

**DISASTER RELIEF AND SOCIAL EXCLUSION:
A CASE STUDY OF MAYNAGURI, WEST BENGAL**

*Dissertation submitted to the Jawaharlal Nehru University
in partial fulfilment of requirements
for the award of the degree of*

MASTER OF PHILOSOPHY

SUPANA BAGDAS



Centre for the Study of Social Exclusion and Inclusive Policy

School of Social Science

Jawaharlal Nehru University

New Delhi

2018



सामाजिक अपवर्जन तथा समावेशी नीति अध्ययन केन्द्र
Centre for the Study of Social Exclusion and Inclusive Policy (CSSEIP)
सामाजिक विज्ञान संस्थान / School of Social Sciences
जवाहरलाल नेहरू विश्वविद्यालय / Jawaharlal Nehru University
नई दिल्ली-११००६७, भारत / New Delhi - 110 067, India

Date: 23.07.18

DECLARATION

I, Supana Bagdas, hereby declare that the dissertation titled "*Disaster Relief and Social Exclusion: A Case Study of Maynaguri, West Bengal*" submitted by me under the supervision of Dr. Kaustav Banerjee in partial fulfilment for the award of the Degree of Master of Philosophy is my original work and has not been previously submitted for any other degree of this University or any other University.

Supana Bagdas
Supana Bagdas

CERTIFICATE

We recommend that this dissertation be placed before the examiners for evaluation.

Kaustav Banerjee
Supervisor

(Dr. Kaustav Banerjee)

सहायक प्राध्यापक / Assistant Professor
सामाजिक अपवर्जन तथा समावेशी नीति अध्ययन केन्द्र
Centre for the Study of Social Exclusion and Inclusive Policy
सामाजिक विज्ञान संस्थान / School of Social Sciences
जवाहरलाल नेहरू विश्वविद्यालय / Jawaharlal Nehru University
नई दिल्ली-११००६७ / New Delhi - 110 067



Y. Chinna Rao
Chairperson

(Prof. Y. Chinna Rao)

अध्यक्ष / Chairperson
सामाजिक अपवर्जन तथा समावेशी नीति अध्ययन केन्द्र
Centre for the Study of Social Exclusion and Inclusive Policy
सामाजिक विज्ञान संस्थान / School of Social Sciences
जवाहरलाल नेहरू विश्वविद्यालय / Jawaharlal Nehru University
नई दिल्ली-११००६७ / New Delhi - 110 067



ACKNOWLEDGEMENT

*I owe a deep sense of gratitude to my supervisor **DR. KAUSTAV BANERJEE** for his supervision, scholarly comments and insight at various stage of my dissertation. He was so patience, despite my repeated mistakes. His enthusiasm as a supervisor was a source of inspiration for me. I also acknowledge my gratitude to the chairperson of the Centre for the Study of Social Exclusion and Inclusive Policy, **PROF. YAGATI CHINNA RAO**, other faculty members and office staff.*

*I am immensely thankful to family **Ama, Baba and bhai, Arpan** for their affection, care and encouragement. Thank you for always being there for me.*

My special thanks to Anjana, Akanksha, Rashmi for their extra effort in formatting my work. They have given their valuable time for my research. I would also thank my friends Ananga, Rajwant, Pragya, Afiya and Pallavi, who have all been supporting me. I would like to extend my gratitude to all of them for helping me completing my work.

Beside all this my heartfelt appreciation goes to all my interviewees who took time out of their busy schedules for participating in this research.

Having been privileged in receiving such love and support, I own responsibility for all the errors and omissions that might have crept in the work.

Supana Bagdas

CONTENT

	Page No.
Chapter .1 Introduction	1-23
Chapter .2 Theoretical Framework	24-42
Chapter .3 Global trends in disaster and disaster management policies in India	43-53
Chapter .4 Field Experiences: Gender inequality and social exclusion in disaster	54-75
Chapter .5 Conclusion	76-82
Bibliography	83-92
Appendix I	93-98
Appendix II	99-102

APPENDIX I

Table I.1 Maynaguri Block Data

Table I.2 G. P Wise Population with Households

Table I.3 Religion-Wise Population - Maynaguri Block

Table I.4 Urban/Rural Population - Maynaguri Block

Table I.5 Working Population - Maynaguri Block

Table I.6 Demographic Details

Table I.7 Household Details

Table I.8 Risk/ Vulnerability Assessment of Maynaguri Block

APPENDIX II

Figure II.1: Government vehicle after flood

Figure II.2: Men making house after

Figure II.3: River Side – Mayanaguri Flood

Figure II.4: Rescue Boats

Figure II.5: Relief material – Tarpaulin Distribution

Figure II.6: Relief distribution – A group of men

Figure II.7: Food cooked in the camps

APPENDIX III

Pie Chart 4.1 Caste of the respondents

Pie Chart 4.2 Education level of the respondents

Pie Chart 4.3 Occupation of the respondent

Pie Chart 4.4 Type of houses of the respondents

Pie Chart 4.5 Women's participation in pre-flood situation

Graph 4.6 Early warning system

Pie Chart 4.7 Women's participation in post flood activities.

Pie Chart 4.8 Time spend by women in work before flood in hours

Pie Chart 4.9 Time spend by women during flood in hours

Pie Chart 4.10 Time spend by women in no. of hours post flood

ABBREVIATIONS

CCP	Community Contingency Plan
DMA	Disaster Management Act
DRR	Disaster Risk Reduction
EWS	Early Warning Systems
FEMA	The Federal Emergency Management Agency
ICRC	International Committee of Red Cross
IDNDR	International Decade for Natural Disaster Reduction
IDNDR	International Decade for Natural Reduction
ISDR	International Strategy for Disaster Reduction
NCMC	National Crisis Management Committee
NDMA	National Disaster Management Authority
NDRF	National Disaster Response Force
NEC	National Executive Committee
NGOs	Non-Government Organisations
SDGS	Sustainable Development Goals
U.N	United Nations
UNCOP21	United Nations Climate Change Conference
UNDP	The United National Development Programme
UNDRO	United Nation Disaster Relief Office
UNEP	United Nations Environment Programme
UNITAR	United Nations Institute for Training and Research
WECD	World Commission on Environment and Development
WHO	World Health Organization

CHAPTER 1

INTRODUCTION

Disaster is a devastating event which have unfortunately become a reality of our times . There is certain normalisation regarding loss and damage in the society today. A series of events which brings about massive damage , loss and destruction to life and property. In this study an attempt has been made to bring into light the discussions around the disasters and other related issues, which are of immense importance in the human society. When we bring into discussions, we will equally focus on the aspect of management during natural hazards with specific reference to floods. Floods which are common phenomena in many regions of India and floods in those specific regions every year bring massive havoc on the human lives. So in such a scenario, it becomes imperative for us to highlight the role that state plays in dealing with the mitigation of floods. The underlying attempt would also focus on the vulnerable groups during floods, how they deal during floods and difficulties that they face.

The society has always been divided on the lines of class, caste, race, ethnicity, religion and gender. All these existing problems get accentuated when a disaster strikes. Ideally in any such calamity, the fractions of the society should have become one without any discrimination for the sake of humanity. But this is just an illusion. In fact during any natural calamity the vulnerable becomes more vulnerable and to add to the previously entrenched hierarchies there is a vulnerable group among the vulnerable. There are different institutions whether it is the role of state, the patriarchal mind set, the hegemony of the dominant or any social parameter- all these leads to marginalisation of some section or groups of the society. In the study of natural disasters using a social exclusion perspective not only leads to uncovering of the sufferings faced by the marginalised but also challenges the societal institutions responsible for malfunctioning and causing the actual hazard in the real sense. Social exclusion focuses on individuals and groups who are left out from the mainstream society. According to Sen (2000) social exclusion is practised when a particular groups are denied equal opportunities or prevented from having access to, what is available to other groups. Thus certain groups are prevented from utilising their ability as compared to others. In turn they are also excluded from their

participation in the basic political, economic and social functioning of the society. Human society i.e. a vital one for the survival of individuals, however if this vital society becomes closed or unfavourable for certain marginalised groups, it would certainly lead to their cut-off from the whole society causing threat to their survival. Sen puts forward two main argument of social exclusion i.e. deprivation is multi-dimensional and second social exclusion is embedded in societal relation and societal institution. Thus this accounts to two main situations of exclusion. People are either kept out (unfavourable exclusion) or people are included in highly unfavourable terms (unfavourable inclusion).He further argues how social exclusion has provided for analytical tools to make a comprehensive understanding of the complex realities, like that of a disaster situation. Sen further explains the process of social exclusion as active and passive exclusion, whereby active social exclusion incorporates an intentional policy by the state or any of its agencies. According to him passive social exclusion is not deliberate attempt to exclude but in the process results in exclusion of some form or the other. Similarly in disaster relief and rehabilitation there is active as well as passive forms of exclusion seen, how certain groups or individuals are excluded in the times of emergency. deHaan describes the definition of social exclusion from the European foundation and he says that social exclusion is the process whereby some groups are wholly or partially prevented from realizing their participation in the society in which they are living (deHaan and Maxwell,1998).

