters experiences of the community	Count/ % within/ % Columns	Ancestor's stories of past disaster experiences		Total	Statistics
		Yes	No		
Yes	Count	301	205	506	$(X^2)= 9.189$ P-value =0.002 $\gamma=0.095$
	%	59.5%	40.5%	100.0%	
	%	54.3%	44.8%	50.0%	
No	Count	253	253	506	
	%	50.0%	50.0%	100.0%	
	%	45.7%	55.2%	50.0%	
Total	Count	554	458	1012	
	%	54.7%	45.3%	100.0%	
	%	100.0%	100.0%	100.0%	

Source: Field Survey

EXPLANATION

Table-4.44 is a Bi-variate cross tabulated association of the past disasters experiences of the community and their ancestor's stories related to their past disaster experiences. The variables were crossed and statistically tested under the assumption that there is no significant association between these variables. The statistics having Chi-Square Value = 9.189 and P-Value = 0.002 shows significant association between the variables. According to the statistics the assumption is rejected on the ground that P-Value < 0.05. The data indicates that the ancestors' stories of past experiences have good effect on the experiences of the local communities. About 50 percent of the respondents reported that the local communities had past disasters experience,

whereas the remaining 50 percent reported that they had no experiences like that. The overall 54.7 percent of the respondents said that their ancestors had stories relating to their experiences.

The Gamma statistics with $\gamma = + 0.095$ reveals that there is positive direct relation between the past stories of the ancestors and the disasters experiences. The statistics shows direct relationship of the two variables.

Table-4.45 Bi-Variate Association of the Reduction of affected Communities vulnerability through Community Participation and Social Organizations Establishment in their Communities after the Occurrence of the Disaster

Reduction of affected Communities Vulnerability Through Community Participation	Count/ % within Rows/ % within Columns	Social Organization Establishment		Total	Statistics
		Yes	No		
Yes	Count	759	202	961	$(X^2)=1.611$ P-value =0.00 $\gamma=0.399$
	%	79.0%	21.0%	100.0%	
	%	100.0%	79.8%	95.0%	
No	Count	0	51	51	
	%	.0%	100.0%	100.0%	
	%	.0%	20.2%	5.0%	
Total	Count	759	253	1012	
	%	75.0%	25.0%	100.0%	
	%	100.0%	100.0%	100.0%	

Source: Field Survey

EXPLANATION

Table-4.45 shows us a Bi-variate association of the reduction of affected communities' vulnerability through community participation and social organizations establishment in their communities after the occurrence of the disaster. The variables were crossed and statistically tested under the assumption that there is no significant association between these variables. The statistics indicates that there is significant relationship (Chi-Square Value = 1.611 and P-Value = 0.00) of the community participation in the disaster management and the social organization for the vulnerability reduction. According to the statistics the assumption is rejected on the ground that $P\text{-Value} < 0.05$, and it is confirmed statistically that these two variables have significant association with one and other. The data also shows that the entire 95 percent of the respondents reported that the community had participated in the disaster management. Similarly, 75 percent of the respondents reported that the social organizations were established for coping with the sufferings of the disaster. The NGOs that were working in these communities had mostly adopted participatory approaches in order to utilize, mobilize and enhance the local capacities for self help.

The heart touching statement of the disaster survivors reflected that they are very much resilient and have the courage to face any eventuality at their own. Similarly, Janjua (2006) also was of the opinion that the NGOs and the GOs have also tried to organize the existing social capitals for the overall rehabilitation process as well as vulnerability reduction. The positive Gamma value ($\gamma = 0.399$) shows that there is direct relation between the local communities participation and their social organization. The data indicates that the increase in the local participation has positive effects on the social organizations, and consequently the social

organization enhanced the local communities' participations for the alleviation of communal problems in the affected communities.

Table-4.46 Bi-variate Association of the Training of the Local community for Disaster Preparedness (Man made or Natural) and the Need of Institutionalization of Local Community Participation in the Governmental Policy

Training of the Local Community for Disaster (Man made or Natural)	Count/ % within Rows/ % within Columns	Views on the need of institutionalization of local community participation in the governmental policy		Total	Statistics
		Yes	No		
Yes	Count	840	17	857	(X ²)=0.002 P-value =0.96 $\gamma = - 0.001$
	%	98.0%	2.0%	100.0%	
	%	84.7%	85.0%	84.7%	
No	Count	152	3	155	
	%	98.1%	1.9%	100.0%	
	%	15.3%	15.0%	15.3%	
Total	Count	992	20	1012	
	%	98.0%	2.0%	100.0%	
	%	100.0%	100.0%	100.0%	

Source: Field Survey

EXPLANATION

Table-4.46 is a Bi-variate Association of the Training of the Local community for Disaster Preparedness (Man made or Natural) and the Need of institutionalization of local community participation in the governmental policy. The variables were crossed and statistically tested under the assumption that there is no significant association between these variables. The

table indicates insignificant association (Chi-Square Value = 0.002 and P-Value = 0.968) between the training of the communities and the institutionalization of the local communities participation in the governmental policies. The statistics indicates that there is no significant association of the two variables (P-Value > 0.05). The tables shows that about 84 percent of the respondents were of the opinions that training of the local communities is required for enhancing the coping capacities of the local communities. And another big majority of 98 percent respondents said that the government should incorporate the local communities' participation in the bureaucratic mechanism of disaster management system. The data shows that majority of the respondents have supported the idea of trainings and another majority of the respondents have also supported the idea of institutionalization of the community participation in the governmental policies. Keeping in view the need of the specialized institutional and organizational mechanism for coping with any eventuality on the large scale, the government immediately institutionalized NDMA, PDMA, DDMA, ERRRA and PERRA etc. based on the experiences of the 8th October disaster (NDMA, 2007). The Gamma statistics shows negative relationship ($\gamma = -0.001$) between the trainings of the community and the institutionalization of the community participation in the governmental policies. It signifies that these two variables have non-significant association and inverse relation in the present study. However, the respondents supported the ideas of communities' trainings and the institutionalization of the community participation in the bureaucratic disaster management.

Table-4.47 Bi-variate Relationship of the Utilization of Indigenous Knowledge and Resources, and the Utilization of Community's Labors by the NGOs and GOs

Utilization of Community's Labors by NGOs and GOs	Count/ % (Rows)	Utilization of Indigenous Knowledge and Resources		Total	Statistics
		Yes	No		
Yes	Count	807	155	962	(X ²)= 2.071 P-value =0.00 γ = 0.452
	%	83.9%	16.1%	100.0%	
No	Count	0	50	50	
	%	.0%	100.0%	100.0%	
Total	Count	807	205	1012	
	%	79.7%	20.3%	100.0%	

Source: Field Survey

EXPLANATION

Table-4.47 is a Bi-variate cross tabulation of the Utilization of Indigenous Knowledge and Resources, and the Utilization of Community's Labors by the NGOs and GOs. The variables were crossed and statistically tested under the assumption that there is no significant association between these variables. It was noted and assumed that both the social capital and physical capital/ resources of the local communities had been utilized by the NGOs and GOs in the disaster management activates. Statistically the Chi-Square Value (2.071) and the corresponding P-Value = 0.00 indicates that there is strong association between the two variable. According to the statistics the assumption is rejected on the ground that P-Value < 0.05, and it is confirmed statistically that these two variables have significant association with one and other. Similarly, it indicates that the indigenous knowledge and resources were not only utilized by the local communities but also were utilized by the NGOs and GOs that were supposed to work for the

welfare of the victims. Total 97.7 percent of the respondents were of the views that indigenous knowledge and resources were utilized by the local communities. Similarly, about 84 percent of the respondents reported that the NGOs and GOs had utilized the local resources for the emergency alleviation and rehabilitation activities. The data in the table signifies the fact that the local community as well as their local resources had been fully utilized by the local communities in the disaster alleviation activities. Similarly, Mustafa (2012) reported that the government has just paid the compensation amount in various installments, which was without the labor cost. Hence, the survivors used their indigenous resources and labors for construction along with their own amount. Likewise, the NGOs also fully mobilized the local resources for the vulnerabilities management. These organizations had mostly focused upon the local resources utilization, they organized the local social capitals and social networks and imparted trainings and harnessed their skills as well as their resources for meaningful utilization. Similarly, Hasnain (2005) also pointed out that during the entire course of vulnerabilities management, the survivors used their indigenous hammers, shovels, iron rods and axes etc. The table also indicates the positive Gamma value ($\gamma = 0.452$) which signifies the fact that there is direct relation between the local resources utilization by the local communities and utilization of local resources by the NGOs and GOs. It means the more the local communities have potential of their resources utilization, the more the NGOs and GOs will be utilizing their local knowledge and resources.

Table-4.48 Bi-variate Association of the Learning of Affected Community Pertaining to Disasters Management and Pre-disaster Planning on the Bases of their Experiences Through Oct 08 Disaster

Disaster Coping Experiences	Count/ % Rows/ % Column	Pre-disaster planning on the bases of experiences of Oct 08 disaster		Total	Statistics
		Yes	No		
Yes	Count	703	256	959	(X ²)= 1.089 P-value =0.00 γ =0.328
	%	73.3%	26.7%	100.0%	
	%	99.6%	83.7%	94.8%	
No	Count	3	50	53	
	%	5.7%	94.3%	100.0%	
	%	.4%	16.3%	5.2%	
Total	Count	706	306	1012	
	%	69.8%	30.2%	100.0%	
	%	100.0%	100.0%	100.0%	

Source: Field Survey

EXPLANATION

Table-4.48 is showing the association of the learning pertaining to coping with the disaster by the affected communities and Pre-disaster Planning on the bases of their experiences of Oct 08, Disaster. The variables were crossed and statistically tested under the assumption that there is no significant association between these variables. The variables shows significant association (Chi-Square Value = 1.089 and P-Value = 0.00). It signifies that there is significant association between the disaster coping experiences of the local communities and their per-planning for disaster mitigation. According to the statistics the assumption is rejected on the ground that P-Value < 0.05, and it is confirmed statistically that these two variables have

significant association with one and other. Usually it has been observed that the affected communities are very much conscious about the building construction in terms of disaster resistance. The table indicates that 94.8 percent of the respondents reported that the local communities are now enough experienced as a result of the Oct, 08 disastrous earthquake. However, 5.2 percent of the sampled respondents were of the views that the local communities are still un-experienced regarding the disasters practices. On the other hand about 70 percent of the respondents said that the local communities have learnt to get prepared and pre-plan for the future disasters. It have also been noted that the disaster has not only left behind itself many suffering and agonies but on the other hand up to great extent it has educated the local communities in terms of disaster resilience and disaster preparedness. Similarly, many studies have highlighted that on the basis of the 8th October earthquake experiences, many specialized governmental organizations like ERRA, NDMA, PDMA and DDMA etc. created for appropriate preparedness, mitigation response, recovery, rehabilitation and development activities. Many awareness campaigns and workshops had also been launched by GOs as well as NGOs in order to build the capacities of the local communities for coping with the disasters (Janjua, 2006).

The two variables indicated that there is direct relationship between disaster coping experiences and disaster preparedness with the positive Gamma value ($\gamma = 0.328$). When the disaster coping experiences increases the disaster preparedness activities will also be increased in the affected communities.

PART-C

Verification/ Testing of Hypothesis

The hypotheses were tested as per the following procedures given in the methodology. In order to explore the relationship or association between the two variables, Bi-variate or Cross tabulations are made. Standard statistical procedures are applied in order to find the association between the variables. The variables under investigation were crossed and the Chi-Square (X^2) and Gama (r) statistics were applied, the basic purpose of the statistical procedures was to confirm the significance of the data variation or distribution and the significance of the association of the variables with one and other. In order to explore the association of the independent and dependent variables the Gama statistics were applied. These procedures were also applied for the subsequent acceptance of the null hypothesis or otherwise the acceptance of alternative hypothesis. P-value is associated with a test statistic. The smaller the P-value, the more strongly the test rejects the null hypothesis (Karl Pearson, 1900). The Gama statistics also showed us whether the variables are directly proportional or inversely proportional to one and others.

The hypothesis is having independent and dependent variables. Bi-variate explanation of the variables has been given. The variables and the hypothesis have been reflected in the data analysis section. Now by combining these all facts and figures that best highlight the status of the variables, we get a clear picture of the hypothesis and the variables in question. On the basis of the corresponding variables and indicators, the hypothesis are tested for acceptance of the null or otherwise the alternative hypothesis. The following referenced tables reflected the facts and figures that are supporting the indicators and variables for the corresponding hypothesis accordingly.

Hypothesis No. 01: *There is no significant association between the promptness of local community participation and the level of community participation in the disaster management.*

Independent variable

Dependent variable

Promptness of local community participation in the disaster management:

Level of community participation in the disaster management:

Table-4.49 Bi-variate Association of the Zeal/ Promptness of community participation and Community Participation in the Disaster Management

Zeal of community participation	Count/ % (Rows)	Level of community participation		Total	Statistics
		More than 50 %	Less than 50 %		
Highly enthusiastic	Count	448	57	505	(X ²)=1.927 P-value =0.00 γ =0.436
	%	88.7%	11.3%	100.0%	
Less enthusiastic	Count	208	150	358	
	%	58.1%	41.9%	100.0%	
Unable to participate due to psychological trauma	Count	53	96	149	
	%	35.6%	64.4%	100.0%	
Total	Count	709	303	1012	
	%	70.1%	29.9%	100.0%	

Source: Field Survey

EXPLANATION

Table-4.49 shows the Bi-variate cross tabulated association of the promptness of the community participation and level of community participation in the Disaster Management. The variables were crossed and statistically tested under the assumption that there is no significant association between these variables. It is about the significance of the variable's association for

the given data. The variables under discussion were crossed and the Chi-Square and Gamma statistics were applied. The statistics with Chi-square value = 1.927 and P-value = 0.00 shows that the association of the variables is significant. According to the statistics the null hypothesis is rejected on the ground that P-value < 0.05, and it is confirmed statistically that these two variables have significant association with one and other. Hence, the hypothesis that there is no significant association between these variables is rejected and the alternative hypothesis is accepted. Similarly, the UNESCO (2005) primarily reports after the 8th October disaster also reflected upon the prompt response of the local community participation in a situation when the earthquake dealt the resource-base and coping mechanisms of the local communities in the hardest-hit areas. Affected communities have mobilized everything at their disposal just to cope with the worst situation of the disaster.