France has been the place of origin of the term ‘social exclusion’, from France it has been spread to other parts of the world. Like in United Kingdom it emerged with the New Labour Party and now International Institute for Labour studies has been instrumental in bringing the term to the developing countries of the world.

deHaan(1998) draws the definition of social exclusion from the French perspective that social exclusion is as a rupture of social bonds. The whole debate of social exclusion bringing a new dimension to the study of the marginalised in the developing countries is questioned by deHaan as on how this perspective would be applicable in the developing countries like it has been evolved in the developed regions of the world. He further proceeds to question, as to how these will be in tandem with the concepts like poverty,

vulnerability, entitlement and towards more new concepts like social capital. Thus, this perspective does bring a new anchor to the study of the marginalised in the developing countries like India. The whole process and the mechanisms that exclude people have been incorporated under the concept. The focus is on institutions that enable and constrain human interaction (deHaan, 1998).

deHaan(1998), highlights about the work done by Rene Lenoir, wherein Lenoir brings into light the term 'Exclus'. Lenoir categorises excluded as those people who were excluded not only from employment which are based on social security systems, but also people who were mentally and physically unfit, people with suicidal tendencies and any such history, old age people, exploited children. All these categories of people were considered as the "social misfits", in the French society. deHaan argues that these sections of the people in total accounted for around ten percent of the French population at that particular time. With passage of time the term became much more popular and especially during 1980s. And as a result in 1995, ministry for integrating these sections of the population and reducing social exclusion was set up.

According to Silver (1995), there are various dimensions along which people can be excluded and these may vary from the very basic need of livelihood, they might not have access to permanent and secure employment. Even the excluded will have very lower levels of consumption levels, in addition with their lower levels of education. Excluded will be debarred from the domain of the property, credit, land and even they face inequality in citizenship. Those excluded will have no access to public goods. Thus she points at the broader perspective of the social exclusion, and the wider domain from which people face exclusion.

Initially the debates around social exclusion mainly focussed with its relation with poverty. Large number of authors defined poverty as an essential element of social exclusion or the term which could be used as a replacement for social exclusion. Social exclusion is also defined as the opposite of social integration (deHaan,1998). But the term social exclusion is not just restricted to resource allocation processes, but includes power relations, agency, culture and social identity.

Amartya Sen explains how poverty is simply defined as the shortage of income as explained by ancient norm. But the new literature on social exclusion throws light on various dimensions of poverty and capability deprivations. According to Sen (2000) the discussions around the social exclusion has been further pursued within the larger area of studies of poverty, which is been deemed as capability deprivation. He argues critically if there are any new insights to social problems using an approach of social exclusion and how the new field has enhanced in identifying causes of poverty, which could have been ignored. So he has emphasized the importance of paying attention to impoverished lives and not simply focussing on 'Depleted wallets'.

According to Aristotelian perspective an impoverished life includes a life which is without freedom, which allows individuals to choose the activities that they want to pursue. Similarly Adam Smith also places the "necessaries" of life in the realm of their effects on the freedom to have a life which is without any restriction to live non impoverished lives. He provides an example, like person's ability to appear freely in the public without any feeling of shame in them. This points to the importance of taking part in everyday life. Thus exclusion from the social relations does deprive a person from other living opportunities.

Smith also laid emphasis on the relational deprivations, which would result in impoverishing human lives in an absolute manner. For example the custom in England to wear leather shoes, points to the fact how a poor would be shameful to come into public without leather shoes. Sen cites an example of exclusion, the opportunity to be employed or to receive credit leads to economic impoverishment which further leads to undernourishment and homelessness. In the whole process social exclusion translates into a capability failure and which can further result in the diverse forms of capability failures (Sen: 2000).

Charles gore also emphasizes how social exclusion would be very much prevented if the focus is shifted from excessively individualistic social view to welfarist view of social advantage.

Poverty incorporates two dimensions, one is material and other is non material dimensions. Many only look into the material aspect of poverty. Social exclusion embeds the non material dimension of poverty, wherein the poor are excluded from their participation and access to opportunities and thus groups become marginalized. This non material aspect needs to be recognised and addressed in social exclusion. The social exclusion perspective offers useful insights for policy and diagnostics. His emphasis is on the fact that the determining factor of deprivations is not what people will withhold but what are factors that is enabling them to withhold.

deHaan says social exclusion concept in many ways is an advantage over other conceptualisations as it looks into the problem as a whole. It departs from seeing deprivation as 'Individual attributes' but emphasizes on the societal conditions and institutions taking into the account of actors causing deprivation (deHaan,1998).

Silver says the concept of social exclusion is divided into three different paradigms which in Kuhn's words is called multi paradigmatic. These three paradigms have different conception of integration and citizenship dealing with exclusion differently. The paradigms are-

Solidarity paradigm- such paradigm is dominant in France which basically lays emphasis on cultural and moral aspects rather on the economic aspect. Deviant outsiders are term used for the poor, those who are unemployed and are ethnic minorities. There is breakdown in the social bond between the individual and the society which leads to social exclusion.

Specialisation paradigm-exclusion is a natural consequence of the differentiation processes dominant in UK. The society is highly individualistic that leads to social exclusion.

Monopoly paradigm-this paradigm sees exclusion as a consequence of the formation of group monopolies. The excluded are the ones who do not possess material resources, social power and respect. This paradigm is dominant in continental Europe (Silver, 1995).

According to Arjan deHaan, Silver's definitions depend on the processes of social integration and how it has been conceptualised. Silver's approach plays a pivotal role in contextualising and understanding debates which surrounds deprivations. Important role in Silver's paradigms are heuristic devices, ways of looking at reality rather than reality itself (deHaan, 1998).

Looking at disaster study in the realm of social exclusion does highlight exclusionary practices and ways by which the vulnerable groups become the worst affected among all.

According to Chambers (1989), vulnerability should not be at all synonyms for poverty. But, he argues that vulnerability includes insecurities, without any shield and has exposure to risk and shocks. Thus the whole scenario magnifies the state of powerlessness of the marginalised in disaster situations.

OBJECTIVES OF THE STUDY

- To examine the vulnerability of people living in flood prone area and its differential impact on them.
- To identify the processes of marginalization during flood and to examine the relief response made by the state for the people.
- To identify the probable strategies which can enhance the better management of disaster related issues, with specific consideration on equity and inclusion.

HYPOTHESES

- The action of state itself creates conditions that impacts people's vulnerability to floods.
- Disaster relief and management give coping mechanisms to people rather than providing ways for risk reduction.

RESEARCH QUESTIONS

- How do we contextualize disaster in the wider social, political and economic setting of the social system?

- How does government policies and practices shape, alleviate or aggravate the vulnerability of the people?
- How disaster is able to magnify the problems of social exclusion?

RESEARCH METHODS

In order to determine the area of study keeping in mind the nature of the problem, I have used case studies from the field. Interaction with people in their natural surroundings and observing them over a period of time is the main focus of any fieldwork. It is an intensive data collection method. The classical notion of fieldwork is derived from Bronislaw Malinowski (1922). Also Franz Boas (1920) has popularized fieldwork as an important part of data collection. But they both have laid the context of fieldwork to study the “other culture”. Though over time, the character of fieldwork has undergone tremendous changes. It has moved to studying one’s own culture and incorporates multi-sited research producing works that are sensitive to contesting perspectives on reality (Clifford and Marcus 1986).

Case study further makes fieldwork study more systematic and precise, as the process not only incorporates collecting information about groups or a particular person but also different social setting. This in turn enhances the complete understanding and the functioning of the underlying issues concern. Case study thus in my research becomes the most effective way of understanding the problem as it ranges significantly from general field studies to the interview of individuals. According to Yin (1994) and Winston (1990) exploratory case studies provides a prelude to a large social scientific study. Exploratory research is flexible and is able to address all types of research questions (why, how, what).

What makes case study more relevant and an effective tool for research is its method of participant observation and in-depth interviews. The classical British anthropology and Chicago school of sociology draws the attention of participant observation being one of the fundamental tools in studying people’s behaviour in the natural setting. During the research I participated in the daily life of the informants in their natural settings in order

to understand their interpretation and daily activities. This from the classical notion fills the gap between what people think, do and say.

The study adopted participatory observation; semi-structured, open-ended interview methods with individuals. A sample size of 40 was selected by snow-ball sampling method. The research consists of informal and semi-structured interviews. Interviews began with open-ended questions (mostly general questions) essential for developing rapport with the subjects.

Tools and Techniques

In depth interview: In depth interview were carried out with selected respondent.

Focus Group Discussion: Focus Group discussions were done with women.

Sources of Data- In order to achieve the research objectives, data were collected from both the primary and secondary sources.

The primary data were mainly gathered from the case studies and also through observation and interviews while the secondary sources consisted of a review and analysis of various official documents, statistics, reports, books, journals, articles and other information sources on disaster management.

DISASTER TERMINOLOGY

According to United Nations definition of Disaster, it comprises a major misfortune which can disrupt the basic functioning of the day to day life in a society. When it occurs it brings casualty not only to the human lives but also to the infrastructures, property but the normal functioning of the society also comes to a halt. The term disaster draws its origin from the Greek Mythology which refers to a bad star. In simple words disaster has meaning in something tragedy of nature or anthropogenic hazard¹ which causes destruction in the normal functioning of the society and its environment. Here not all adverse events (i.e. hazards) are disasters, only those

¹ Anthropogenic disaster: Disasters are of two types-natural and manmade. Anthropogenic hazard are one of the disasters that are manmade disasters caused due to human negligence.

hazards which overpowers a particular community or a nation or society's response capacity are termed as disaster.

The word disaster also has an old medieval French connection with the word "desastre" meaning misfortune, calamity and misadventure; and also an Italian connection with the word "disastro" meaning mischance and ill luck.

Today disasters are known to be life changing events affecting people, property and environment. Therefore as a concept, it is studied and researched by people from multitude and disciplines from environmental science to psychology, geological science to public policy, demographers to sociologists. This might be the reason that a precise definition of disaster has not been an easy task.

The Indian Disaster Management Act, 2005 defines disaster as - a catastrophe, mishap, calamity or grave occurrence in any area, arising from natural or manmade causes or by accident or negligence which results in substantial loss of life or human suffering or damage to and destruction of property, or damage and degradation of, environment, and is of such a nature or magnitude as to be beyond the coping capacity of the community of the affected area.

The World Health Organization has expanded the meaning of disaster by defining it as - any occurrence that causes damages, economic destruction, loss of human life and deterioration in health and health services on a scale sufficient to warrant, extra-ordinary response from outside the affected community area.

The UNDP defines disaster - as an event or series of events, which gives rise to casualties and damage or loss of properties, infrastructures, environment, essential services or means of livelihood on such a scale which is beyond the normal capacity of the affected community to cope with.

Since the extent of damage from a disasters is immeasurable and varies with the geographical locations, climate and the type of the earth surface and degree of vulnerability. The damage thus depends on the impact, intensity and characteristics of the phenomena and how people, environment and infrastructure

are affected by that phenomenon . This influences the mental, socio-economic, political and cultural state of the affected area and its people. The effects of a disaster generally can be in the concerned areas – it completely disrupts the normal functioning of the society , it disrupts and deteriorates normal needs and process like food , shelter health etc and overall it also negatively influences the relief and emergency systems.

Disaster encompasses a high degree of risk to the society. Risk is a measure of the expected losses due to hazardous event of a particular magnitude occurring in a given area over a specific time . Risk is a function of the probability of particular occurrences and the losses each would cause. The level of risk depends upon nature of the hazard , vulnerability of elements, which are affected and the economic value of those elements.

HAZARD AND VULNERABILITY

With disaster comes vulnerability and hazard. Hazards can be both natural and manmade .A natural hazard threatens human lives and also results in the loss of economic assets. (*Disaster preparedness Training Manual, Philippine National Red Cross, 1994*). A natural hazard consists “ to a natural phenomenon which occurs in proximity and pose a threat to people, structures and economic assets caused by biological seismic, hydrological or metrological conditions or process in the natural environment”. There are four basic type of hazardous events that put societies at risk -

- A) First one is natural and embedded in nature like the earthquakes, avalanches in mountainous regions, droughts, floods and landslides.
- B) Second, is that which is caused by violence, especially during war, armed conflict and physical assault.
- C) Under the third category comes in those hazards, which is caused by the human negligence, deteriorating health.
- D) Under the last categorization come those which were based in failures of the industrialized society, ranging from technological failures to oil spilling and explosions in the factories to gas leakages.

Vulnerability is defined as “the extent to which a community , structure , service ,or geographic area is likely to be damaged or disrupted by the impact of particular hazard , on account of their nature , construction and proximity to hazardous terrain or a disaster prone area.

The following illustrates numbers of potential threats and the elements at risk.

Sl. No.	HAZARD	WHAT IS AT RISK
1.	Landslides	Anything located on at the base of steep slopes or cliff tops, roads and infrastructure, building on shallow foundation, human lives, crops and vegetation
2.	Floods	Everything located in flood plains crops, livestock machinery, equipment, infrastructure, weak building their contents, people local economy
3.	Earthquakes	Weak building, their occupants and contents. Machinery, equipment, infrastructure, human lives.
4.	Volcanic Eruption	Anything close to volcano, crops, livestock, people, combustible roofs, water supply.

TYPES OF VULNERABILITY

Physical Vulnerability relates to the physical location of people and elements at risk , buildings , infrastructure etc, and their proximity to the hazard for example people are only vulnerable to a flood because they live in a flood prone area . Physical vulnerability also relates to the technical capacity of buildings and structures to resist the forces acting upon them during a hazard event.

Socio – Economic Vulnerability, The recent perceptions of vulnerability indicate that the degree to which a population is affected by a calamity will not purely lie in the

physical components of vulnerability but also has a contextual realization to the prevailing social and economic conditions. The impact of a disaster is determined by the event, its effects on people and their environment, as well as its consequential effect on human activities within a given society.

Vulnerability : Choice and Recovery

Physical vulnerability is as much a function of location and exposure to a hazard as to the physical performance of buildings and structures. Yet because of socio-economic factors some sections of society have more choices as to where they live and what assistance they receive in a disaster. Thus it is often the case that the poorest are more often related to capacity. The capacity to recover will depend on income levels, savings, social support systems etc.

Recent Trends: Shift From Disaster RESPONSE TO Disaster PREPAREDNESS

UNDRO (United Nation Disaster Relief Office) defines disaster preparedness, as elongated measures in order to provide and facilitate timely and effective rescue for people and reduce the number of casualties during any disaster and also in its definition includes the rehabilitation operations during disaster. There are various measures which can be taken into account during disaster ranging from giving training to setting up of various relief measures.

To deal with the aftermath of disasters, two actions are usually taken like evacuations and warnings, along with the rescue and the assistance in medical cases. Then comes another step in disaster management, which is the phase of the reconstructions and rehabilitations. In these processes government plays a crucial role.

The UN – General Assembly Resolution 234 of 1989 launched the International Decade for Natural Reduction (IDNDR 1990–2000) emphasized the need to focus on the preparedness rather than being focussed on relief and rescue. Overtime it has been observed how the damage can be minimized, with some preparedness and such preparedness includes a comprehensive preparedness plan which includes an early warning system. Along with preparedness one needs to be considerate of the vulnerable

communities during disaster, as it also consist an essential component of the preparedness. As preparedness not only saves precious lives but also reduces economic losses. Thus such comprehensive planning makes a huge difference in casualties in many ways. Those people or communities who undertakes the necessary precautionary and mitigation measures is far better equipped to deal with the situation and resume normal functioning at a much faster pace.

It may seem paradoxical but true that along with development, disaster also follows. The worst affected by these are the weakest sections of the society and the poorest of the society, especially in the developing countries of the world. The vulnerable groups are the poorest and the weakest sections of the society when affected by the disaster. Disaster preparedness accordingly assumes much greater urgency.

In the recent times it is witnessed that a meagre amount which goes into the disaster preparedness can make a huge difference in saving the lives of the people along the economic assets and also reduces the burden of the relief assistance.

Therefore it becomes imperative for the world community to emphasize more on exploring on the different means and ways to mitigate the disaster impact. And in this task it becomes so very important to look into the aspect of environmental degradation by men also. The interrelationship between men and environment has to be explored while preparing comprehensive strategies. Well no matter how many number of measures are on place ,one cannot stop a natural hazard from occurring, like the earthquake or cyclone couldn't be stopped .But preventive measures certainly makes a huge difference on minimizing the impact of disaster on human life, properties both public and private and even environment.

DISASTER MANAGEMENT

An empirical aspect of understanding and facing disaster is understood as the management of disaster or disaster management.

Disaster relief and preparedness needs to inculcate the training police, collaboration between service providers and communities. Disaster is everybody's business so it should

concern everybody. It is a reality of powerlessness. Therefore unless the people in position feel the empathy, then only there can be something done. Disaster Management needs to be people centric - people should be the central concern giving them equal participation in the whole act of management.

One of the most developed countries in the world also witnessed a complete failure of the state machinery in management of the disaster like Hurricane Katrina. In spite of the fact that many people acted bravely during disaster, for instance, the coast guard, was able to save lives of around 34,000 people in New Orleans alone etc yet the federal govt seemed unprepared for the disaster. Katrina gave a blow in the developed country's action for unpreparedness during disaster. FEMA (The Federal Emergency Management Agency) was in a position to establish its relief operations only after some days not immediately and what came to light was that after that also the plan with which it came out did not convince many.

Nevertheless disaster management does consist of various stages as follows-

The Disaster Management cycle

There are three key stages of activity within disaster management:

1. Pre-disaster stage- the pre disaster stage involves reducing the potential for environmental and human losses caused by disaster. It further ensures to minimize such losses when the disaster actually strikes.
2. During a disaster- this stage would address the needs of the victims when the disaster actually strikes. The needs of the victims are to be met to minimize their sufferings. It involves provisions to alleviate sufferings.
3. Post-disaster stage- this stage focuses on durable measures to avoid future losses so that the same vulnerable conditions are not reproduced.

The cycle of disaster management comprises of these stages. In reality disaster management focuses more when the disaster actually strikes. The two main stages which are dominant is the emergency relief phase and the rehabilitation phase after the disaster

strikes. This happens due to loss of property, human lives and damage to environment. Also there is political support only during these stages. Instead of having an effective plan workable before a disaster strikes, it is observed that actions are generally taken after the damage is already done. There should be fund allocation before a disaster strikes to ensure prevention and preparedness. All stages are of vital importance therefore a successful disaster management plan should encompass all the three cycles of before, during and after disaster.

This cycle comprises of the following broad stages which is necessary for an effective and proper planning.