The report also said that although many communities may not have immediately and adequately contributed to the relief and rehabilitation efforts, but it can be said that these communities tried to re-stock their social and economic capital. The promptness/ zeal of the community participation are associated with the level of community participation during emergency. The table shows that 88.7 percent respondents were highly enthusiastic to participate in the disaster management. Other 58.1 percent were less enthusiastic and the other 35.6 percent were unable to participate due to psychological trauma. While 70.1 percent respondents were of the views that more than 50 percent of the local community had participated in the disaster management at their level best. The positive Gamma value ($\gamma = 0.436$) reveals that there is direct relation of the community participation and their promptness/ zeal and enthusiasm in the disaster management. Consequently, it can be said that the higher the promptness and enthusiasm of the local community, the more will be the participation of the local communities in the disaster

management. The positive relation indicates that the variables are directly proportional to each other. It is concluded and confirmed that the promptness of local community participation can lead the community towards better management of the disaster.

Hence, the null hypothesis is rejected and the alternative hypothesis is accepted.

Findings and Conclusions Related to Hypothesis No. 01

Table-4.9 revealed that many activities like the retrofitting or reconstruction of damaged houses was carried out by the local community themselves, or by the communal help in the form of labor and material help or by the donations of the communities. Moreover, the livelihood sources rehabilitation and recovery by the affected communities was reported as by self help basis, by the skills imparted by different organizations, by the help of relatives, neighbors and local communities. According to table-10 safer places were provided by the efforts of their own families, neighbors, relatives and friends. According to table-4.11 the local communities had provided first aid medical facilities to the minor injuries and have helped the serious injured in shifting to the hospitals and have helped those who were affected by the psychological or physical trauma. Table-4.16 reveals that the rehabilitation and opening of the irrigation channels to the fields was carried out by the local communities and the drainage channels were mostly opened by the local communities jointly. Moreover, the data also showed that the local communities and had opened the pedestrian's routes to the villages.

According to table-4.29 the Chi-Square Value = 0.894 and P-Value = 0.00 shows that there is significant association between the "participation of sampled respondent's households in emergency response" and their "extent of participation in emergency response activities". Besides, majority of the sampled respondent's families participated in the emergency response activities. Table-4.30 shows Chi-square value = 1.012 and P-value = 0.00 which reflects significant association between the "presence of sampled respondents at the time of emergency"

and their “immediate response to disaster”. Similarly, 95 percent respondents were present in the locality of Tehsil Balakot or district Mansehra at the time of emergency and earthquake. The data indicated that the local community helped the victims in the distribution of food and non-food items, in removing of debris of the damaged buildings, in shifting the victims and vulnerable persons and families to the safer places and in the burial of the dead persons immediately after the onset of the emergency activities. Table-4.31 indicates under the Chi-Square value = 3.191 and P-Value = 0.00 that there is significant association between the “survivor’s attitude towards each other’s” and the “local community’s immediate response to disaster”. According to the table, 75 percent of the respondents reported that as a result of the positive attitudes and humanitarily sympathetic disaster behaviors of the local communities, the survivors had immediately responded to the disaster. Moreover, majority of the respondents said that the overall behaviors and attitude of the local communities remained sympathetic and co-operative and that was the reason that they had not only invoked the immediate response to the disaster but also had invoked local volunteerism. The overall data reflected the enthusiasm of the local community participation in the disaster management.

Hypothesis No. 02: *There is no significant association between the resilience and attitude of the local community towards disaster and the utilization of the available traditional resources at the community level.*

Independent variable

Resilience and attitude of the local community towards disaster

Dependent variable

Utilization of the available or traditional resources

Table-4.50 Bi-variate Cross Tabulation showing Association of the Resilience and attitude of the Affected Communities towards Disaster and the utilization of indigenous Knowledge and Resources

Resilience and Attitude of the Local Community towards Disaster	Count/ % within Rows/ % within Columns	Utilization of Indigenous Knowledge and Resources		Total	Statistics
		Yes	No		
Yes	Count	540	114	654	$(X^2) = 9.138$ P-value = 0.003 $\gamma = 0.095$
	%	82.6%	17.4%	100.0%	
	%	66.9%	55.6%	64.6%	
No	Count	267	91	358	
	%	74.6%	25.4%	100.0%	
	%	33.1%	44.4%	35.4%	
Total	Count	807	205	1012	
	%	79.7%	20.3%	100.0%	
	%	100.0%	100.0%	100.0%	

Source: Field Survey

EXPLANATION

Table-4.50 is a Bi-variate cross tabulation, showing association of the resilience and attitude of the affected communities towards disaster and the utilization of indigenous knowledge and resources by the survivors of the disaster. The variables were crossed and statistically tested under the assumption that there is no significant association between these variables. The Chi-Square value = 9.138 and P-value = 0.003 indicates significant association between the resilience of the community and the utilization of the available and traditional resources by the local community's survivors. According to the statistics the null hypothesis is rejected on the ground that $P\text{-value} < 0.05$, and it is confirmed statistically that these two variables have significant association with one another. Hence, the hypothesis that there is no significant association between these variables is rejected and the alternative hypothesis is accepted. The local volunteers also cleared the roads into Balakot, making it possible for hundreds of pickups and cars to wend their way into the devastated town bringing food, blankets and tents.

The table shows that total 64.6 percent respondents reported that the resilience and attitude of the local community towards the disaster was up to the mark. They appreciated the resilience and attitude of the local community in the entire course of disaster management. Moreover, the overall 79.7 percent respondents reported that the local communities had significantly utilized the indigenous knowledge and resources while coping with the menaces of the devastative disaster. They appreciated the efforts and enthusiasm of the local communities in the utilization of indigenous knowledge and resources. Those communities that were most unfairly stricken by the severe jolts of the earthquake had most often shown disagreement with the idea of utilization of indigenous knowledge and resources. Moreover, positive relationship was found statistically ($\gamma = + 0.095$) between the two variables. The positive Gamma indicates

that the variables are directly proportional to each other. Hence, it is suggestive that the increase in the resilience to disaster would ensure the increase in the utilization of the indigenous knowledge and resources for coping with the harmful effects of the disaster at the local communities' level.

Hence, the null hypothesis is rejected and the alternative hypothesis is accepted.

Findings and Conclusions Related to Hypothesis No. 02

The data in the table-4.14 revealed the social strength of the disaster communities networks, victim's communities were socially cohesive and had multiple role in the disaster management. The role of social networks had greatly reduced the vulnerability of the communities at risk after the emergence of the disaster. Similarly, table-4.22 indicated that majority of the survivors participated in the removal of rubble and burial of the dead persons by using their indigenous knowledge and instruments. The local communities had managed almost their casualties by their own selves and had fully utilized their indigenous practices for alleviation of panic of the disastrous communities. Likewise, table-4.23 showed the utilization of the locally available instruments and machineries like domestic agricultural instrument Saw, Sickle and Hammers etc. that were mostly used by the local communities while coping with the devastation of the disaster. Table-4.26 highlighted the role of different social institutions in the utilization of the existing social capitals and networks in the alleviation of the panicked situation. Similarly, according to table-4.40, the overall 86 percent respondents reported that the attitude of the local community was workable in the disaster management. Similarly, table-4.47 indicated that the indigenous knowledge and resources were not only utilized by the local communities but also were utilized by the NGOs and GOs that were supposed to work for the welfare of the victims.

Hypothesis No. 03: *There is no significant association between the role of social web or social structure and the social cohesion after disaster.*

Independent variable

Social structure and social web:

Dependent variable

Social cohesion after disaster:

Table-4.51 Bi-variate Cross tabulation Showing the Association between the Effectiveness of the Social Structure in the Disaster Management and the Enhancement of Social Cohesion after the Disaster.

Enhancement of Social Cohesion after Disaster	Count/ % within Rows/ % within Columns	Effectiveness of the Social Web and Social Structure in the Disaster Management		Total	Statistics
		Yes	No		
Yes	Count	690	99	789	$(X^2) = 17.399$ $P\text{-value} = 0.00$ $\gamma = 0.131$
	%	87.5%	12.5%	100.0%	
	%	80.3%	65.1%	78.0%	
No	Count	169	53	222	
	%	76.1%	23.9%	100.0%	
	%	19.7%	34.9%	22.0%	
Total	Count	859	152	1011	
	%	85.0%	15.0%	100.0%	
	%	100.0%	100.0%	100.0%	

Source: Field Survey

EXPLANATION

Table-4.51 is a Bi-variate cross tabulation showing statistical association of the Effectiveness of the Social Structure in the disaster management and the enhancement of social cohesion after the disaster. The variables were crossed and statistically tested under the

assumption that there is no significant association between these variables. The Chi-Square value = 17.399 and P-value = 0.00 indicates significant association between the effectiveness of the social structure and enhancement of the social cohesion. According to the statistics the null hypothesis is rejected on the ground that P-value < 0.05, and it is confirmed statistically that these two variables have significant association with one and other. Hence, the hypothesis that there is no significant association between these variables is rejected and the alternative hypothesis is accepted. The table shows that 85 percent of the respondents reported that the social web and social structure remained effective during the entire course of disaster management. However, in the more affected communities the social structure was badly disrupted and the local communities were shifted from their permanent localities. Similarly, 78 percent of the respondents reported that the social cohesion among the local communities was enhanced after the onset of the disaster. The overall community remained pathetic and that was the main reason of stronger social cohesion.

The overall support mechanism that actually responds immediately after the onset of the disaster is from the local survivors. The same situation was also observed immediately after the October 08 disaster in Balakot.

The table reveals that statistically positive relationship was found statistically ($\gamma = +0.131$) between the two variables. The positive relation indicates that the variables are directly proportional to each other. Hence, it is suggested that the strength of social cohesion is dependent upon the strength of social web and social structure and vice versa.

Hence, the null hypothesis is rejected and the alternative hypothesis is accepted.

Findings and Conclusions Related to Hypothesis No. 03

Table-4.13 revealed the community has greater social cohesion and community involvement. It has also been observed that in the rural communities the social cohesion and community involvement is usually more as compare to the urbanized and densely populated communities. On the disaster perspective the main thing that is more desirable is to highlight the impact of the community members upon one another. Their social bonds are very much strong, the entire Tehsil of Balakot is having no urban proportion according to the 1998 district censuses report, the underling fact that exist in every rural society is the social cohesion and unity. In the same way the data has confirmed the Dukhiem's theory of Organic and Mechanical solidarity. Similarly, the data in table-4.14 reveals the social strength of the disaster communities networks, the local communities are socially cohesive and had multiple roles in the disaster management. Table-4.26 also indicated that the traditional social institution had played vital role in the alleviation of the bad effects of disaster by utilizing the existing traditional social capitals and social network. Similarly, table-4.28 indicated that under the humanitarian spirit the local communities re-married the widows and adopted the orphans in order to help them reclaim their lives. Table-4.35 under the Chi-Square Value = 57.263 and P-Value = 0.00 indicated significant association between the decisions of the community through joint consensus and the social cohesion in the communal lives after the shocks of disaster. The data highlighted that the community was socially organized and had participated in the disaster management. Moreover, the NGOs that were working in these communities had mostly adopted participatory approaches in order to utilize, mobilize and enhance the local capacities.

Hypothesis No. 04: *There is no significant association between the spirit of altruism on the part of the community and the management of the disaster at community level.*

Independent Variable

Dependent Variable

Spirit of altruism in the community:

Disaster management at community level:

Table-4.52 Bi-variate cross tabulation Showing the Association between the Existence of the Spirit of Altruism in the Community and the Management of Disaster in terms of Recovery.

Existence of Spirit of altruism in the community	Count/ % Rows/ % Columns	Disaster management in terms of recovery		Total	Statistics
		Yes	No		
Yes	Count	533	300	833	$(X^2) = 31.475$ P-value = 0.00 $\gamma = 0.176$
	%	64.0%	36.0%	100.0%	
	%	87.8%	74.1%	82.3%	
No	Count	74	105	179	
	%	41.3%	58.7%	100.0%	
	%	12.2%	25.9%	17.7%	
Total	Count	607	405	1012	
	%	60.0%	40.0%	100.0%	
	%	100.0%	100.0%	100.0%	

Source: Field Survey

EXPLANATION

Table-4.52 is a Bi-variate cross tabulation showing association between the existence of the spirit of altruism in the community and disaster management in terms of recovery. The variables were crossed and statistically tested under the assumption that there is no significant association between these variables. The Chi-Square value = 31.475 and P-Value = 0.00 where $P\text{-Value} < 0.05$ indicated significant association between the existence of the spirit of altruism in the community and management of the disaster. According to the statistics the null hypothesis is rejected on the ground that $P\text{-value} < 0.05$, and it is confirmed statistically that these two variables have significant association with one another. Hence, the hypothesis that there is no significant association between these variables is rejected and the alternative hypothesis is accepted. The table indicated that 82.3 percent respondents reported about the existence of the spirit of altruism in the communities. Moreover, the overall 60 percent of the respondents revealed that the disaster have been managed in terms of recovery. However, 40 percent of the respondents were not agreed with the views of the 60 percent respondents on the disaster recovery.

The table revealed that statistically positive relationship was found ($\gamma = + 0.176$) between the two variables. The positive Gamma value indicates that the variables are directly proportional to each others. Therefore, it is concluded that with the increase of the spirit of altruism in the community the management of the disaster is increasing or expediting and vice versa. Hence, the null hypothesis is rejected and the alternative hypothesis is accepted.

Findings and Conclusions Related to Hypothesis No. 04

Table-4.10 indicated that the affected families, local community, the outsider communities, local and non local volunteers, NGOs and GOs had helped the survivors of the disaster in providing safer places or shelters to the disastrous and vulnerable households. Table-

4.12 indicated that the local communities extended every possible tangible and non tangible help to their fellow survivors. Similarly, table-4.20 also indicated that the local communities made economic contributions in the form of loans. The local communities had made economic contributions in terms of Zakat, Sadqat i.e. Alm and Donations. The local practice of giving alms and donations to the marginalized sections of the society is very common in the project area and it has an important function in the society. Table-4.28 revealed that the local communities tried to adjust the widows by re-marriages. Most of the vulnerable virgins were married in the local communities in order to re-establish their routine lives. While, many children who were made orphans either by father or by mother were socially and morally or economically supported either by their close relatives or by the neighbors and local communities. Hence, the determination and strong resolve of the local communities in the disaster management cannot be ignored. Similarly, table-4.39 confirmed the existence of the spirit of altruism and the unity of the survivors at the time when they are faced by disasters.

Hypothesis No. 05: *There is no significant association between the Utilization of the indigenous resources by the communities and the betterment of the disaster management.*

Independent variable

Dependent variable

Utilization of the indigenous resources:

Disaster Management:

Table-4.53 Bi-variate Cross tabulation Showing the Association between the Utilization of Indigenous Knowledge and Resources and the Disaster Management in terms of Recovery.