1. The disaster events

This refers to the 'real time' events of a hazard occurring and affecting elements at risk. The duration of the events will depends on the type of threat : ground shaking may only occur for a matter of seconds during an earthquake while flooding may takes place over a longer sustains periods.

2. Response and Relief

This refers to the first stage response to any calamity, which includes setting up control rooms putting them in action, issue warming, action for evacuation, taking people to safer area, rendering medical aid to the needy etc. to the needy, restoration of communication in cash or kind.

3. Recovery

Recovery is used to describe that encompass the three overlapping phases of emergency relief, rehabilitation and reconstruction.

Emergency relief: Activities under during and immediately following a disaster, which includes immediate relief, rescue, damage, and needs assessment and debris.

Rehabilitation: Rehabilitation includes the provision of temporary public utilities and housing as interim measures to assist longer term recovery.

Reconstruction: Reconstruction attempts to return communities to improve pre disaster functioning. It include the replacement of building, infrastructure and lifeline facilities so that long term development prospects are enhanced rather than reproducing the same condition which made an area or population vulnerable in the first place.

4. Development

In an evolving economy, development process is an ongoing activity. Long term prevention/ disaster reduction measure like construction of embankment against flooding, irrigation facilities as during proofing measure, plant cover to reduce the occurrences of landslides, land use planning, construction of houses capable with standing the onslaught of heavy rains and shock earthquakes are some of the activities that can be taken up as part of development plants.

5. Prevention and mitigation

Reducing the risk of disasters involves activities, which either or modify the scale and intensity of the threat faced or by improving the condition of elements at risk.

Although the term ‘prevention’ is often used to embrace the wide diversity of measure to property its use is not recommended since it is misleading in its implicit suggestion that disasters are preventable. The use of the term reduction to describe protective or preventive action that lesson the scale of impact is therefore preferred. Mitigation embraces all measures taken to reduce both the effect of the hazard itself and the vulnerable condition to it in order to reduce the scale of a future disaster.

Mitigation embraces measures taken to reduce both the effect of the hazard itself and the vulnerable condition to it in order to reduce the scale of a future. In addition to these physical measures, mitigation should also be aimed at reducing the physical , economic and social vulnerability, therefore, mitigation may incorporate addressing issues such as land ownership, tenancy rights wealth distribution, etc.

6. Preparedness

This brings us to the all-important issue of disaster preparedness. The process embraces measures that enable government, communities and individual to respond rapidly to disaster situation to cope with them effectively. Preparedness includes the formulation of viable emergency plans , the development of damming systems, the maintenance of inventories and the training of personnel. It may also embrace search and rescue measures as well as evacuation plants for area that may be ‘at risk’ from a recurring disaster All preparedness planning needs to be based on responsibilities and budgetary provision.

Disaster Management: Objective and Priorities

Disaster management can be divided into pre and post disaster contexts. This sequence embraces pre and post disaster actions that are concerned with the various stages of inception of disaster planning (UN/ISDR, 2008).

These actions are followed one after the other action and are interlinked. It aims at reducing risk. Risk reduction needs to incorporate and address the following actions.

Stage one

The very first stage should have political commitment at all levels of national and local government. Along with political will, there should be allocation of funds to carry further the plan. The empathy for the people and the will to eradicate such problems would make a great difference in disaster management. Generally the plan formed by technocrats is not easily understood by the people. Knowledge of the plan is thus important. The plan made by the government should be operational at all levels from central to state and to the community level. The situation of the community and the knowledge of the area to disaster threats are also important. Working with the communities itself is the right direction for any plan to be successful.

Stage two: risk information and assessment

It becomes vital to balance the risk with the resources available. The first aim is to assess the potential risks through hazard mapping and the analysis of vulnerability.

Hazard mapping involves establishing areas that are susceptible to hazard. This information is gathered by identifying the location of risk and the extent of severity of damage based on geographical parameters (i.e. wind speed, water flow data etc). The approach to risk reduction should be more people centric. The innovation in technologies for end to end risk informed knowledge should involve communities, setting up of monitory stations and establishment of real time flood information system is needed.

Vulnerability analysis -Vulnerability as stated earlier is of two types physical and social. For the understanding of both, there is a need to understand the specific and unique characteristics of local situation. This involves the estimation of physical elements and communities at risk.

Resource assessment-This helps in identifying areas more at risk than others. If an area or location has more capacity to withstand the shock than the allocation provided, the effect would be comparatively less than those areas/location whose resource base has a lower capacity. This would enable responsible course of action.

Stage three: Preparedness and mitigation.

The above discussed stage marks the vulnerable areas, communities and resources base, therefore ways of mitigation and preparedness would be the next stage. The effective ways to reduce hazard impacts would be measures like building flood protective embankment or walls, creating and managing dam storage, community grain store etc. Further preparing the communities by engaging with them and making them the centre of the plan would be the most effective way of mitigation.

Stage four: Lessons learnt from the past

Information gathered, collected, analyzed during the past disasters would help in testing the plan. For example public drills before the disaster would train people how to respond

to such situation like flood. Further the success of measures implemented should also consider the changing condition of vulnerability.

A holistic outlook of disaster management should emphasise to incorporate different organisations, local participation, awareness and promotion, policies and suggestions from research and scientific institutions.

An example of an effective disaster management

In October 2013 a very strong cyclonic storm hit Odisha and Andhra Pradesh coast. The most affected district was the Ganjam district. It damaged lakhs of houses both thatched and kutchha houses, more than 1.26 crore people were affected. Odisha and Andhra Pradesh were previously also hit by a super cyclone in 1999 which in a way devastated both the states. But there has been a major difference in disaster management of 1999 and 2013. 10,000 people were killed in Odisha in 1999 whereas the death toll was fewer than 30 during 2013. Disaster preparedness and improvements in weather forecasting have made major impacts on the extent of devastation in 2013 disaster. As UNEP acknowledged early warning and timely actions saved lives. Odisha government lacked behind in its preparedness, as they did not have tools to cut trees that fell on road during 1999. Andhra Pradesh was better prepared. Both the governments had their own disaster response strategy- Odisha Disaster Rapid Action Force and Andhra Pradesh State Disaster Response. Cyclone prone areas in Odisha, conducts mock drills every June since 2006 which have been helpful in managing disaster and reducing casualty. Now importance is given to community participation which is an important step not only in rescue and relief operation stages of disaster but also in the whole process of disaster management. Odisha and the UN had made a community contingency plan for flood and Cyclone in Odisha. A community contingency plan (CCP) is a list of activities a village agrees to follow to prevent loss of life, livelihood and property in case of cyclone or flood. Action to be taken by individuals in the community in the event of a crisis is identified in advance. Contingency plan is bound to differ from village to village.

Great Disasters in recent time

A super cyclone with a wind speed of 300 mph struck Odisha on Oct 29, 1999 (Kalsi,2006). The greatest cyclonic disaster ever recorded in the last century .The affected districts in the coastal area were of Balasore, Bhadrak , Kendrapara , Jagatsinghpur, Puri and Ganjam . The official death toll was 9885 people but the unofficial sources estimated the toll to be above 50,000. At least 1500 children were orphaned, 13 million people including 3.3 million children, 5 million women and nearly 3.5 million elderly people were affected in this devastating tragedy.

Another great disaster in the world took place in the year 2004 in the Indian ocean. The Sumatra -Andaman earthquake estimated to be a magnitude of 9.15 occurred on Dec 26, 2004 caused a tsunami that killed 200,000 to 310,000 people along the shore of Indonesia, Sri Lanka , South India and Thailand (Trainor, 2006).

Recently, Hurricane Katrina which occurred along the Gulf coast of US in Aug 2005 and affected nearly 90,000 square miles of the United States. It killed nearly 2000 people and left very large number of people scattered and homeless (Burby, 2006).

An earthquake of 7.6 registered in the Richter scale hit Pakistan in 2005 Oct 8 . It records an official death toll 75000 people with 106,000 people injured. Another cyclone called Nargis which occurred in the Northern Indian Ocean. The cyclone not only resulted in landfall but also devastated the Ayeyarwady Delta region.

According to the UN estimates, 2.4 million people were affected with official record of 84,500 people killed and 53,800 missing. (Ahmed, 2013) Haiti on Jan 12, 2010 experienced an earthquake of magnitude 7.0. With its 59 After-effects of Disaster resulted in 200,000 deaths , 2 million people became landless and 3 million people were desperately in need of emergency aid . It is known to be the strongest earthquake to hit the country since 1770 (Bengtsson et al.,2011).

In India, Uttarakhand on 16-17 June ,2013 witnessed a massive disaster which affected by flash flood and landslips triggered by very heavy rainfall and cloud burst. It

affected 12 out of the 13 districts in Uttarkhand .In Kedarnath, many pilgrims got stuck with due to landslides and flash floods. It caused thousands of death with many reported missing (Barik, 2016).

Fundamental Theory of Disaster

There are four general theories of disasters-

1. Theories related to Gods act- which seems to blame human beings and their wrong doings , causing disasters as an act of God. In this case there can be nothing done as it completely lies in divine forces (White, et al., 2001).
2. Theory of Act of nature - here he mentions science as the controlling force and not of God. Nature has its own path and the functions accordingly ,which can be controlled by using technology (Tobin and Montz, 1997) .
3. Theory of combined effect of both nature and society -this brings forth the cause of disaster as a continuous process of human interventions i.e. deliberate and non - deliberate into the functions of nature . This can be mitigated by developing society to adjust through awareness of the disaster , careful zoning , seismic area, wildfire zones and other proper land use measures etc (Carr, 1932) .
4. Theory of social construction - a hazard becomes a disaster depending on its impacts in the society - of how the society is constructed both in physical and social aspects . It is important here to look at the causes of injustice and basic reasons for human vulnerability to hazards in society. It includes society's ability to comprehend predict, face and be resilient on the faces of disaster (Cannon,2011).