Utilization of indigenous Knowledge and Resources	Count/ % within Rows/ % within Columns	Disaster Management in terms of Recovery		Total	Statistics
		Yes	No		
Yes	Count	500	307	807	$(X^2) = 6.491$ P-value = 0.013 $\gamma = 0.080$
	%	62.0%	38.0%	100.0%	
	%	82.4%	75.8%	79.7%	
No	Count	107	98	205	
	%	52.2%	47.8%	100.0%	
	%	17.6%	24.2%	20.3%	
Total	Count	607	405	1012	
	%	60.0%	40.0%	100.0%	
	%	100.0%	100.0%	100.0%	

Source: Field Survey

EXPLANATION

Table-4.53 is a Bi-variate Cross Tabulation showing association between the Utilization of Indigenous Knowledge and Resources and the disaster management in terms of Recovery. The variables were crossed and statistically tested under the assumption that there is no significant association between these variables. The Chi-Square value = 6.491 and P-value = 0.013 indicates

significant association between the utilization of the indigenous resources and the disaster management. According to the statistics the null hypothesis is rejected on the ground that $P\text{-value} < 0.05$, and it is confirmed statistically that these two variables have significant association with one and other. Hence, the hypothesis that there is no significant association between these variables is rejected and the alternative hypothesis is accepted.

According to table, 79.7 percent of the sampled respondents reported about the better utilization of the local knowledge and resources. Similarly, 60 percent respondent indicated that due to the utilization of the indigenous knowledge and resources the disaster has been management.

The table shows that statistically positive relationship was found ($\gamma = + 0.080$) between the two variables. The positive Gamma value indicates that the variables are directly proportional to each other. Therefore, it is confirmed that with the increase in the utilization of the indigenous knowledge and resources the management of the disaster will be improving positively and vice versa.

Hence, the null hypothesis is rejected and the alternative hypothesis is accepted.

Findings and Conclusions Related to Hypothesis No. 05

Table-4.13 revealed that the local community has greatly utilized their indigenous social capitals and social networks in the overall disaster management activities in one or the other way. But the data also showed that the utilization of these resources was more amongst the rural communities as compared to the urbanized and densely populated communities. On the disaster perspective the main thing that is more desirable is to highlight the impact of the community members upon one another. Similarly, table-4.20 indicated that the local practice of giving alms and donations to the marginalized sections of the society is very common in the project area and

it has an important function in the society. Table-4.22 shows that the local communities had managed almost their casualties by their own selves and shared each other's problem, miseries and panics traditionally. Table-4.23 shows the utilization of the locally available instruments and machineries that were mostly used by the local communities while coping with the devastations of the disaster. The local community had used the traditionally used small industrial equipments like Saw, Sickle and Hammers etc. for various purposes. Similarly, table-4.26 showed that the traditional institution had also played vital role in the alleviation of the bad effects of disaster. The function of the social institutions utilized the existing traditional social capitals and kept the social network viable and also added to its strength positively. Similarly, the data in table-4.47 signifies the fact that the local community as well as their local resources had been fully utilized by the local communities in the disaster reduction activities.

Hypothesis No. 06: *There is no significant association between the Psycho-social support of the disaster's survivors and the participation of the survivors in the vulnerabilities' reduction.*

Independent variable

Psycho-social support:

Dependent variable

Participation of the disaster's survivors in disaster management for the reduction of their vulnerabilities:

Table-4.54 Bi-variate Cross tabulation Showing the Association between the Different Sorts of Psycho-social supports provided by the disaster's survivors and the Reduction of Affected Communities' vulnerability through Survivor's participation.

Different sorts of Psycho-social supports provided	Count/ % (Rows)/ % (Columns)	Reduction of affected communities' vulnerability through Survivor's participation		Total	Statistics
		Yes	No		
Material aid	Count	148	0	148	(X ²)= 44.497 P-value =0.013 γ =0.188
	%	100.0%	.0%	100.0%	
	%	15.4%	.0%	14.6%	
Informational aid	Count	51	0	51	
	%	100.0%	.0%	100.0%	
	%	5.3%	.0%	5.0%	
Psychological aid	Count	102	0	102	
	%	100.0%	.0%	100.0%	
	%	10.6%	.0%	10.1%	
Companionship	Count	197	4	201	
	%	98.0%	2.0%	100.0%	
	%	20.5%	7.8%	19.9%	
Esteem support	Count	49	1	50	
	%	98.0%	2.0%	100.0%	
	%	5.1%	2.0%	4.9%	
Religious support	Count	414	46	460	
	%	90.0%	10.0%	100.0%	
	%	43.1%	90.2%	45.5%	
Total	Count	961	51	1012	
	%	95.0%	5.0%	100.0%	
	%	100.0%	100.0%	100.0%	

Source: Field Survey

EXPLANATION

Table-4.54 is a Bi-Variate Cross Tabulation showing association between the different sorts of Psycho-social supports provided by the disaster's survivors and the reduction of affected community's vulnerability through Survivor's participation. The variables were crossed and statistically tested under the assumption that there is no significant association between these variables. The Chi-Square value = 44.497 and P-value = 0.013 indicates significant association between independent and dependent variables i.e. there is a very good association of the different sorts of Psycho-social supports provided by the disaster's survivors and the reduction of affected community's vulnerability through Survivor's participation. According to the statistics the null hypothesis is rejected on the ground that $P\text{-value} < 0.05$, and it is confirmed statistically that these two variables have significant association with one another. Hence, the hypothesis that there is no significant association between these variables is rejected and the alternative hypothesis is accepted.

The statistics in the aforesaid table shows that various types of Psycho-social support that was provided by the local community to the exasperated families. As the victims were highly in need of the psycho-social support, so the local communities had to morally support their grieves in the form of lamenting over their losses and by having soft corners in their minds for the sufferers. The data shows that various types of responses that are reflecting the psycho-social supports have been recorded and reported by the respondents. The overall 14.6 percent of the respondents said that they had provided material aid in order to psycho-socially sooth the sufferers. Material aid is provided by the respondent's households for the purpose to reduce victims' suffering. Five percent of the respondents said that informational aid is provided to the sufferers. Informational aid was mostly required and provided in order to have clear information

to reduce victims' suffering, confusion, fear and anxiety. Ten percent of the respondents had provided Psychological and emotional support to the victims. Psychological or emotional supports are those efforts given by helpers who empathize to victims' sufferings and grievances. Empathy and understanding of victims' suffering and grievances had greatly reduced the victims' emotional distress. 19.9 percent of the respondents were of the opinion that they had provided companion support to the sufferer's households. Companionship was provided to those sufferers who had experienced emotional loss, helplessness, and those with the tendency or had the experience of attempting suicide. Companionship is also needed by withdrawing victims whose minds are wandering. 4.9 percent of the respondents were of the opinion that they had provided esteem support to the sufferers. Esteem support is a sort of support which is provided to the victims to give the meaning of life to those who were psychologically disturbed, it is very important for helpless victims who lost their esteem and self worth. And the remaining 45.5 percent of the respondents were of the view that they had provided religious or spiritual support to the sufferers. Religious or spiritual supports are prayers and also guidance to understand meanings behind experiences and difficulties of life. Many people have many skills while living in the society of human beings. Human being is an intelligent sort of creature on the earth. Man can understand each others grieves and can share it, human beings can reduce each other problems and can support each other even by the moral values.

The data in the table under discussion indicates that the community is socially and morally rich. The community is having noteworthy and strong human and social values. The local communities have greatly helped the psychologically and socially down trodden survivors of the disaster. The community under study is a traditional one. Religious practices are strongly followed there. They mostly believe in Allah's well. They had been greatly soothed both

psychologically and socially by their religious beliefs. And in the same ways religious functionaries had also played significant role in providing psycho-social relief to the sufferers. Moreover, about 95 percent of the sampled respondents were of the opinions that the psycho-social support provided to the disaster survivors had significantly enhanced the local communities' participation in the entire course of disaster management. Moreover, the table reveals that statistically positive relationship was found statistically ($\gamma = + 0.188$) between the two variables. The positive Gamma value indicates that the variables are directly proportional to each others. It means the psycho-socials support of the disaster's survivors, is having positive relation with the participation of the survivors in the disaster management for the larger purposes of the reduction of the survivor's vulnerabilities. Hence, it is confirmed the greater the psycho-socials support of the disaster's survivors, the greater would be the participation of the survivors for the reduction of their vulnerabilities.

Hence, the null hypothesis is rejected and the alternative hypothesis is accepted.

Findings and Conclusions Related to Hypothesis No. 06

According to table-4.17, the local communities had fully supported the sufferers of the disaster both psychologically and emotionally by using multiple psycho-therapeutic techniques. Majority of the respondents reported that they had provided material, spiritual and emotional support in order to psycho-socially sooth the sufferers. Table-4.18 showed that the sampled respondents had psycho-emotionally supported the victims by many ways like listening to the stories and grieves of the sufferers in order to give them psycho-emotional supports. Listening has a function as a cathartic media and listening to others on such occasion is also considered therapeutic and it provides sufficient amount of psycho-emotional relief to the victims. Other reported that their attitudes were empathetic with the sufferers. Empathetic attitude for the victims is also having therapeutic function

for those who are gravely psycho-emotional due the valuable losses. Similarly, many respondents had cared the sufferers that strengthened the victims for recovery. The data in the tables indicated that the community is socially and morally rich. The community is having noteworthy and strong human and social values. The local communities have greatly helped the psychologically and socially down trodden survivors of the disaster. The community under study is a traditional one. Religious practices are strongly followed there. They mostly believe in Allah's well. They had been greatly soothed both psychologically and socially by their religious beliefs. And in the same ways religious functionaries had also played significant role in providing psycho-social relief to the sufferers.

Hypothesis No. 07: *There is no significant association between the social adaptation and social organization on the part of the community and their participation in the disaster management.*

Independent variable

- a. Social Adaptation:
- b. Social Organization:

Dependent variable

Participation of the survivors in disaster management:

Table-4.55 Bi-variate Cross tabulation Showing the Association of the Community participation in the Disaster management and the Local communities' Adaptations of the Harsh Mountainous life as a Result of Ancestors Transmitted Experiences.

Community participation in disaster management	Count/ % within Rows/ % within Columns	Local Communities' Adaptations of the Harsh and Mountainous Life as a Result of Ancestor's Transmitted Experiences		Total	Statistics
		Yes	No		
Yes	Count	605	104	709	(X ²)= 45.781 P-value =0.00 γ =0.213
	%	85.3%	14.7%	100.0%	
	%	75.0%	50.7%	70.1%	
No	Count	202	101	303	
	%	66.7%	33.3%	100.0%	
	%	25.0%	49.3%	29.9%	
Total	Count	807	205	1012	
	%	79.7%	20.3%	100.0%	
	%	100.0%	100.0%	100.0%	

Source: Field Survey

EXPLANATION

Table-4.55 is a Bi-variate Cross Tabulation showing association between the Community participation in the Disaster management and the Local communities Adaptations of the harsh mountainous life as a result of ancestor's transmitted experiences. The variables were crossed and statistically tested under the assumption that there is no significant association between these variables. The Chi-Square value = 45.781 and P-value = 0.00 indicated significant association between the social adaptation and the participation of the survivors in the disaster management. According to the statistics the null hypothesis is rejected on the ground that P-value < 0.05, and it is confirmed statistically that these two variables have significant association with one and other. Hence, the hypothesis that there is no significant association between these variables is rejected and the alternative hypothesis is accepted. The statistics in the table shows that about 80 percent of the respondents were of the opinions that the local communities have fully adapted the rough, harsh and mountainous life as a result of their ancestor's transmitted experiences. Moreover, about 70 percent of the respondents revealed that the local communities have contributed in the disaster management on the basis of their lifelong experiences and learning that were transmitted to them from their ancestors. The transmitted learning was the base of targeted community's social structure and function. Similarly, Rode (2005) has also reported in The New York Times on October 12, 2005, that though the local community had faced many fold problems but still they had helped their relatives and nearby communities openhandedly.

The table also indicated that statistically positive relationship was found ($\gamma = + 0.213$) between the two variables. The positive relation indicated that the variables are directly proportional to each other. Therefore, it is confirmed that the social adaptation on the part of the

local communities is positively effecting the participation of the local communities in the disaster management.

Hence, the null hypothesis is rejected and the alternative hypothesis is accepted.

Table-4.56 Bi-variate Cross tabulation Showing the Association between the Survivor's Social Cohesion towards their Communities (Natural Social Organizations) and the Participation of the Survivors' in the Disaster Management.

Community participation in the disaster management	Count/ % within Rows/ % within Columns	Survivor's Social Cohesion towards their Communities (Natural Social Organizations)		Total	Statistics
		Yes	No		
Yes	Count	298	411	709	(X ²)= 4.396 P-value =0.042 γ =0.066
	%	42.0%	58.0%	100.0%	
	%	73.8%	67.6%	70.1%	
No	Count	106	197	303	
	%	35.0%	65.0%	100.0%	
	%	26.2%	32.4%	29.9%	
Total	Count	404	608	1012	
	%	39.9%	60.1%	100.0%	
	%	100.0%	100.0%	100.0%	

Source: Field Survey

EXPLANATION

Table-4.56 is a Bi-variate cross tabulation showing association between the Survivor's Social Cohesion towards their Communities (Natural Social Organizations) and the Participation of the Survivors' in the Disaster Management. The variables were crossed and statistically tested under the assumption that there is no significant association between these variables. The Chi-Square value = 4.396 and P-value = 0.042 indicates significant association between the

“Survivor’s Social Cohesion towards their Communities (Natural Social Organizations)” and “Participation of the survivors in disaster management”. According to the statistics the null hypothesis is rejected on the ground that $P\text{-value} < 0.05$, and it is confirmed statistically that these two variables have significant association with one another. Hence, the hypothesis that there is no significant association between these variables is rejected and the alternative hypothesis is accepted. The table also indicates that about 40 percent of the sampled respondents reported that the disaster survivors have strong social cohesion with their communities.

Similarly, on the other hand about 70 percent of the respondents reported that due to the existence of natural social organization of the rural communities the community has significantly contributed in the disaster management in terms of their active participation. Walsh (2006) has also reported that the local community has shown a big amount of volunteerism and social cohesion after the onset of the fatal disaster.

The table also shows that statistically positive relationship was found ($r = + 0.213$) between the two variables. The positive relationship indicates that the variables are directly proportional to each other. Therefore, it is confirmed that the existence of natural social organization of the rural communities is positively effecting the participation of the local communities in the disaster management.

Hence, the null hypothesis is rejected and the alternative hypothesis is accepted.