There are different ways of mitigation before, during and after disaster. The vulnerable groups are under greater risk and are left behind in such mitigation resources. They are excluded from relief provided by the state in both active and passive ways. In order to understand social exclusion and disaster, we need to look at different concepts of disaster and disaster management. This chapter dealt with various concept of disaster and thus would be helpful in understanding the process of exclusion. This chapter also dealt with

the objectives, research questions and the methodology. Further to understand the problem, a theoretical framework would help in conceptualizing the study of disaster from various perspectives. The following chapter would deal with this aspect.

CHAPTERIZATION

Chapter1. Introduction- I will first briefly discuss the topic and then move on to discuss disaster and disaster management as the subject of social sciences. We will briefly discuss some concepts and also look into natural disasters in other countries. In understanding the process of marginalisation during natural disasters, the use of social exclusion perspective would not only bring light to the sufferings of the marginalised but would also raise question on structural inequalities and helps understanding how disaster in a way is responsible for further magnifying the problem of exclusion based on gender, caste, class, race etc.

Chapter2. A theoretical framework- This will conceptualise the study of disaster from various perspectives which would help us to understand the research problem. This will entail a literature survey which will be according to the themes and objectives of the research. This chapter will also cite examples from the experiences of other countries.

Chapter3. Global trends in disaster and disaster management policies in India- This chapter would deal with various international frameworks and policy to understand disaster risk and mitigation. It also becomes important to look at the frameworks followed by India to build their own disaster management plan. What is the act for disaster management in India? And what are the roles played by different agencies in the disaster management plan- this chapter would deal with these issues specifically.

Chapter4. Field Experiences: Gender inequality and social exclusion in disaster- This chapter would deal with the area of study specifically with its historical background. Maynaguri being one of the important blocks in West Bengal has Teesta and Jaldhaka flowing through it. Both are perennial rivers and carry huge capacity of run off during monsoon. This leads to water logging in the catchment areas when the river receives heavy rainfall. Also 88.5% of the population (Census 2011) live in rural areas which are highly prone to floods. It would talk about the experiences from the field. It would

analyse data and highlight case studies which would help us to substantiate the objectives.

Chapter5. Conclusion- In this chapter we will briefly outline the need for an inclusion disaster plan and what we were able to draw from the research. We will briefly discuss the summary of each of the chapter. It would outline the findings and accordingly suggest recommendations in the concluding chapter.

CHAPTER 2

THEORETICAL FRAMEWORK

This chapter would deal with the theoretical framework of the research. My attempt is to look at different theories and studies. This will conceptualize the study of disaster from various perspectives which would help us to understand the research problem. This will also entail a literature survey which will be according to the themes and objectives of the research. This chapter will also cite examples from the experiences of the west and the past.

When a society is in the state of mourning, the disaster relief strategies helps by bringing relief in times of uncertainty and absurdity. Now how do this relief strategy in spite of providing help and security becomes an agent in itself causing further alienation and exclusion in the whole process? Isn't the experience and lessons learnt in the past adequate for an inclusive disaster relief programme and policy? When people have faced such mourning and are trying to put things back together with the realisation that the future disaster is inevitable, how do they learn to live with this terrible truth? How have people inculcated this reality and have normalised the disaster when they know that things will fall apart again? When disaster itself alone does not discriminate on its victim, how does the after effects and relief programmes tend to be discriminatory? Does the respond from government and other stakeholders take into account the exclusionary dimension; do they actually ensure that no one was left behind? The effects of natural calamities and its response to it can actually discriminate, differentiate and selectively choose sides which can easily put people behind who in need due to unethical and unfair practices.

The consequences of worst hits of any disaster are mostly poor, marginalised, vulnerable people. Who have no influence in voicing their concerns to be able to get the best out of a relief effort because they don't have any access to political or economical power. In reality its fatal to the whole approach of helping people in need of the hour. If it isn't addressed properly then challenges keep building up. It has the ability to further reinstall societal disadvantages in times of humanitarian crises.

In order to understand marginalization we need to understand the marginalized groups. Now who are the ones who are excluded during disasters, what are the processes that lead to their exclusion and what makes them more vulnerable than the vulnerable? The marginalized people are vulnerable to livelihood changes because they have been neglected or ignored or excluded socially, economically and politically.

Avadesh Singh complies the definition of marginalization as “the temporary state of having been put aside of living in relative isolation, at the edge of system (cultural, social, political or economic), in mind, when one excludes certain domains or a phenomenon from one’s thinking because they don’t correspond to the main stream philosophy” (Singh, 2003). It can be defined as “marginalization means to relegate to an unimportant or powerless position within a society or group”.

There is two major conceptual framework of the term marginalization. Societal marginalization includes broad categories such as human population, religion, culture, and social stratification. It focuses on factors that lead to exclusion, social inequality, and injustice. Other one is spatial marginalization, considers geographical isolation of a group. How remote areas suffer from difficulties in access of daily needs. They are far removed from any kind of developments. They remain in isolation and thus come under spatially marginalized.

Apart from these two major frameworks, marginalization also can be seen through the lens of power. Power form the basis of social inequality. According to Parson, there are two sets of propositions about power- “a)power is a positive social phenomena , capacity for achieving goals in social system or power is a negative phenomena which prevents other from their wishful act at will and b)Power is not a zero-sum phenomena if one has more power, the other necessarily has less power.” (Parson, 1979)

In natural disasters, marginalization of certain groups and individuals make them vulnerable than others. It is in this aspect to understand the power relation in the society. Power and dominance go hand in hand. Dominance is a psychological concept whereas power is a sociological. Power plays out in caste and class settings. This type of stratification mainly excludes women. It is usually the men who play dominant roles.

Women are side lined as negligible and marginalized. The power play and status quo are supposed to be arena of men only. Works of Simon-de-Beauvoir and Virginia Wolf couldn't be truer that gender is a construct of society in way to boost and uplift only men, mainly dominant men belonging to upper caste or class. It is not a biological phenomenon. Such writers have tried to understand the plight of women that is not biased and away from any kind of pre acquired construct. Rather they deconstruct the false premise and dig deeper into the stories of women and letting out a different perspective from previous biased notions.

Simone-de-Beauvoir rightly says that, "one is not born, but rather becomes a women – it is civilization as a whole that process this creature" (Beauvoir, 1997).

Examples from the Past

Unequal opportunities lead to discrimination. Natural disaster does not discriminate when it comes to its full wrath of destruction. Natural disasters do not see class, race, gender or caste neither do they see political, social, economic or religious categories, it hits everybody equally. In the general perspective taken from the New York Times column during Hurricane Katrina disasters generally washed away many things away. But in reality disasters expose the injustices, corruption, structure of the society and the ingrained inequalities in the society. This is clearly evident in the case of U.S of Hurricane Katrina that has brought into light the inequalities in their democratic system particularly on the lines of class, gender and race. A disaster like Katrina shows how natural and man-made calamities expose a society's existing socio economic inequalities, political defeats. It clearly manifests the myths of an American society based on equality. Here race and class forms a strong and systematic deformity in mocking the American fantasy of an egalitarian society.

The victims of hurricane Katrina were mostly poor, and black who through this disaster were further segregated, far removed from getting any kind of help or benefits. (Zelea 2005). Hurricane Katrina also shows that how vulnerability differs from people to people. For example rich people have higher accessibility and resources to settle in highland areas leaving the poor and marginalized to flood prone areas. The concept of

vulnerability is itself highly differentiated. Similarly in the case of New Orleans during the evacuation, the rich had cars to get out, facilities for emergency hotels and food supplies, insurance policies for rebuilding. Also they had relatives having resources to support their evacuation. The poor had no such benefits like social and economic capital. As Pierre Bourdieu mentions about a person's capability depending on his position and resources in a stratified society which helps him in his mobility in the society (Bourdieu, 1979). When hurricane Katrina struck Americans, they were all of the view that no matter who gets hit we are all together in it like one class, race, creed and colour. But Katrina did not hit all equally it did not look at everyone as one entity but segregated all into class, race and gender. By ignoring these main issues we tend to neglect the real world and fail to acknowledge that all class, race and gender are not equal. Some definitely suffers more than others and if we fail to understand this we may fail to address the potential of racism, capitalism and sexism.