Findings and Conclusions Related to Hypothesis No. 07

According to table-4.8, majority of the local community removed the rubble of their damaged houses and buried the dead persons. Their neighbors, relatives, friends and other persons of the concerned local communities also helped them. While table-4.9 indicated that the some of the survivors retrofitted the minor damages by themselves, 40 percent said that their houses constructions were financed by ERRA in addition to their own finances and labors and 10

percent said that they reconstructed their houses by the communal help in the form of labor and material help. Table-4.12 indicated that shelters to the victims were provided by relatives, neighbors and friends. The victims helped the wounded persons, restored the water supplies and the distribution of the potable water to the affected communities under the self help approaches, opened the sanitation channels in the houses or outside the houses in the streets and supplied of foods to those who were foodless and whose livelihood sources were damaged. Similarly, table-4.13 reflected that the community had greater social cohesion and community involvement. It has also been observed that in the rural communities the social cohesion and community involvement was usually more as compared to the urbanized and densely populated communities. Table-4.14 also indicated the social strength of the disaster community network in terms of social adaptation and social organizations.

The data in the tables revealed that family based networks had maximum role in the protection of the family. Micro-neighborhood networks have also maximum role in protection. Macro-community networks has maximum role in planning and supplies. The data in the table revealed that social adaptation and organization in terms of social strength of the disaster communities' networks, the local communities were socially cohesive and had multiple roles in the vulnerability reduction of the communities at risk after the emergence of the disaster. Table-4.18 indicated that the local communities had fully socially and morally supported and adopted the sufferers of the disaster both psychologically and emotionally by using multiple psycho-therapeutic techniques. Table-4.22 showed the use of indigenous skills utilized by the local communities that is considered culturally adoptive in every society. Table-4.24 indicated that majority of the local communities are utilizing their social capitals for coping with the any sort of eventualities. Table-4.26 revealed the role of traditional social institutions in the disaster

management. The Table-4.38 showed us that the indigenous culture has the capability of invoking volunteerism at local level at the time of adverse situations. The table-4.39 indicated the existence of spirit of altruism and unity in the survivor's communities. Similarly, table-4.45 showed that 75 percent of the respondents were of the views that the social organizations were established for coping with the sufferings of the disaster. The NGOs that were working in these communities had mostly adopted participatory approaches in order to utilize and mobilize and enhance the local capacities to prepare them for self help.

Hypothesis No. 08: *There is no significant association between the Existence of Volunteerism in the community and the Well-organized co-operative disaster behaviors.*

Independent variable

Volunteerism in the community:

Dependent variable

Co-operative Disaster Behaviors:

Table-4.57 Bi-variate Cross Tabulation Showing the Association between the Existence of Volunteerism in the Classical Traditional Society and the Survivor's Behaviors / Attitude towards each other.

Existence of volunteerism in the classical traditional society	Count/ % within Rows/ % within Columns	Survivor's Behaviors / Attitudes towards each other		Total	Statistics
		Sympathetic, Co-operative and Accommodative	Annoyed, Frustrated, Un-cooperative and Un-accommodative		
Yes	Count	712	151	863	(X ²)= 20.590 P-value =0.00 γ =0.143
	%	82.5%	17.5%	100.0%	
	%	87.8%	75.1%	85.3%	
No	Count	99	50	149	
	%	66.4%	33.6%	100.0%	
	%	12.2%	24.9%	14.7%	
Total	Count	811	201	1012	
	%	80.1%	19.9%	100.0%	
	%	100.0%	100.0%	100.0%	

Source: Field Survey

EXPLANATION

Table-4.57 is a Bi-variate cross tabulation showing association between the existence of volunteerism in the classical traditional society and the survivor's behaviors / attitude towards each other. The variables were crossed and statistically tested under the assumption that there is no significant association between these variables. The Chi-Square value = 20.590 and P-value = 0.00 indicates significant association of the independent and dependent variables i.e. volunteerism in the community is highly associated with Organized Co-operative Disaster Behaviors on the part of disaster's survivors. According to the statistics the null hypothesis is rejected on the ground that $P\text{-value} < 0.05$, and it is confirmed statistically that these two variables have significant association with one another. Hence, the hypothesis that there is no significant association between these variables is rejected and the alternative hypothesis is accepted. According to the table 85.3 percent of the sampled respondents reported about the existence of volunteerism in their classical traditional society. They were of the opinion that the contribution of volunteers had played pivotal role in the disaster management. Moreover, about 80 percent of the respondents said that the existence of the spirit of altruism and volunteerism in the communities has led the affected communities towards organized disaster behaviors. These sorts of co-operative disaster behaviors were the basic needs for keeping the spirit of life alive in the deserted and dejected hearts of the unfairly treated communities by the earthquake.

The table shows that statistically positive relation was found ($\gamma = + 0.143$) between the two variables. The positive relation indicates that the variables are directly proportional to each other. Therefore, it is confirmed that the increase in the existence of spirit of altruism and volunteerism will result in the invoking of well-organized co-operative disaster behaviors in the affected communities and vice versa.

Hence, the null hypothesis is rejected and the alternative hypothesis is accepted.

Findings and Conclusions Related to Hypothesis No. 08

Table-10 concluded that the affected families, local community, the outsider communities, local and non local volunteers had helped the survivors of the disaster in providing safer places or shelters to the disastrous and vulnerable households. Moreover, table-4.13 highlighted the fact that their neighbors rush to help them at the time of adversity. The table also indicated that the local community has greater social cohesion, cooperativeness and strong spirit of volunteerism. According to table-4.18 the local communities' volunteers had fully supported the sufferers of the disaster both psychologically and emotionally by using multiple psycho-therapeutic techniques. Similarly, according to table-4.20 the local communities have made economic contributions in the form of loans, Zakat, Sadqat i.e. Alm and Donations in order to support the marginalized sections of the society. Table-4.23 revealed that the local community had used the traditionally used small industrial equipments like Saw, Sickle and Hammers etc. for various purposes. Table-4.24 indicated that majority (85 percent) of the sampled respondents reported that they are calling their neighbors, relatives and close friends whenever they are faced by the adversities. The response of majority of the respondents showed that the local communities are utilizing their social capitals for coping with the emergencies. According to table-4.25 the neighborhood networks in the local communities had mostly helped in the recovery of psycho-emotional distresses and troubles sharing. Similarly, table-4.28 showed that many widows were re-married either in their local communities or in the outside communities. Many children who were made orphans either by father or by mother were socially and morally or economically supported either by their close relatives, or by the neighbors and local

communities to adjust in their routine social lives. The table showed that the survivors' community was united for coping with the miseries of the disaster.

PART-D

A. Verification and logical connection between the components of Alan Kirschenbaum's Model in the light of the findings of the present study

(Organic Community Model for Disaster Survival)

The study was conducted in the light of a model “Organic Community Model for Disaster Survival”. The model provided proper footing to the study and is considered as the best in applying to the study. It covered all the pre and post study difficulties and helped in searching the objectives and indicators evaluation in an appropriate way. After a detailed study of the disaster management on the traditional/ community level, Alan Kirschenbaum in 2004 introduced the model. The components of the model were presented for verification under the assumption that it has no significant connection to the disaster survival. The study in question tested and verified the different components of the model. The logical connection of the components of the model in the light of the present study are explained as under:

I. Social Adaptation: Table-4.55 reflected significant association between the social adaptation on the part of the community and their participation in the disaster management. The statistics showed that about 80 percent of the respondents reported that the local communities have fully adapted the culture of the rough, harsh and mountainous life as a result of their ancestor's transmitted experiences. Moreover, about 70 percent respondents revealed that the local communities have contributed in the disaster management on the basis of their lifelong experiences and learning that was transmitted from their ancestors. Similarly, Rode (2005) has also reported in “The New York Times” on October 12, 2005, that though the local community had faced many fold problems but still they had helped their relatives and nearby communities

openhandedly. The table also indicated positive Gamma statistics ($\gamma = + 0.213$) that confirmed that the social adaptation on the part of the local communities is positively affecting the participation of the local communities in the disaster management. Similarly, table-4.14 also indicated the social strength of the disaster community network in terms of social adaptation and social organizations. The data revealed the social adaptation and organization in terms of social strength of the disaster communities networks, the local communities were socially cohesive and had multiple roles in the vulnerability reduction of the communities at risk after the emergence of the disaster. According to table-4.18 the local communities had socially and morally supported and adopted the sufferers of the disaster both psychologically and emotionally by using multiple psycho-therapeutic techniques. Usually the communal life is transmitting the skill of communal living to the next generations and by this way the knowledge is rolling over the centuries from one generation to the other generation along with necessary evolutionary changes and the society adopt itself for survival accordingly.

II. Natural Community Organization: Table-4.56 showed significant association between the social organization on the part of the community and their participation in the disaster management under the Chi-Square value = 4.396 and P-value = 0.042. The data indicated that disaster survivors have strong social cohesion with their communities. Likewise, 70 percent respondents reported that due to the existence of the natural social organization of the rural communities the community has significantly contributed in the disaster management in terms of their active participation. The table also shows positive Gamma statistics ($\gamma = + 0.213$) that confirmed that the existence of natural social organization of the rural communities is positively affecting the participation of the local communities in the disaster management.

III. Volunteers' localism groups: Table-4.57 revealed the existence of volunteerism in the classical traditional society. According to 85 percent respondents, the contribution of volunteers had played pivotal role in the disaster management. Moreover, the respondents also reported that altruisms and volunteerism in the communities has led the affected communities towards organized disaster behaviors in the deserted and dejected hearts of the unfairly treated communities by the earthquake. The same table has also showed positive Gamma statistic which confirmed that the increase in the volunteerism well result in the invoking of well-organized co-operative disaster behaviors. Similarly, table-10 concluded that the affected families, local community, the outsider communities, local and non local volunteers had helped the survivors of the disaster in providing safer places or shelters to the disastrous and vulnerable households. Similarly, table-4.11 indicated that majority of the local people voluntarily helped the seriously injured persons in shifting to the safer places and hospitals. Hence, the volunteerism in the local communities has front line role in the disaster management.

IV. Organic indigenous grass roots: Table-4.26 highlighted the role of traditional institutions in the disaster management. Social institutions are the pillars of the society. The society sustains itself on the bases of the existence of the role and functions of its social institutions. Majority of the respondents reported that family institutions had great role in the alleviation of the disasters devastations, on the ground that it provides physical as well as emotional and psychological relief. Likewise, 24 percent respondents reported that religious institution had played significant role in the alleviation of the overwhelming affects of the disaster.

V. Social processes: The importance of the social process has been very much highlighted by the study in question. Table-4.26 indicated that the traditional social institutions played vital

role in the alleviation of the worst affects of disaster. The overall study reflected on the role of the social institutions in the utilization of the existing traditional social capitals and social networks. The traditional social processes kept the indigenous social network and social capitals viable and also added to its strength positively. And most importantly it does not let the society anomic functions for long time.

VI. Co-operative Organized Disaster Behaviors: The cross tabulated table-4.57 found significant association between the existence of volunteerism in the classical traditional society and the survivor's behaviors under the Chi-Square value = 20.590 and P-value = 0.00. The table indicated that Volunteerism in the community is highly associated with Organized Co-operative Disaster Behaviors on the part of disaster's survivors. According to 80 percents respondent's reports, the existence of the spirit of altruisms and volunteerism in the communities has led the affected communities towards organized disaster behaviors. These sorts of co-operative disaster behaviors were the basic needs for keeping the spirit of life alive in the deserted and dejected hearts of the unfairly treated communities by the earthquake. Similarly, table-4.47 indicated the positive Gamma statistics ($\gamma = + 0.143$) which showed that the increase in the existence of spirit of altruism and volunteerism well result in the invoking of well-organized co-operative disaster behaviors in the affected communities and vice versa. Likewise, table-10 also concluded that the affected families, local community, the outsider communities, local and non local volunteers were very much cooperative after the onset of the disaster. Similarly, table-4.13 also indicated that the local community has greater social cohesion, cooperativeness and strong spirit of volunteerism. According to table-4.18 the local communities' volunteers had fully supported the sufferers of the disaster both psychologically and emotionally by using multiple psycho-therapeutic techniques. According to table-4.20 the

local communities have made economic contributions in the form of loans, Zakat, Sadqati.eAlm and Donations in order to support the marginalized sections of the society. Similarly, table-4.28 highlighted that many widows are re-married either in their local communities or in the outside communities. Many children who were made orphans either by father or by mother were socially and morally or economically supported either by their close relatives or by the neighbors and local communities in order to reclaim their routine lives.

B. Concluding the rationale and validity of Alan Kirschenbaum's Model in the light of the present study (Organic Community Model for Disaster Survival)

Alan Kirshenbaum's presented "Organic Model for Disaster Survival" in 2004 after a detailed study and critical analysis of disaster management. The model is drawn from a sophisticated empirical analysis of an unusual and comprehensive set of data. Kirshenbaum was of the views that bureaucratic disaster management organizations usually focus on their own needs and not those of their clients. They see the world through organization prisms and not through the eyes of the potential victims. Discovering these faults led Kirshenbaum to re-examine the community's role in preparing individuals and families for disaster. And finally presented the model "Organic Model for Disaster Survival". The model focused our attention on the disaster communities in terms of their social networks, and not simply physical areas. It gave us the idea that traditional disaster behaviors are deeply embedded in social bonds we develop. Bonds within families, with neighbors and friends, and through general community social activities are the active building blocks that affect how we look at and react to disasters. Kirshenbaum kept open his model to criticism using the general rules of scientific testing and revalidation, in order to move the area of disaster management from one dependent on slogans to the one supported by an empirically based understanding of disaster management.

The present study presented a detail account of the role of the local community in the disaster management, the traditional community of Balakot that was unfairly treated by the fatal jolts of earthquake on October 08, 2005. The study evaluated the role of the disaster survivors in terms of their families bonds, neighbors and friends networks and the overall communal social capitals in the disaster management and vulnerabilities reduction. The study was conducted under the concept of Alan Kirshenbaum's "Organic Model for Disaster Survival". All the components of his model were conceptually clarified and empirically tested in the field. Eventually the study verified the basic conceptualization of the model. The study found that all the components of the model are logically connected with one another. The idea that came after the study is that the community of Balakot has already established family networks through marriage, births, and deaths. The basic argument is the traditional cultural milieu of the survivor's community of Balakot, where friendship and neighborly ties are established through both proximity and cultural events, leading to various types and intensity of social bonds among the community members. These, along with family networks, create an intricate yet orderly social fabric that creates close intimacy and "We" feeling in the community's life. The entire story of the October 08 disaster highlighted the role of these multilevel interactions and social patterns in the disaster's vulnerabilities reduction and the overall enhancement of survival quotient in the disastrous area of Balakot. The study concluded that the basis for cooperation has already been provided in the very way in which communities are structured as viable and adaptive social units. There is no need to artificially create or manipulate disaster behaviors within the confines of disaster management organizations, as they are already embedded in the social history and consciences of the community members. In this sense, the community can act as ideal machinery in terms of quick and timely response to any type of disaster. The study

empirically verified that social adoptability is leading the communities towards Natural organization of the community, having the basic characteristic of localism and volunteerism result in the social processes and eventually in the cooperative organized disaster behavior. The components of the model are naturally, logical and comprehensively connected with one another. The study verified the rational and validation of the model and considered it the best model in the field of pre & post-disaster management and mitigation as well.