The binary of social exclusion into class and race in the American society changes into class and caste in the Indian context. What is common in both the countries is the marginalization on the basis of gender. To discuss the class and caste debate in India we can cite the example of Bihar floods. In Bihar, the excluded mainly comprises of the Dalit population. They have been systematically excluded from relief and rehabilitation efforts. In a society that still practices caste and class segregation, natural disaster relief are limited by it. In some cases lack of knowledge about vulnerable people is a reason too. Also the NGOs relief seems to be dominated by the upper caste. Therefore often Dalits are the last one to receive relief and compensation. Bihar with its unique socio-cultural terrain and historicity of floods is infamous for violence triggered by caste. The Kosi flood in Bihar is a recurrent phenomenon and hits many parts of Bihar with huge casualties and loss. Many studies have been already written exclusively on the floods of North Bihar particularly with historical dimensions on floods. The focus of the writings was mainly dealing with the colonial history and policies and controlling floods and the result which has in a way aggravating the present day flood situation. Dinesh Mishra has written various books on the flooding in North Bihar but does not necessarily contextualize it on the different patterns of vulnerability. He mainly focuses on flood control policy of embankments but avoids the other aspects that contribute to aggravating

suffering during the flooding such as land reforms, greater investment in public health and education, clean water supply, transportation and aspects related to preparedness to floods (Mishra, 2000).

Singh's work on "The colonial state, and the politics of flood control in North Bihar (1850-1945), contextualises the colonial policies of flooding. It recounts how colonial policies affect socio-economic, ecological factors (Singh, 2008).

D' Souza views the flood control and practise in Mahanadi (Orissa) as a 'political scheme' which tries to control consequences of natural disaster (D' Souza, 2006).

The tsunami in the Indian ocean of 2004 received a considerable influx of international funding and attention. It was one of the worst disasters affecting the Indian subcontinent. The process of exclusion was seen in the differences between the government and the community hit by the tsunami. Housing reconstruction was one of the serious problems for fishermen. According to some writers it was seen as an opportunity for development (Raju, 2013). The concern of the state government was of relocating and finding sustainable livelihood of the fishing communities of that area. However the fishing communities resisted the idea of relocation because their livelihood was dependant on the coast. The new relocation to Semmenchery was proposed by the state approximately 22kms away from the present location, Kancheepuram (Rowbottom, 2007). This new location was far from the coast on which their livelihood depends. The whole notion of development proposed by the state was not only questionable but paradoxically raised question on sustainable development itself. How could there be sustainable development when development itself was not sustainable?

Relocation depends upon political, socio-cultural and economic factors. It can also lead to social conflict during the times of crisis. It changes the community's social structure and pattern and also it is financially not viable. Certainly there is resistance due to fear of losing identities (Mileti and Passerini, 1996). It was during this time that the issue of land rights and relocation arose. In Naomi Klein's work on disaster capitalism, she writes about land rights post-tsunami Sri Lanka (Klein, 2007). She writes that there are capital investments as there is increase in the value of land. In Sri Lanka the fishing communities

were evicted once the buffer zone was established denying their access and customary rights to the land.

The conflict arises between the fishing communities and the stakeholders depending upon what is valuable? For them, it is important to live near the coast while for the state it is important to protect communities by building housing away from the coast to reduce further damage. The fisher folk are afraid that living away from the coast would provide no guarantee for a sustainable livelihood. This highlights about the importance of belongingness to the sea by fishing communities. They believe that they have the right to access sea. Changing location can impact their social, cultural and economic aspects but it may also harm their livelihood. It creates a distance and alienation in relocation (DFID, 1999). Some time there is not viable alternate livelihood for them. In such case it is evident that the poor i.e. the fisher folk become more vulnerable as their livelihood depends upon it. By moving them away from the coast makes them loose their livelihood and further exclude them in an already vulnerable situation like tsunami.

On April 25th 2015, a 7.8 magnitude earthquake shook Nepal. Two weeks later, a 7.3 magnitude earthquake hit. Together, they killed 9,000 and destroyed over 800,000 homes. The damage ruined families, destroying their houses, razing their fields, and ending any sense of normalcy their lives had. The damage is estimated to be \$7.06 billion (US) in a country where 25% of the population makes less than \$1.25 a day. By the loss of jobs or the death of the working family member, these earthquakes pushed nearly 1 million more people below the poverty line (Barber, 2016).

While communication for all Nepalese after the earthquake was difficult, those in the socially marginalized communities-women, children, elderly, and the lower castes faced additional barriers. Caste discrimination in Nepal is a big problem in both urban and rural areas, especially towards the "untouchable" Dalit castes. While discrimination based on caste has been made illegal, the laws are often overlooked in the more rural settings since the caste system has become so ingrained in everyday life.

Reports by NGOs have noted down the unequal distribution of post relief help. Dalits, Janajatis, Madhesis were neglected in times of need. This is usually done by powerful

and influencing men at the top belonging to upper caste. Who are able to divert resources towards their side by putting their names and address at the top of list. Marginalized groups usually don't have allies to represent their interests. Because of the social and economic barriers, marginalized groups don't have "muscle" or connections with powerful people. Government focus disaster preparations and relief efforts on groups with power. Marginalized groups, however, are left to "nature" without the same type of support as the rest of society.

Gender in disaster

The tyranny of the urgency pretext during disaster has been overlooking the gender perspective in disaster due to its emergency period. Consequences of natural disasters are more devastating and vulnerable for women specifically in third world countries due to their political, socio-economic and cultural imbalances. For example women are not to learn swimming in many parts of Asia. This decreases their chance of survival during disaster. Women are one of the vulnerable groups in disaster but this alone does not justify their inclusion in disaster management. It is their role in risk reduction and better management with their knowledge of their surrounding environment that can play a vital role in disaster risk reduction.

Gender disparities takes place for many reasons including sexual differences. There is already a pre conceived social notion of strength. During disasters women stop to gather children and hold their children in their arms making them difficult to swim and hang on. Also in the case of Katrina many of them did not have driving license. All these were neglected in the government data and only the issue of rape of certain cases were reported. Women are more likely to be caregivers and during the disaster they have this same nature of care. Women are always treated something that every culture devalues, someone who is lowest in the order of ranking (Ortner, 1974).

In relation to risk in disasters, gender plays an important role in the construction of social vulnerability. "The differential responses to hazards are also based on gender with social class, race and ethnicity and age put women in vulnerable situations" (Hannan, 2002). Having said this woman in disasters should not only be seen as victims. Women can

become agents of social change, and contributors at all levels if such prejudice and social barriers are removed. The understanding of their roles and contributions of women has immense potential. This is completely overshadowed by male myopic view of the real world. Involving women during emergency response is such essential element as their presence can have great potential in reducing the impact of natural disaster (Hannan, 2002). The flood waters of Hurricane Katrina brought the issue of race, gender and class with poverty intertwined and it washed away American hypocrisies in identifying these problems. It made America look like another third world country despite being the richest country on earth.

From *Vulnerability to Resiliencies* a volume by Elaine Enarson, is an important combination of research on women and disasters over the past twenty years in the United States. Enarson's work is based on gender studies in disaster aiming on how involvement and knowledge of both sides can be such a help to mitigation. She has done an extensive fieldwork with women in many different disasters as well as taking into account of research conducted by others. She disputes that women are often depicted as weak and passive victims of disaster. But in reality they are strong people who are an important aspect to disaster recovery and preparedness. Therefore woman's role and leadership forms an integral part in disaster resilience. Portrayal of women and women of colour, people associating with LGBTQ in popular culture are reduced to stereotypes. Archival type characterisation of men, who are highly masculine, who are heroic, provides for their women and family.

Enarson discusses experiences of women of colour, their lives and struggles and what contributions women have been made in her book. Enarson argues that the key to disaster resilience is women's leadership. She calls out for hiring, consulting women in this field, where needs and specific problems of women are kept in mind while dealing with disaster planning. Involvement of women will also lead to empowering them and a step towards more inclusivity. She calls out for women's organisations to be more active in participating in disaster reduction. She has referred to gender, race and class at the centre of disaster mitigation. Her arguments convey how even of the works taken up by women

do not serve race and class factors which certainly needs improvement (Enarson and Chakrabarti,2009).

Disaster management represents a more male dominated arena which reinforces existing masculine dominated gender perspectives. Pushing aside women's perspective on disaster management and how they can also contribute by giving their views on women specific problems during hazards.

Fordham (Fordham, 2013) identifies a range of factors that contribute to women's vulnerability like:

- Biological: pregnancy, life span etc determines women's vulnerable position than men.
- Economic: confining women to domestic sphere, lack of opportunity in terms of employment and access to credit also inhibits women's access to resources compelling them to remain in a state of dependency; in turn, such dependency aggravates the vulnerability level of women.
- Social: the unequal access to educational opportunities, lower levels of literacy, intensifies gender inequalities, diminishing the resilience of women to cope with disaster.
- Political: limited access to, and occupation of decision-making power structures, leads to the invisibility of women in wider policy arenas.
- Cultural: women's culturally-determined subordinate status to men based on religion, vulnerability to domestic and sexual violence.
- Environment: the domestic environment of the household, ridden with male domination, coupled with the above factors, further contributes to women's vulnerability.

Understanding vulnerability

Vulnerability defines people and groups' capacity to cope, resist, and how much time it takes to recover from the impact of natural hazard. Many factors such as social, economic, physical, environmental etc comes under social vulnerability. Depending upon

it, it increases the chances of a community that might get most impacted by a hazard. There could be other factors also that might influence this susceptibility, like caste, religion, gender, poverty, occupation, exclusion, marginalization and leading up to societal inequalities and reinstating social vulnerability further.

People belonging to minority groups, lower caste or classes, religious group or ethnic minority tend to work in a hazard prone zone. To solve this issue has become extremely important for the society and the government, to acknowledge these people and their problems and take some serious actions towards the issue. One way to solve or counter it is by cross cultural studies of such groups living in fringes of a society must be taken up by in academia. Social scientist and experts from various fields must come up with practical solutions. All sorts of technical, local, global, sustainable insights, skills and power should be accumulated and put into force to at least begin with some kind change.

To understand vulnerability, it is important to know the relation between past and present with regard to disaster and development. Vulnerability also includes people's notion about disaster, risk, their knowledge and practices (Hilhorst and Bankoff, 2006:4).

The United National Development Programme (UNDP) defines vulnerability as “a human condition or process resulting from physical, social, economic and environmental factors, which determine the likelihood and scale of damage from the impact of a given hazard.” (UNDP, 2004:11).

When society, culture is combined with environment, a theoretical framework is set in motion based on conception of vulnerability (Blaikie et al. 1994; Comfort et al. 1999; Cutter 1996; Hewitt 1983). According to Cannon, characteristics of vulnerability are with individuals and groups that occupy a given natural space. Further they are distinguished and defined by their varying position. It certainly is a complex character, which is combined by class, ethnicity and gender (1994:19).

Social class, type of employment, income, savings, education level, infrastructure, locality, commercial development, medical services, population etc determines social vulnerability. Race and ethnicity also push social vulnerability due to lack of resources. Example would be of Rohingya Muslims, who became refugees in their own country and

had to flee the unfavourable conditions. Lack of education, information, technology, political power, access to resources, no representation, social network, beliefs, customs, age, are also factors of social vulnerability.

According to Schmidlin et al, “Social vulnerability to natural hazards is the potential for loss and is complex interaction among risk, mitigation, and the social fabric of a place” (Schmidlin et al, 2009). Cutter et al. (2003) laid out factors affecting social vulnerability that included lack of access to information, knowledge, technology and political power.

Norway has come up with an interesting way to evaluate vulnerability. It is called ‘Vulnerability Index’ and ‘Built Environmental Index’. Vulnerability Index is based on socio economic status, education level, employment status, ethnic composition, gender equality, and housing. The Environmental Index, is based on availability of hospital services nearby, population and housing density, how old and the how advanced is the building, conditions of sewers and water pipelines, length and quality of the roads, number of exit routes per 1000 habitants (Lundgren and Jonsson, 2012).

Natural hazard affects more people than anticipated. Combinations of factors are involved in it that determines how someone’s life could be at risk by events in natural settings. In some ways, risk is socially produced, which is produced from being mismatched between human system and built environment levels (Mileti, 1999; Barton, 1969).

A larger, broader frame work is required to find solutions for social vulnerability which must include understanding geophysical hazards and technical solutions. Deeper analysis leads to social distribution of risk and gives reasons on some specific community or group of people bear the burden and risk of life due to disaster. It is clear that specific group or community tend to be prone to disaster risk, their level of approach to power politics and social standing will also determine their speed of recovery of damage and loss.

Social vulnerability clearly draws the issue of distribution of scanty resources among communities, classes and individuals probably the differential vulnerability based on where they live, work etc. So far we can say that disaster is complicated interaction of

natural hazards and vulnerable society which give rise to vulnerability in forms of economic, demographic, and political process.

Study has revealed that social vulnerability is important to understand the risk of natural disaster. It is divided into four levels:

- a. Personal attributes of Individuals within house hold
- b. Interaction among Community around us
- c. Geographical location of services
- d. Administrative support for funding and mitigation

Social scientists have defined social vulnerability as the capacity of individuals and social groupings to respond or adapt to-any external stress placed on their livelihoods and well-being. It focuses on socio-economic constraints that limit the ability to respond effectively. Cannon describes social vulnerability by characteristics like person's well being including his nutritional status, physical and mental health, livelihood, capital, asset, capability to build safe house in a safe site, protection level measures.

Dwyer et al. (2004) examined vulnerability of individuals within households who are prone to the risk of natural disaster. He formulated thirteen indicators to measure vulnerability like age, income, gender, employment, residence type, house hold tenure, health insurance, house insurance, car ownership, disability, English language skills, debt/savings. They there studies contribute in some ways in dealing with ongoing development that can help in better decision making in protecting people at large. With better approach and deeper studies and assessment of area and community wise could bring more refined results.

Zou et al. (2010) did a systematic analysis on coastal hazards to determine the factors contributing to hazard vulnerability. The most important factors contributing to coastal hazard vulnerability (demography, poverty and marginalization's) are characteristics of human society, influencing vulnerability through various ways.

Lynn et. al. (2011) gives information about the socio-economic, political effects of climate change on socially vulnerable populations in the United States and Canada.

Documented dialogues and efforts around climate change policy for helping out indigenous peoples and vulnerable communities. It reveals how people from different communities vary in their response to climate change.

Mallick and Vogt (2011) tried to understand the challenges of how to tackle social systems, and patterns of vulnerability in context of cyclone SIDR 2007 in Bangladesh. They conducted systematic random sampling to household survey of sample size of 124 households in the Baniasanta union of Dacope Upazila in Khulna district of Bangladesh. Out of which only 14 respondents were female due to prohibition to talk to strangers or unknown people. In depth interviews of old people about their personal experiences were taken, responses from daily labourers, fishermen etc varied. Dependency on relief efforts and long waits increases further poverty and disables them even more. They built on an approach that remains true to its local surrounding. It encompasses social integration, solidarity and networking to with stand disasters.

Yoon (2012) used two methods: (1) a deductive approach based on a theoretical understanding of relationships and (2) an inductive approach based on statistical relationships. He uses the above methods in assessing social vulnerability to natural disasters in the Gulf of Mexico and Atlantic coastal countries. He reveals that emergency managers could use either of the methods to assess social vulnerability based on their knowledge, analytical ability, etc.

Laila (2013) assessed the social vulnerability of the south-western coastal communities of Bangladesh and studied social conditions of coastal people who are dependent on limited natural resources. There were indicators like sensitivity, exposure, adaptive capacity. Her study explored that how communities are dependent upon natural resources, which also reveals how limited is their livelihood. It was found that they had low level of preparedness to face any kind disaster, absence of telecommunication, which makes situation way worse.

Natural disaster affects social vulnerability. It also has characteristics like physical, social, economic, and environmental factors which further increases the chances of being affected by hazards. Most of theorist were in opinion that ethnic minority, disempowered

class/caste, religious groups may live and work in disaster prone areas. Examples of people living in flood prone areas in Bihar, Assam and West Bengal are recent examples that continue to suffer from last few years. Hence, their vulnerability and approach to political power is lacking, they are also denied basic human respect, fundamental rights, and scarcity of resources for decent survival is also far away dream. It is a high time that disaster studies should focus on long term goals that can counter social vulnerability and natural disaster. Multi disciplinary and cross culture studies is need of the hour, more practical and sustainable ways to include local, technical knowledge can be put together into the work. Involving local people, strengthening them to tackle their problems can be empowering and will help in any future emergencies. Holistic nature of studies and approach has become absolute necessity to put plans into actions for people who are prone risk. The weaker sections of the society are people to lose their right to livelihood, shelter, food and health. Studies should empower and push forwards the development works for this section of the society.

Disaster management theories

Disaster management has now become more sensitive of socio -economic setting of a community which broadens the scope of disaster management (Britton, 2001).The focus is on emergency management rather than minimizing losses. Emergency management in today's context seeks to maximize gains. This is necessitated by the changing social-economic and academic approach towards disaster and emergency management. Therefore disaster management needs to view a wide range of issues that a society confronts rather than dealing with discrete-abnormal situations produced by disasters.

A Brief Survey of Disaster Management Literature – the first ever expanding theory on disaster management has clearly been stated to become a problem for academicians, law maker and legislators. The work done on it involves wide variety of concepts, approaches, analysis, factors that also derives different conclusions about disaster management.

The common theme in all is the focus is on disaster management or at least topics surrounding it like mitigation, recovery, cope, response, prevention etc. McEntire et al.

(2002) in 'A Comparison of Disaster Paradigms: The Search for a Holistic Policy Guide', it gives an examination of different models on disaster management. Like, emergency management, communities prone to disaster, sustainable methods to deal with it. Such elaborative paradigms does fail to capture the growing importance of community participation. (Pearce, 2003; Newport and Jawahar, 2003; Kweit and Kweit, 2004).

As Britton, observes, the sector of emergency management is changing and has become an inevitable factor. It is the growing importance of people and community's participation as basic requirement for a comprehensive and inclusive disaster management.

A look at different theories that have evolved over time

Comprehensive emergency management – inclusive emergency management policies emerged during 1979. It formulates different types of policies and procedures on different types of disaster looking into detailed nature of each of the hazards and there specific ways to deal with it (McEntire et al., 2002).

It also recognises the role of different actors involved in disaster management. Like of public, private, non profit organisations etc. It is to note that comprehensive emergency process also consists of draw backs. (McEntire et al., 2002). Comprehensive emergency management focuses too much on hazards, representing disaster management as only consequence of environmental factors like Geo Tectonic, Climatology or Biological. And ignores to recognise equally important factors like social, political, cultural, economical that can also lead to disaster” (McEntire et al., 2002).

Quarantelli (1999), disaster is also a social phenomenon and a comprehensive plan must take into account of social cultures, habits, locations, etc. Eliminating such inevitable factors makes it reactive to the goal of the plan.

Donald E. Geis (2000), gave the theory of Disaster resistant community model that help communities to minimise their vulnerability to natural hazards by improving the mitigation techniques.