CHAPTER # FIVE

SUMMARY, CONCLUSION & RECOMMENDATIONS

CHAPTER-V

SUMMARY, CONCLUSION & RECOMMENDATIONS

5.1 Background of the Research Work

The earthquake of October 2005 affected almost all aspects of socio-economic life of the people as well as physical infrastructure of the area. As reported by the District Government, the loss of human lives in Mansehra was 15,997 while 9,903 persons were injured. In addition, a huge number of populations were displaced (Mansehra, 2007). In district Mansehra as many as 108,283 (71%) houses were completely damaged/destroyed and 34,001 (22%) were partially damaged while 10,673 (7%) were negligibly damaged. As a result housing units in Balakot town and its surrounding areas were fully destroyed. According to National Disaster Management Authority, Pakistan (2007: P-16) reports the inhabitants faced multi dimensional problem like shelter, food, medical treatment, removing the debris from the dead bodies and injured, burial of the dead bodies in the grave yards, relaxing those who were in trauma and helping those who were helpless. Hence, the unfortunate community that faced the problem did not sit idle to wait for the outsider help. The local communities that were really in limbo after the disaster were tired less working to manage the disaster and worked as a front line disaster manager. The reports of

World Bank (2005: p-5) also highlighted the role of the traditional disaster management behavior, social institutions and social organizations that have actively participated as a front line helpers in mobilizing the social structure. Strong social cohesion was a prominent action among the affected families, neighbors and communities. This was a strong support of their extended family and traditional Baradari system. Discovering these facts led the researcher to examine the impact of community participation on the post-disaster management. Due importance is given to the community and family social roots of disaster management behavior, by viewing disaster communities in terms of the organized social system, and not simply physical areas. The study is supposed to give the insight to the readers that traditional disaster management behaviors are deeply embedded in the social bonds we develop. The study highlighted the post disaster response of the local community at the time of emergency, relief and rehabilitation and development activities.

The study also highlighted the traditional disaster management behaviors of the local community as well as the theoretical and situational analysis of the subject in question. The main objectives of the research work were to study the extent of community participation in the disaster management, to find out the attitude of local communities in the utilization of available resources in emergency management and to find out the problems faced by the local people. The focus of the study was on the specific detail of social cohesion, socio-cultural situation, social setting, social relations, social organization, social integration, social solidarity, social networking, communication, social interaction, social coordination, social collaboration, social supports, leadership, volunteerism, own resources utilization, resilience to the disasters and the collective abilities to cope with the disaster on their own level on the bases of the power of their tradition.

5.2 Methodology

Out of the total 65 villages of tehsil Balakot one third villages were purposively selected on the bases of more damage by the Oct 8th disaster, 10% sample households were purposively selected out of the average households of the one third selected villages (equal sample households from each selected village). Hence, total 1012 sample households were selected and interviewed accordingly. After the data collection the data went through data entry on SPSS (Version-16). The variables were properly defined and the data was entered for further analysis. Then the data were presented in two types of tabulation i.e. the uni-variate or Simple tabulation and the Bi-variate Cross tabulations of the different variables. The simple or uni-variate variables are the one variable analysis that were presented and analyzed in the forms of simple percentages and frequencies. These tables are properly explained as well as interpreted for further clarifications. In order to explore the relationship or association between the two variables, Bi-Variate or Cross tabulations are made. Standard statistical procedures were applied in order to find the association between the variables. The variables under investigation were crossed and the Chi-Square (X^2) and Gama (r) statistics were applied, the basic purpose of the statistical procedures was to confirm the significance of the data variation or distribution and the significance of the association of the variables with one and others. In order to explore the association of the independent and dependent variables the Gama statistics were applied. These procedures were also applied for the subsequent acceptance of the null hypothesis or otherwise the acceptance of alternative hypothesis. The Gama statistics also showed us whether the variables are directly proportional or inversely proportional to one and others. And by the end of the data analysis, the hypothesis were tested and eventually concluded as per the relevant findings of the study.

5.3 Information about the Respondents of the study

Table-4.1 presented the demographic information of the sampled respondent's. It showed us majority of the respondents were literate and were able to understand the questions of the researcher. Similarly table-4.2 reflected that people from different professions, age and income groups of the different sections of the local community were included in the research. Table-4.3 highlighted that the respondent's villages were selected from the unfairly damaged union councils of the entire Tehsil Balakot. Most of the people in Tehsil Balakot are residing in the rural areas due to which majority (60%) of the household respondents' belonged to joint families. The data also showed that 90 % of the households from the targeted areas were badly affected by the earthquake.

5.4 Major findings of the study

Table-4.6 indicated the entire households of the study area had been faced with the human as well as the economic losses in the one or the other forms. These forms of losses were consisting of physical injuries, deaths, partially or fully damaged houses and agricultural lands. Table-4.8 highlighted the contribution of the victim's families, their neighbor, friends and close relatives in the form of removing rubble, helping the injured and burial of the dead bodies. Similarly, table-4.9 reflected the local community had mostly retrofitted the minor damages of their houses by themselves, reconstructed their houses by the communal help as well as by the donations of the communities or with the help of NGOs or ERRAs financial help. But many of the respondents said that some of the community members are still living in the disastrous houses or tents. The affected communities reported that their livelihood sources rehabilitated and recovered by the self help basis, with the help of relatives or neighbors and local communities. While 10 percent respondents reported that the affected communities has still not rehabilitated

their livelihood earning sources. The data is reflecting that the local community had played great role in the restoration of the livelihood sources.

Table-4.12 indicated the contribution of the different Aid providers in different situations of the disaster i.e. 65 percent of the shelters were provided by the relatives, friends and other members of the local communities. The table also showed that majority of the sampled respondents was of the view that the victim's families, their neighbors and close relatives had helped in restoration of water supplies and the distribution of potable water and restoration of sanitation channels to the affected communities under the self help approaches. Regarding the supplies of food items to the affected community 49 percent of the respondents were of the views that relatives, neighbors and close friends had contribution in the supplies of foods to those who were foodless and to those whose livelihood sources were damaged.

Table-4.13 reflected the marvelous social cohesion through the local community involvement in the emergency activities. Similarly, table-4.14 showed the social strength of the disaster community network. It shows us the picture of the community that after the onset of the disaster emergency the local community remained involved in the relief and emergency response activities. Their social network and social capital had praiseworthy role in the overall management activities and vulnerability reduction of the persons and communities at risk. Moreover, replying to the question regarding the rehabilitation & restoration of the irrigation channels, opening of drainage channels and small routs to the villages, majority of the respondents reported that all these activities were carried out mostly by the local communities or somewhere jointly by the local communities NGOs and GOs. It also indicated that the NGOs and GOs had fully utilized the local human capital as well as the indigenous social capitals for the executions of different activities. Similarly, table-4.17 indicated that various types of Psycho-

social support were provided by the local community to the exasperated families. As the victim were highly in need of the psycho-social support, so the local communities had to morally supported the grieved ones in the form of lamenting over their losses and by having soft corners in their minds for the sufferers. Similarly, table-4.21 revealed that majority of the respondents reported that the local communities have supported the exasperated families both socially and psychologically by sharing the miseries, by honoring the orphans and disables and by re-marrying the widows after the fear-provoking environment left behind by the ruinous jolts of the October 8th earthquake.

Similar reports were indicated by the data of table-4.19, majority of the respondents were of the view that they had removed the rubble of the houses, evacuated the injured and the dead bodies. They have managed the injured persons for first aid and other medical facilitations and helped the deceased persons in the burial in the traditional ways. The terrible earthquake left behind itself many thousands of the families' shelter less, the local communities tried to provide shelters to the shelter less families.

Likewise, table-4.20 indicated that 30 percent of the respondents were of the view that the local communities made economic contributions in the form of loans. Usually the local community uses the practice in order to provide relief to the victims. The overwhelming majority of the respondents reported that the affected community had made economic contributions in terms of Zakat and Sadqat (Alms and Donations). Similarly, table-4.22 indicated that 35 percent of the respondents reported that the affected community had removed the rubble skillfully by using their indigenous knowledge and instruments. While, table-4.23 showed that 90 percent of the respondents reported that domestic agricultural instruments were used by the local communities for the removal of the debris, rehabilitation and reconstruction purposes. Similarly,

5 percent reported about the use of the local agricultural machinery like Tractors etc. in the multiple activities that led the communities towards the alleviation of problems. The other 5 percent respondents reported that the affected community had used the traditionally used small industrial equipments like Saw, Sickle and Hammers etc. for various purposes in order to alleviate their dependency on the bureaucratic disaster management system.

The table-4.24 revealed that majority (85 percent) of the sampled respondents relies on their neighbors, relatives and close friends whenever they are faced with any adversities. The overall information from the above discussion reveals that the close relatives, friends and neighborhood networks are the most reliable and easily available helpers in the traditional rural societies of the areas under study. The response shows that the local communities are utilizing their social capitals for coping with the emergencies. In the same way, majority of the respondents reported that the relatives, close friends and neighborhoods networks had helped during the entire course of disaster management. The overall information of the survey indicated that the close relatives and neighborhood networks were more supportive in the traditional rural setup of the affected communities. Table-4.26 revealed the role of traditional institutions in the disaster management. Majority of the respondents said that family institutions had great role in the alleviation of the disasters. But many of the respondents said that religious institution had played significant role in the alleviation of the overwhelming effects of the disaster. The role of the social institutions is considered very important in the utilization of the existing traditional social capitals and social networks. The overall study revealed the positive attitude of the affected community towards the disaster. Keeping in view the gravity of the situations the local communities tried to adjust the widows by re-marriages. Most of the vulnerable virgins were married in the local communities in order to re-establish their routine lives. The widows were re-

married either in their local communities or in the outside communities. Similarly, many orphans were also adjusted in their normal lives by the local communities. The data revealed that the affected community faced many problems in the form of Psychological trauma of the victims, weak communication system amongst the community members, loss of valuable lives and prosperities, search and rescue operations without proper training, instruments and management, lack of finances for the rehabilitation of the damaged infrastructure, devastated livelihood sources of the community, widows and orphans adjustment in the society, roads and routs blockage, hap hazard activities, the aftershocks, removal of the huge debris from the dead bodies and its funerals and burial, removal of the rubble from the wounded persons, thievery of the valuables from the sufferers families, shortage of food items, shortage of potable water and first aid facilities. The overall situation revealed that the affected communities had significantly participated in the adjustment of the widows, helpless and vulnerable virgins and the thousands of orphans by on ways or by other way. Therefore, the efforts, determinations and strong resolve of the affected communities in the disaster management cannot be ignored.

5.5 Major Findings of the Research under the Cross Tabulation (Bi-variate) Data Analysis and Interpretation

Table-4.29 showed significant association between the affected communities “participation in emergency response” and the “extent of participation”. It has been indicated by the Chi-Square value = 0.894 and P-Value = 0.00. The data showed that the respondent’s families had participated in the overall emergency response activities, up to a great extent. Table-4.30 showed significant association (Chi-Square value = 1.012 and P-value = 0.00) and direct relation ($\gamma = + 0.383$) between the “presence of sampled respondents” at the time of emergency and their “immediate response to it”. Moreover, 95 percent were present in the locality of Tehsil Balakot or district Mansehra at the time of emergency and earthquake. Replying to the question

pertaining to the immediate response to the emergency situation, the respondents said that they helped in the provision of first aid medical support to the injured persons, search and rescue operation during emergency and relief activities, distribution of food and non food items for the victims of the fatal jolts of the earthquake, removing of debris of the damaged buildings, shifting the victims and vulnerable persons and families to the safer places, burial of the dead persons, and calling others for help after the onset of the emergency. Table-4.31 indicated that statistically significant association (Chi-Square value = 3.191 and P-value = 0.00) and direct relation ($\gamma = 0.727$) was found between the “survivor’s attitude towards each other’s” and the “local community's immediate response to disaster”. Majority of the respondents reported that as a result of the positive attitudes and humanitarially sympathetic disaster behaviors of the local communities, the survivors had immediately responded to the disaster. Moreover, majority of the respondents said that the overall behaviors and attitude of the local communities remained sympathetic and co-operative and that was the reason that had not only invoked the immediate response to the disaster but also had invoked local volunteerism.

Moreover, table-4.32 indicated statistically significant association between the “survivor’s attitude towards each other’s” and the “local community's resilience to disaster” (Chi-Square value = 3.918 and P-value = 0.00). According to the table majority of the respondent considered the disaster as a test of their patience or an act of nature, while some of them considered it the wrath or curse. However, about 40 percent termed their communities more resilient to the disaster. The resilience of the communities to the disaster is significantly associated with the resilience of the local communities under the present study. The positive value of the Gamma statistics ($\gamma = 0.224$) shows that the attitude of the community and their resilience to disaster vulnerabilities are directly proportional to each others. According to table-

4.35 the Chi-Square value = 57.263 and P-Value = 0.00 indicated that there is highly significant association and direct relation ($\gamma = 0.238$) between the two variables i.e. “decisions of the community through joint consensus” and the “enhancement of social cohesion”. Majority of respondents reported that local community had made their decision with joint consensus. Moreover, 78 percent of the respondents had reported that the social cohesion was enhanced in the communal lives after the fatal disaster. Table-4.39 shows significant association (Chi-Square Value = 6.543 and P-value = 0.00) and direct relation ($\gamma = + 0.804$) between the “existence of spirit of altruism in the community” and the “unity of survivors”. According to table majority of the respondents confirmed the existence of the spirit of altruism and the unity of the survivors. Moreover, majority of the respondents reported that the survivors’ communities were united for coping with the miseries of the disaster. Moreover, table-4.41 revealed that significant association (Chi-Square Value = 1.927 and P-value = 0.00) and direct relation under the positive Gamma value ($\gamma = 0.436$) between the “zeal of community participation” and “level of community participation” in the disaster management. The data showed that majority of the respondents were highly enthusiastic to participate in the disaster management.

Moreover, table-4.45 also indicated significant association (Chi-Square Value = 1.611 and P-Value = 0.00) and direct proportionality under the positive Gamma statistics ($\gamma = 0.399$) between the “community participation in the disaster management” and the “social organization for the vulnerability reduction”. The data revealed that majority of the respondents reported that affected community had participated in the disaster management. On the other hand 75 percent of the respondents were of the view that the social organizations were established for coping with the sufferings of the disaster. Likewise, table-4.48 showed significant association (Chi-Square value = 1.089 and P-value = 0.00) and direct relation under the positive gamma statistics

($\gamma = 0.328$) between the “disaster coping experiences of the local communities” and their “per-
planning for disaster mitigation”. The data indicated that majority of the respondents reported
that that the survivor’s communities are now enough experienced as a result of the Oct, 8th
disastrous earthquake.

5.6 Major Findings of the Research under Cross Tabulation (Bi-variate), Data Analysis, Interpretation and Verification/ Testing of Hypothesis

Table-4.49 showed significant association between the “zeal/ promptness” and “level of
community participation in the disaster management” (Chi-Square value = 1.927 and P-value =
0.00). Under the positive Gamma value ($\gamma = 0.436$) it can be said that the higher the zeal/
promptness and enthusiasm of the local community, the more will be the participation of the
local communities in the disaster management. Similarly, table-4.50 indicated significant
association between the resilience and attitude of the affected communities towards disaster and
the utilization of indigenous knowledge and resources by the survivors of the disaster. The Chi-
Square value = 9.138 and P-value = 0.003 and the positive gamma statistics ($\gamma = + 0.095$)
revealed that increase in the resilience to disasters would ensure the increase in the utilization of
the indigenous knowledge and resources for coping with the harmful effects of the disaster at the
local communities’ level.

Moreover, table-4.51, under the Chi-Square value = 17.399, P-value = 0.00 and gamma
value ($\gamma = + 0.131$) showed significant association and direct relation between the two variables,
and eventually it was confirmed that the strength of social cohesion is dependent on the strength
of social web and social structure and vice versa. Moreover, table-4.52, under the Chi-Square
value = 31.475, P-value = 0.00 where P-Value < 0.05 and its subsequent positive gamma
statistics ($\gamma = + 0.176$) confirmed that with the increase of the spirit of altruism in the

community the management of the disaster is increasing or expediting and vice versa. Similarly, table-4.53 under the Chi-Square value = 6.491 and P-value = 0.013 verified the statement that with the increase in the utilization of the indigenous knowledge and resources the management of the disaster well be improving positively and vice versa.

Table-4.54 indicated the verification of the alternative hypothesis which is described as “*There is significant association between the Psycho-socials support of the disaster’s survivors and their vulnerabilities reduction*”, under the Chi-Square value = 44.497, P-Value = 0.013 and positive gamma value ($\gamma = + 0.188$) it can be illustrated that greater the psycho-socials support of the disaster’s survivors, the greater would be the participation of the survivors for the reduction of their vulnerabilities. While table-4.55 under the Chi-Square value = 45.78, P-value = 0.00 and positive gamma value ($\gamma = + 0.213$) confirmed that social adaptation on the part of the local communities is positively effecting the participation of the local communities in the disaster management.

While table-4.56 also indicated that the enhancement of social adaptation and social organization is enhancing the participation of the local community in the disaster management under the positive Gamma value ($\gamma = + 0.213$) between the two variables. Moreover, table-4.57 confirmed the acceptance of the alternative hypothesis “*There is significant association between the Existence of Volunteerism in the community and the Well-organized co-operative disaster behaviors*” under the Chi-Square value = 20.590 and P-value = 0.00. Eventually, it proved that volunteerism in the community is highly associated with Organized Co-operative Disaster Behaviors on the part of disaster’s survivors. The table also showed that 85 percent of the sampled respondents reported about the existence of volunteerism in their classical traditional society. They were of the opinions that the contribution of volunteers had played pivotal role in

the disaster management. Moreover, about 80 percent of the respondents said that the existence of the spirit of altruisms and volunteerism in the communities led the affected communities towards organized disaster behaviors. The positive relation ($\gamma = + 0.143$) between the two variables signifies that increase in the existence of spirit of altruism and volunteerism well result in the invoking of well-organized co-operative disaster behaviors in the affected communities.

5.7 CONCLUSION

The present study was focused upon the impact of local community's participation in the disaster management after the October 8th 2005 earthquake. The study found that the local communities faced multiple problems after the onset of the disaster. After the cruel jolts of the earthquake, not only the physical infrastructure and resources were completely out of work but also the prevailing social milieu and social networks were unable to operate anymore. The only thing spared with the sufferers was the spirit of self help and the support of the fellow sufferers. Repeated aftershocks of the earthquake increased manifold the panic of the sufferers. The situation was further aggravated by the harsh cold weather. Consequently in a situation when the shelterless sufferers were under the open sky in a severe cold weather, where thousands of dead bodies, severely injured persons and dreadful cries of those who were under the rubble and were crying for rescue and urgent assistance were around, the situation was very much painful for the survivors. However, the entire situation coined a self explanatory history of extremely high degree disaster resilience before an extremely forceful shock and devastation of the earthquake.

The survivors of the disaster were in a state of limbo. However, the urge to help the sufferers was also severe when there was no one to help and save the precious lives and share the pains of the others. The major problems of the survivors were the Psychological trauma, weak communication system among the community members, loss of valuable lives and prosperities, search and rescue operations without proper training, instruments and management, lack of finances for the rehabilitation of the damaged infrastructure, devastated livelihood sources of the community, and the adjustment of widows and orphans in the society. Similarly, the other problems that were mentioned by the respondents were roads and routes blockage, hazardous activities, the aftershocks, removal of the huge debris from the dead bodies and its funerals and entombment, removal of the rubble from the wounded persons, thievery of the valuables from the sufferer's families, shortage of food items, shortage of potable water and first aid facilities as the major problem of the local communities.

The main findings of the research showed that the local families had removed the rubble and managed the dead bodies and injured by themselves or with the help of their neighbors, relatives, friends and other persons of local communities. They retrofitted the minor damages of their houses by themselves. While some of them reported that they reconstructed their houses by the communal help, as well as by the donations of the communities or with the help of NGOs. The study highlighted that majority of the survivors restored their livelihood sources with the help of close relatives, neighbors and friends. Similarly, majority of the respondents reported that the local community restored the water supplies and the distribution of the potable water to the affected communities under the self help approaches. Regarding the supplies of food items to the affected community 49% of the respondents reported that relatives, neighbors and close friends had contribution in the supplies of foods to those who were foodless and whose livelihood

sources were disrupted. According to the study the local communities were socially cohesive by having strong and praiseworthy role of the existing social networks and social capital in the overall vulnerability reduction of the persons and communities at risk. The study found that that the NGOs and GOs had fully utilized the local human capital as well as the indigenous social capitals for the executions of different activities.

Moreover, the findings of the study indicated that the victims were highly in need of the psycho-social support, the local communities morally supported the grieved ones, the orphans, the widows and the disabled in the form of lamenting over their losses and by having soft corners in their minds for the sufferers or by using multiple psycho-therapeutic techniques and soothing gestures. While coping with the vital challenge of the adjustments of the thousands of widows and orphans the respondents the disaster survivors had not only tried to manage the huge number of the orphans but also had adjusted the widows as well as the helpless and vulnerable virgins by marriages or re-marriages in order to re-establish their routine lives. Similarly, the local community has also made economic contributions in the form of loans, Zakat, Sadqat i.e. Alms and Donations. Besides, indigenous skills and instruments like Saw, Sickle and Hammers etc. were also used for the alleviation of panic of the disastrous communities. Similarly, majority of the respondents appreciated the role of family, religious and other traditional social institutions in the utilization of the existing traditional social capitals and social networks for coping with the disaster. The local communities reported that they rely on their neighbors, relatives and close friends whenever they are faced with the adversities.

In the same way, the study proved statistically that the survivor's attitude towards each other's is a significant impulse and motivation for response to disaster. Similarly, the attitude of the survivors indicated disaster resilience on the part of the survivors. Likewise, the spirit of

altruism in the community and unity of the survivors resulted in the vulnerability reduction at the time of emergency and overall disaster management. Similarly, the zeal of community participation in the disaster management had very good impact on the overall disaster management activities. Consequently, the study proved that it was the social organization and social milieu that has very good impact on the disaster vulnerability reduction and the utilization of indigenous knowledge and resources.

The study verified the validity of the Alan Kirschenbaum's "Organic Community Model for Disaster Survival", in the light of the findings of the research. Consequently, on the basis of the findings, the study recommended the utilization, strengthening and preservation of the existing social networks and social capitals for coping with the disasters in future, the bureaucratic disaster/ emergency management needs amalgamation with the traditional and indigenous management techniques for reaching to the effective and desirable results, training of the local community in accordance with the traditional helping mechanism in order to revive the true spirit of self help in a socially desirable and sustainable way, and the establishment of the new Balakot city as per the promises of the government, so that the people of the red zone could shift to a safer place and re-establish their routine lives.

My entire research work pertaining to the tragedy of the October 08, 2005 earthquake disaster aimed to highlight the impact of the survivor's participation on the disaster management. In fact the disaster is always a terrible event, it kills, give wounds, cut legs and hands, snatches shelters and helpers, disrupts the possessions and norms, poses multiple challenges for the survivors but still the deserted survivors stood firmly with a strong resolve for re-establishing the lives out of the rubble, although it was unbelievable but the resolve of the survivors was too strong to defeat every threat and challenge. On the one hand this bouncing back force (resilience)

of the survivors left phenomenal imprints on the history of disaster management but on the other hand it opened new windows in the field of disaster management. The disaster survivors are the front line responders and managers, they will no more be considered dispirited and apathetic persons looking for the outsider helpers. So, this work of mine is not about the impact of the earthquake disaster on the survivor's community, instead, it is about the impact of the survivor's community on the disaster, and this makes the difference.

5.8 RECOMMENDATIONS

On the basis of the detailed study conducted and the major findings of the research the following recommendation are concluded for further improvements and policy formulation on both the macro and micro level.

1. The main finding of the study focuses on the indigenous social capitals of the affected community. After the devastating and unfair jolts of the October 08 earthquake many INGOs and NGOs has focused their activities in the project area, these activates are mostly against the indigenous cultural setup and are replacing the traditional social capital with the formal social organizations and institutions. Hence, it is recommended that these organizations should highlight and utilize those traditional and cultural capitals that are already inherited to the present age society from their ancestors.

2. The bureaucratic disaster/ emergency management need amalgamation with the traditional and indigenous management techniques for reaching to the effective and desirable results.
3. The local community should be trained in accordance with the traditional helping mechanism in order to revive the true spirit of self help in a socially desirable and sustainable way.
4. The traditionally institutionalized informal emergency management mechanism is required formal and policy level institutionalization in order to maintain the faith and trust of the local communities in the bureaucratic setup.
5. The government should expedite the establishment of new Balakot city on the ground that Balakot has been declared a Red zone (Earthquake prone area due to its existence on the fault line); in order to satisfy the needs and miseries of the survivor's communities.
6. Encouragement of locally self help situations.
7. The local communities should come a step forward for helping their nears and dears.
8. Strengthening of the local social institutions by the traditional communities for creating stronger social cohesion, social networks and social capitals at the communities' level, this could eventually respond to any type of eventuality.
9. To enhance the resilience of the local communities, the government should introduce Community based disaster management or community based disaster risk management system.
10. At village and union council level community participation has been properly institutionalized under the umbrella of National Disaster Management Authority but yet it has not been properly interpreted and internalized on the ground. The government should implement

the policy in letter and spirit in order to ensure the pre and post disaster management activities on the gross root level.

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ANNEXURE # A

INTERVIEW

SCHEDULE

9. Was damaged caused to your home? a) Yes b) No

10. What type of human loss was caused to your family?

Human loss	Wounded	Handicapped	Dead	No loss

11. What type of damage was caused by the earthquake to your house? (Tick the appropriate box)

S #	Type of damage	Partial damage	Half damage	Fully damage	No damage
1	Building				
2	Agricultural land				
3	Livelihood source				
	Total Miscellaneous financial loss Rs.				

12. Did your family members participate in the emergency activities/ responded to disaster?

a) Yes b) No.

13. What was the extent of your participation in the disaster management at the time of emergency i.e. family level community level, village and tehsil or district level etc?

a) More at family level b) More at community level

c) More at Tehsil or District level

14. If responded to the disaster then how did you participate immediately after quake?
- Sounded the alert
 - Declaration of Emergency Evacuation
 - Medical Support
 - Search, rescue and relief operations
 - Openings of Evocation/ relief routes
 - Distributed food among the victims
 - Distribution of the Non food items (NFIs)
 - Removed the debris and provided shelter or safer place to the victims
 - Call for help from others
 - Buried the dead bodies after getting them out of the debris
 - Other if any _____
15. What was the ratio of local community participation in the disaster management in your opinion?
- 100%
 - More than 50%
 - Less than 50%
16. Who mostly removed the rubble from of damaged houses?
- By himself
 - By the communal help/neighbors / friends
 - By the GOs or NGOs
17. Who mostly buried the dead bodies?
- By himself
 - By the communal help/neighbors /friends
 - By the GOs or NGOs help
18. Who mostly evacuated the survivors to the safer places?
- By himself
 - By the communal help/ neighbors/friends
 - By the GOs or NGOs help
 - By himself, communal help GOs &NGOs
 - the outsider community

19. What did you do with the injured persons at the time of emergency?

- a) Provided local first aid to the minor injured
- b) Helped the seriously injured in shifting to the hospitals
- c) Psychologically soothed the injured

20. How the effected community contributed in the reconstruction & rehabilitation of these damages by their own selves?

S#	Post Disaster Damages	Damages that Reconstructed & Rehabilitated Through Community	Responses
	Damage to housing and buildings	Retrofitted the minor damages by himself By ERRA but did labor by themselves Financed by himself in addition to the ERRA's finances By communal help in the form of labor By direct donation of a community member By his own efforts By NGO partially Still living in the disastrous house or tent	
	Damage to livelihood (e.g., shops of small traders)	Self help bases Through the Skill imparted Contributions by GOs or NGOs Contribution by relatives and friends Still not rehabilitated	
	Damage to agriculture and animal husbandry (crops, fruit trees, livestock)	Self help bases Contributions by GOs or NGOs By local community, friends and neighbors Still not rehabilitated	
	Damage to services (educational, health, recreational facilities) and government buildings	Contributions by GOs or NGOs By local community Still not rehabilitated	

Restoration			
Medical care			
Water			
Toilet and Sanitation			
Food			
Relocation			
Psychological Counseling			

27. How the community managed the human sufferings?
- a) Managed the injured and buried the departed
 - b) Provided shelters
 - c) The Community did nothing
28. How the community managed the economic sufferings?
- a) Lend money to the relatives
 - b) Zakat, Sadqati.e Alms or donations
 - c) No contribution by the local community
29. How the community managed the Psycho-social sufferings?
- a) Shared each other's miseries
 - b) Honored the orphans and disables
 - c) The local community did nothing
 - d) Re-married the widows
 - e) Searched the missing ones
30. Was the community attitude workable in the emergency management?
- a) Yes workable
 - b) Somehow workable
 - c) Not workable
31. How the community prioritized their needs?

- a) Joint consensus
- b) With the help of NGOs and GOs
- c) With the help of community leaders
- d) Worked haphazardly according to one's ability

32. What was the intensity of the community participation at the time of emergency?

- a) Highly enthusiastic
- b) Less enthusiastic
- c) Unable to participate due to the psychological trauma

33. What kind of indigenous skills the community mostly had utilized in the entire course of emergency?

- a) Removed the rubble skillfully
- b) Skillfully buried the dead bodies
- c) Skillfully shared each other miseries/ panic

34. Which type of available instrument you or your family mostly used to help in the disaster management activities?

- a) Domestic agricultural instruments
- b) Agricultural machinery like Tractor etc
- c) Small Industrial equipments

35. How the attitude of community matters in the management?

- a) It motivates the community
- b) It makes the community disaster resilient
- c) It helps in the organization of the community
- d) it provides a coping attitude
- e) It gives relief to the community in the psychological trauma

36. Which of the resource/ social institute or organization is usually more workable at the time of adversity?

- a) Family institution
- b) Religious institution
- c) Economic institutions
- d) Political instruction

37. Were the natural resources open for use of the survivors?
- a) Yes b) No
38. Was there any role of the civil societies in facilitating the community participation?
- a) Yes b) No
39. If yes then how the civil society organizations urged the community for self help and social awareness?
- a) Through campaigns b) Through working by themselves
- c) Through financing d) Through community trainings
- e) Through providing physical items f) Through Community Organizations
40. Who opened the small routes/ streets of the villages?
- a) The local community jointly
- b) The local community, NGOs & NGOs
- c) The NGOs and GOs
- d) No one
41. Who opened the drainage channels of the villages?
- a) The local community jointly
- b) The local community, NGOs & NGOs
- c) The NGOs and GOs
- d) No one
42. Who opened the irrigation channels to the fields?
- a. The local community jointly
- b. The local community, NGOs & NGOs
- c. The NGOs and GOs

- d. No one
43. Who restored the potable water channels?
- a. The local community jointly
- b. The local community, NGOs & GOs
- c. The NGOs and GOs
- d. No one
44. Do you think disaster had disrupted the social structure of the society?
- a) Yes b) No
45. Do you think disaster had disrupted the routine social function of the society?
- a) Yes b) No
46. How the peoples recovered these structural and functional disruptions?
- a) By helping each others
- b) Waited for help from out side
- c) A new social structure and function of the society developed during emergency
- d) Both (a) and (b) and_____.
47. What type of social norms is usually practicing in your community when an adversity is faced by the entire community?
- a) Cooperative social norms b) Uncooperative social norms
48. The survivors united for solving each other problems?
- a) Yes b) No
49. Had you seen any spirit of altruism among the local community members?
- a) Yes b) No
50. Has the NGOs or GOs worked in your community?

a) Yes b) No

51. Had the community participated in the working of NGOs & GOs and other benefactors in the disaster management at all steps?

a) Yes b) No

52. Had the GOs and NGOs utilized the physical labor of the local community?

a) Yes b) No

53. What the displaced community was doing?

a) Setting idle and were waiting for outside's help

b) Working and helping according to their capacities

54. Who mobilized/ awakened and managed the community for self help?

a) The shock of the disaster b) The NGOs and GOs c) The community leaders

d) All of the above

55. Did the local community utilize their indigenous knowledge/ resources while catering with the disastrous situation?

a) Yes b) No

56. In your opinions which source had helped the most in the October 08, post-disaster management?

a) Government b) Civil Society organizations c) Local community or Volunteers

57. When you faced the adversities, to which you call first for help?

a) Government b) Civil Society organizations c) Family and Neighbors

d) Local community or Volunteers

58. Whose help do you think is more reliable when you are faced with the disasters?

a) Government b) Civil Society organizations

c) Local community or Volunteers d) Neighbors or relatives

59. What type of Psycho-social support the community provided more to the exasperated families during the disaster emergency?

There are some kinds of social support that can be provided to the victims:

(Tick the appropriate choices)

a• Material aid is a support by giving material to reduce victims' suffering.

b• Informational aid is clear information to reduce victims' suffering, confusion, fear and anxiety.

c• Psychological and/or emotional supports are those efforts given by helpers who empathize to victims' sufferings and grievances. Empathy and understanding of victims' suffering and grievances can reduce the victims' emotional distress.

d• Companionship is to giving support particularly important for victims experiencing emotional loss, helpless, and those with the tendency or have the experience of attempting suicide. Companionship is also needed by withdrawing victims whose minds are wandering.

e• Esteem support is support to achieve the meaning of life, very important for helpless victims who lost their esteem and self worth.

f• Religious and/or spiritual supports are prayers and also guidance to understand meanings behind experiences.

60. What type of emotional and psycho-social support you provided more to the grievous community in emergency?

(Explanation of the psycho-social support for common understanding)

SMEPPPA is an acronym of **Senyum**(smile), **Mendengar**(listening), **Empati**(empathy), **Peka**(sensitive), **Peduli**(care), **Pandaimemujidanmemilih kata bijak**(choice of wise word) and **Action**.

(Tick the appropriate choices)

- **Smile** is a symbol of social acceptance. However, smiling sometimes is not an easy job. More often one feels that one's heart is accepting but the face is not.
- **Listening** to others is also not easy. It has a function as a cathartic media. According to the theory of frustration-aggression being listened may reduce the potential to be aggressive.
- **Empathy** is to understand others' feelings. Sensitive is one's ability to identify signs and changes in others' conditions.
- **Care** is to raise a question on what one can do for victims.
- **Choice of wise words**, including praise giving is a media to educate others. One principle of classical conditioning theory is that behaviors producing reward tend to be repeated, while those leading to no reward or even punishment tend to be avoided. Praise has some positive effect that the one who is praised will focus one's behavior on those being praised. Wise words are those consoling and not agitating, may encourage the victims to strengthen their efforts for living.
- **Action**, Thomas Alva Edison emphasizes that positive behaviors should become one's habit in one's life.

61. Who shared each other grief the most?

- a) Local community
- b) Relatives
- c) Outsider community, NGOs and GOs

62. Who helped the sufferers in recovering emotional and psychological distress?
- a) Local community
 - b) Relatives
 - c) Outsider community, NGOs and GOs
63. Which type of damage do you think more serious at the time of emergency?
- a) Buildings b) Human loss c) Loss of social structure and order
 - d) Loss of assets and resources e) psychosomatic sufferings
64. Had the local community got some past experiences of facing disasters?
- a) Yes b) No
65. Had your ancestors ever talked about any memorable disaster experience in the past like wars (War of Syed Ahmad Shaheed etc.), floods, famine etc.?
- a) Yes b) No
66. Do you think the peoples have socially adopted in their lives the harsh, cold and mountainous life as a result of the experiences of their ancestors?
- a) Yes b) No
67. Had the survivors benefitted from their past experiences?
- a) Yes b) No
68. How the local community utilized the experiences of their ancestors?
- a) In building the houses
 - b) In working together
 - c) In helping each others
 - d) In sacrifices for each others
 - e) In donations to the sufferers

- f) In sharing grief of each others
- g) In managing the dead and wounded
- h) In rehabilitation of the social and physical infrastructure
- i) In removing the rubbles
- j) In providing relief to the widows and orphans

69. Had the widows remarried?

- a) Yes b) No

70. Had the orphans adopted by some one?

- a) Yes b) No

71. Have the people got any experience pertaining to the social adoptions of the consequences of Oct, 2005 disaster?

- a) Yes b) No

72. How much was/is your community involvement after the October 08 earthquake?

MEASURES OF COMMUNITY INVOLVEMENT	MEASURES	RESPONSES “YES OR NO”
	Know most of your neighbors	
	Neighbor rush to help at the time of adversity	
	When request, neighbors help	
	Neighborly relations are good	
	Neighbor’s involvement is good in general gatherings, community centers etc	
	Active in neighborhood watch	
	Active in community committee	

	Family members live close by in the neighborhood	
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73. What major problems in your opinions the community faced the most after the earthquake?

(Tick the appropriate choices or write down if you think other than these)

- a) Psychological trauma
- b) Failed communication system with each other
- c) Roads and routes were blocked
- d) The people were haphazardly working
- e) The aftershocks after the earthquake
- f) Removing the huge debris from the dead bodies and its burial & funeral
- g) Removing the debris from the wounded
- h) The thievery of valuable from the sufferer's families
- i) Shortage of food items and potable water
- j) Lack of first aid facilities
- k) Lack of safer shelter for the victims
- l) Cold weather and the holy month of Ramadan
- m) Loss of valuable lives and property
- n) Search and rescue operation without proper training and instruments
- o) Other _____

74. Who had major role in the solving of these problems?

- a) Local community volunteers (Family, Neighborhood, villagers)
- b) NGOs and GOs

a) Mostly physical labor b) Mostly NFIs and FIs

c) Mostly technical support d) Donations

a) Indigenous groups b) Outsiders c. Both

a) Indigenous b) Modern c. Both

a) Yes b) No

a) Yes b) No

a) Yes b) No

a) Yes b) No

a) Self interests based attitude

c) A frustration/curse, misery and disappointments

83. What was the response of your'sSocial web/ social net work at the time of adversity?

	Networking component	Supply	Skill	Planning	Protection
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SOCIAL STRENGTH OF DISASTER COMMUNITY	Family based disaster community	Family Based Networks family members live nearby frequently visit family members contact family by telephone good family relation				
	Micro-Neighborhood disaster community	Micro-Neighborhood Networks Familiar with neighbors Neighbor are helpful Good relations between neighbors				
	Macro-Service based disaster community	Macro-community Networks Active in community gatherings or centers Active in neighborhood watch Active in neighborhood committees etc				

84. Do you think your community is disaster resilient?

a) Yes b) No

85. Is there any social organization established for the management of the disaster after the October08 earthquake by the community?

a) Yes b) No

86. The attitude of the local community showed resilience while coping with the disaster?

a) Yes b) No

87. Do you think that disaster management at community level should be incorporated in the institutional structure of the governmental/ bureaucratic management?

a) Yes b) No

88. Do you think or suggest that the local community may necessarily be trained by the GOs for any sort of disasters all over the country i.e Natural or Manmade disasters?

a) Yes b) No

89. What are you suggesting for the strong and coherent participation of the community while coping with any type of disasters in future? Or what can make the community a resilient one for effective participation in the disastrous situation?

90. Do you think now the community has been fully recovered/ rehabilitated?

a) Yes b) No

91. Is the community planning for pre disaster measure on the basis of the post disaster experiences or Education they got for the upcoming/ future disasters?

a) Yes b) No

92. Do you consider it necessary that disaster management cell, ERRA, NDMA, civil defense and all other line departments lying in the area may be trained to cope with the disasters in a united way?

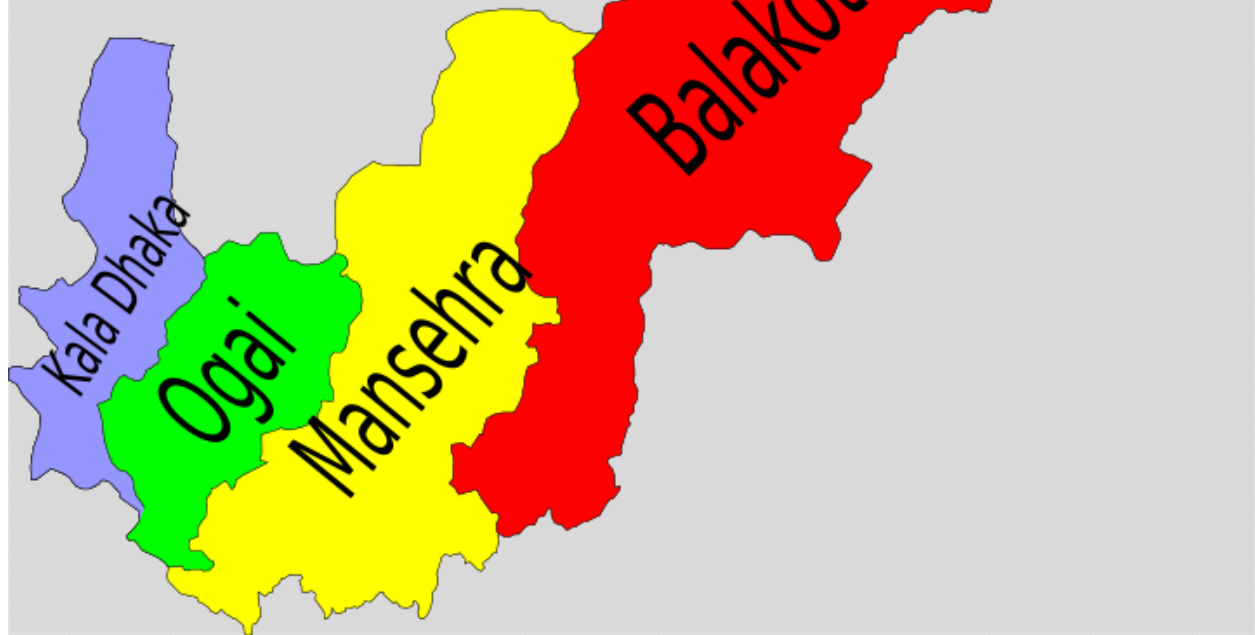
a) Yes b) No

ANNEXURE # B

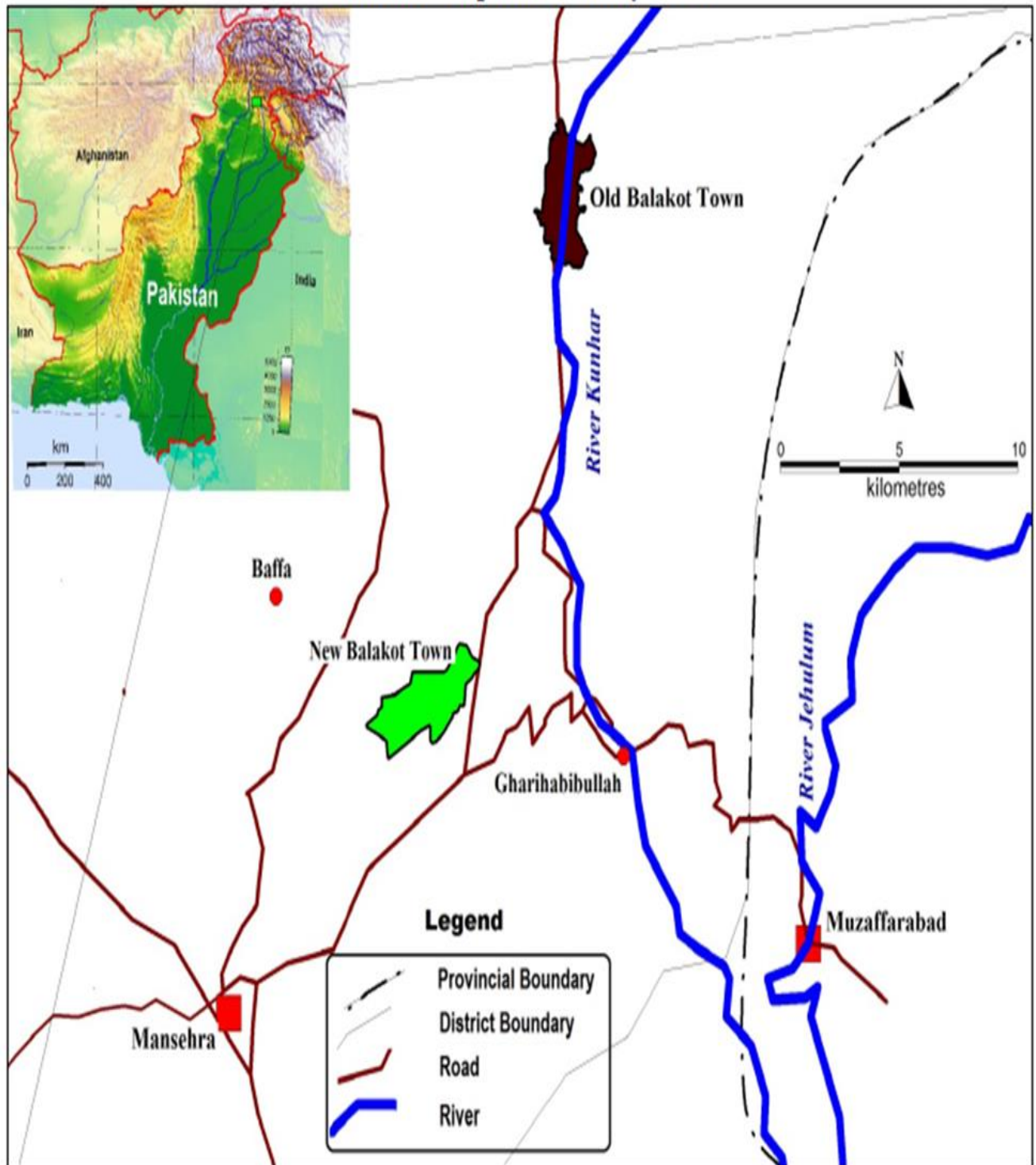
MAPS OF DISTRICT

MANSEHRA

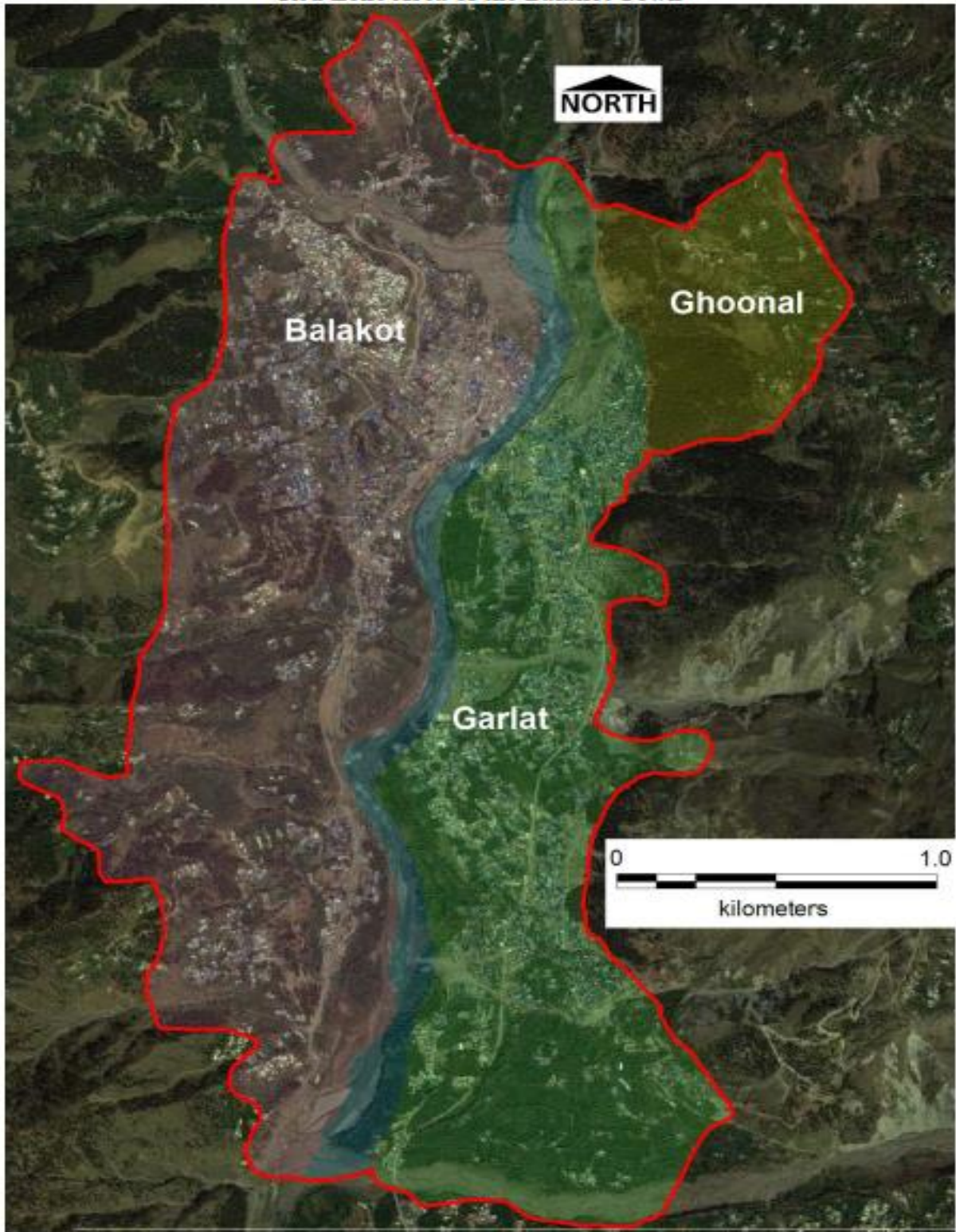
Sub Divisions of Mansehra District



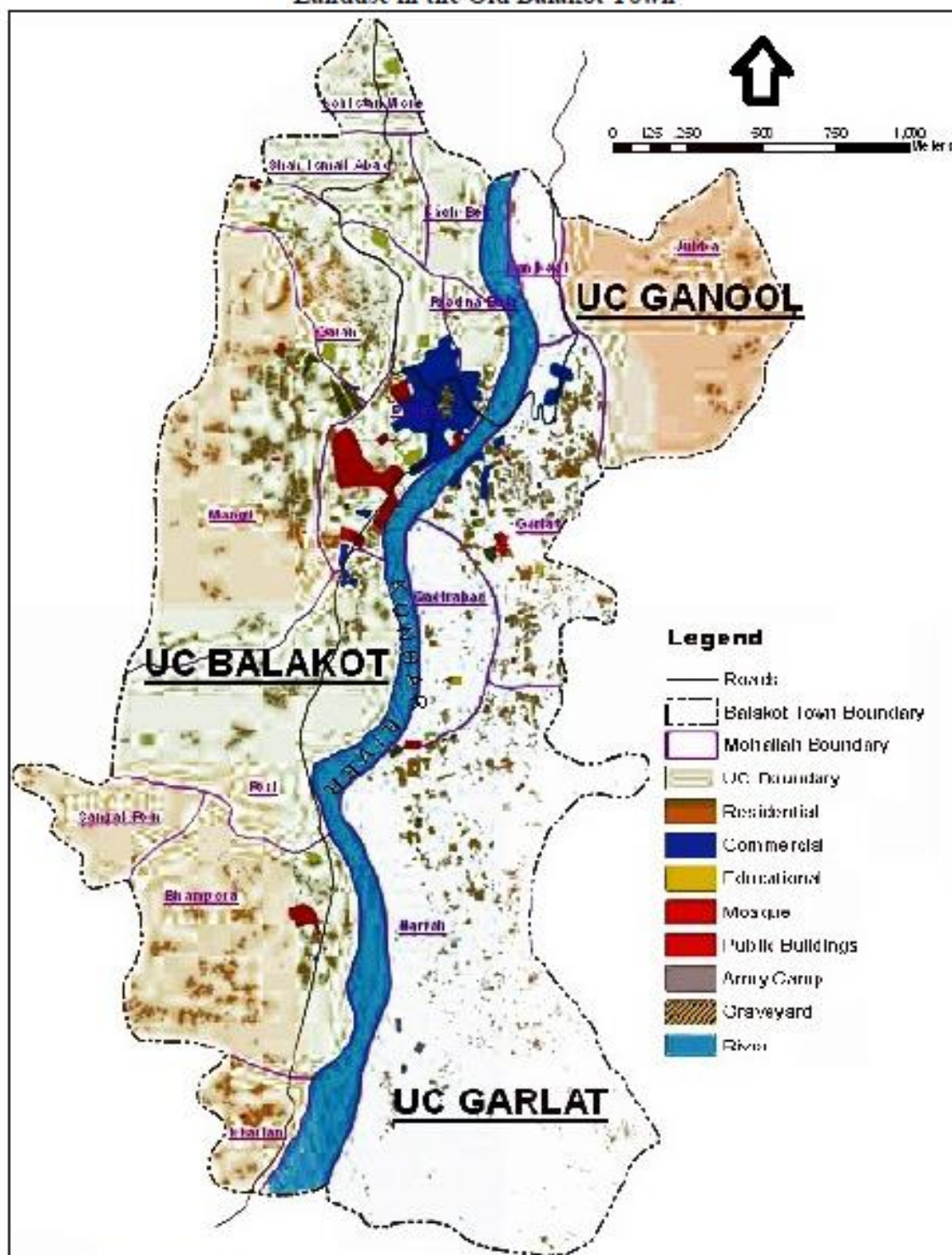
Location Map of the Study Area



Red Zone Area of the Balakot Town

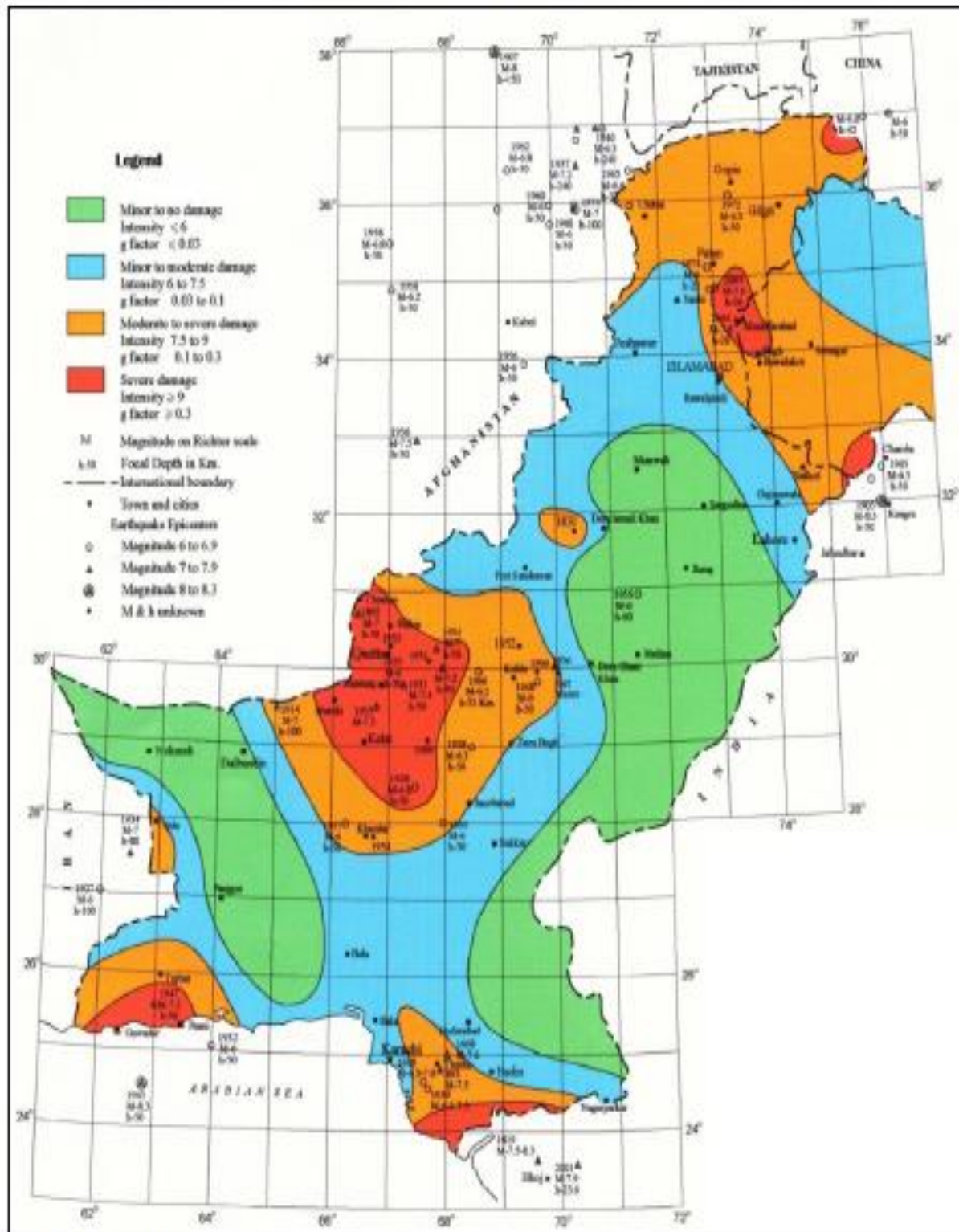


Landuse in the Old Balakot Town



Source: NESPAK, 2007

Seismic Hazards Zones of Pakistan



Source: GSP, 2006