Even after applying emergency management plan, it is evident that losses after disaster can't be solved by it. It must include capacity building, assisting communities, innovative tools and techniques to solve varying issues and also looking at long term goals.

McEntire et al., 2002, puts forward how the mitigation model will be considered strong only if it also includes vulnerable community. The focus is too much on pre disaster phase that it miss out post disaster stage of recovery. A technocratic approach continues to be shaped and re applied which only involves building disaster resistant buildings, land use etc and overlooks cultural aspects which defines communities' vulnerability (McEntire et al., 2002).

The disaster resilient community model focus on 'resilience' of the community. It usually means the ability to recover to normalcy after disaster. Resilience often comes as an alternate term and process to resistance. (McEntire et al., 2002: 269) It mainly focuses on post disaster management which includes social factors also. McEntire, recognises three strengths of this plan. It recognises the human vulnerability to disaster, social factors and recognises significance of cultural, psychological and economic variables in disaster management. A more of multi disciplinary approach is taken to address disaster management.

It is important to note that both disaster resilient and disaster resistant community model suffer from 'centric' syndrome and limit their focus only on main arena of their approach.

A sustainable disaster management concept brings out broad expression in the whole management. The focus of sustainability is to collaborate disaster relief aids and disaster management new developments. The sustainable model acknowledges the eco system and social system and involves a more comprehensive understanding of natural disaster by practising sustainable methods.

According to McEntire, comprehensive vulnerability management represents a holistic approach towards disaster management. It integrates from other disciplines as well and evolves more knowledge towards disaster vulnerability.

As stated by Burton and Kates (1978) "Those elements of the physical environment harmful to man and caused by forces extraneous to him". Hence humans were never a part of disaster management as it was only restricted to supernatural forces or 'acts of god' for which nothing could be done. This approach to disaster is regarded as a technocentric approach. Rather than focussing on human actions and interventions, there were intense scientific studies on environmental triggers with stress placed on geotectonic, climate or biological events in nature (Smith 1992). Scientific and technological approaches have dominated the research in the disaster field for the most of the twentieth century. The policy making mitigating disasters are still heavily influenced by this approach.

The past two decades have seen an increasing awareness on disasters as interactions between the technological and the environmental systems, but also as the interactions among human themselves (Blaikie et al 2004). This led to the birth of various theories in the disaster field. The 'structural' approach, based on Third World experiences, focuses on the human dimension and recognizes social, political and economic factors as the main causes of disasters, since they directly influence the vulnerability of the populations 'at risk'.

Sustainable development and vulnerability:

Sustainable development in the context of flooding means accepting of flood occurrence and uncertainty related to it (Handmer, Norton & Dovers 2001). Essentially these are strategies to reduce or manage vulnerability by seeking out the underlying causes and by adopting an approach which integrates economic, social and political factors. The discourse of sustainability is highly debated (Redclift 1987, Rees 1990, Dovers and Handmer, 1993).

There is an agreement on the key principles set out for the common future in relation to sustainable development mitigation (*World Commission on Environment and Development - WECD, 1987*). These are,

- Intergenerational equity-equity between present and future generations;
- Intergeneration equity-equity among all the members of the present generation

- Acknowledgement that continue existence depends on the health of the biosphere; and
- The need for economic development to reduce inequities and to provide the resources to clean up degraded environments. Communities which are very vulnerable to flooding are unlikely to be moving toward sustainable development. Instead they are far more likely to be poor due to their repeated exposure to floods.

In the context of North Bihar vulnerable people repeatedly suffer multiple floods. Shocks to their families, their settlements and their livelihoods and are at the margins without proper access to health care, communications, safe dwellings, drinking water etc. In order to make the area conducive for development (freedom from floods), the state government considerably augmented to lessen the prospective for calamitous goods damages and economic loss through its flood control policy. Local officials pay insufficient attention to policies to limit vulnerability.

Sustainable solutions are not about controlling flood water alone, neither it is about avoiding flood waters through technological interventions but it is actually making human activities more compatible with flooding. The local ecosystems, traditional coping mechanisms and people living in the flood prone area have completely been affected by the state development policies. This also affects the people's experience of development. When a community lives with an idea of managing floods, it remains progressive but with the implementation of projects by the state increases their risk and reduces the quality of existence. The state supported by highly skilled people of implementers (engineers, agriculturists, contractors) tries to portray that they know the best ways to handle floods who have never by themselves experienced living with floods and dominate the 'ends and means' of development. Nevertheless it is clear; that the damage caused by persistent deluge is increasing as a result, such floods can be serious from the standpoint of development, primarily because of the large areas being affected and the long duration of flooding is affecting agriculture, including animal life and brick kiln industry. The development based flood control program may have created environmental uncertainties. There is big reported loss of land to embankments plus inadequate and

delayed compensation, there is a big unequal distribution of project benefits, resulting in widening income disparities and reduced social cohesion.

Disaster disrupts normalcy, destroys peace, creates chaos, break social and cultural structure (Dynes, et al, 1978). However, Fritiz (1961) gave a sociological definition of disaster “Disasters provide a realistic laboratory for testing the integration, stamina, and recuperative powers of large scale social systems”.

Alexander (1993) recognised six schools of thought on natural hazards and disaster studies: the geographical approach, the anthropological approach, the sociological approach, the development studies approach, the disaster medicine approach and the technical approach.

Disaster is increasingly occurring due to human interaction and intervention in the functioning of nature and societies that are at risk and their lack of capability to face them on their own. Therefore there is a global need to learn from the best practices. In order to study disaster looking mainly into the marginalization and vulnerability aspect the above framework helps us to uncover exclusion in the whole process of disaster relief and rehabilitation. There is also a need to look into the framework of various international policies, government policies and the role of different stakeholders in the process. What are the global trends in disaster management? Does the management provide the overall direction to achieve the goals? The following chapter would critically examine the policy framework adopted by India. How effective is its management or is it just another white elephant in the long run?

CHAPTER 3

GLOBAL TRENDS IN DISASTER AND DISASTER MANAGEMENT POLICIES IN INDIA

Major disasters have further been exacerbated by climate change, population growth, environmental degradation and urbanization. These existing risk factors gets multiplied further due to poverty, poor governance and the underlying factors in the social system based on class, caste, race, gender and ethnicity. This not only adds to the problem but also further increases the severity of disaster impact on communities. This chapter would deal with various international frameworks and policy to understand disaster risk and mitigation. “Disasters can be particularly devastating in poorer areas that are not able to respond, putting a significant strain on humanitarian efforts to meet the needs of affected populations” (UNISDR, 2016). Therefore it becomes important to look at the frameworks followed by India and other countries to build their own disaster management plan. How do these frameworks outline the vulnerability aspect during disasters? What is the act for disaster management in India? And what are the roles played by different agencies in the disaster management plan- this chapter would deal with these issues specifically.

Challenges in International law for Disaster Management

In the process of setting standard for managing disasters, there are four key areas (Konoorayar, 2006)

- (i) Limitations of the international community in accessing disaster affected areas due to unclear or inconsistent practices of the government.
- (ii) The bureaucratic hurdles which prevent the facilitation of humanitarian assistance, like delays in the granting of visas, delivery of relief goods and the use of telecommunications.
- (iii) Lack of implementation of appropriate standards, quality control and accountability mechanisms for humanitarian assistance.
- (iv) Limited knowledge about the culture and social life of the victim population.

An extensive body of laws and organisations has been developed to regulate military conduct in war and provide for humanitarian assistance to its victims, but there is no similar body of law that is capable enough to manage the disasters or if there are they are not capable enough to cope up with variety of disaster risk and deal with it especially in large scale. The problems with these standards are that they are not specific to disaster relief. The United Nations Resolutions and customary laws are not so much effective.

Most of the earlier attempts in standardisation of international disaster management came from the International Committee of Red Cross (ICRC). In the year 1869, the ICRC in its second conference passed a resolution, which required national societies to provide relief in the case of natural calamity. In 1884 Conference another resolution was adopted to extend the first Geneva Convention to provide for assistance to victims of natural disaster which was never implemented. In order to assist humanitarian approach in peace time, the League of Red Cross Societies was founded in 1919. Later in 1927 there was the adoption of a convention for the establishment of the International Relief Union. It was for the first time that the states had attempted to launch a universal treaty based structure for disaster response and prevention. However the International Relief Union did not work on its convention and never fulfilled its plans.

Again in 1969 International Red Cross Conference adopted the Principles and Rules for Red Cross Disaster Relief. It was approved by state participants at the conference though these rules did not carry the same authoritative status as a treaty. Nevertheless this conference made an important contribution to the development of international standards of disaster relief.

It was in 1980 when a model of disaster relief was offered by the International Law Association. Again in 1982 the Model Rules for Disaster Relief Operations was drafted by the United Nations Institute for Training and Research (UNITAR). The UN Disaster Relief Coordinator in 1984 came up with the draft 'Convention on Expediting the Delivery of Emergency Assistance'. With the publication of a treatise entitled International Humanitarian Assistance: Disaster Relief Actions in international law and organization, another milestone was marked in 1985.

The year from 1990 to 1999 marked the International Decade for Natural Disaster Reduction (IDNDR) declared by the United Nations. It was then when the United Nations General Assembly had passed a series of resolutions that concern with disaster relief.

In order to provide a boost for the international standard setting processes so that there is reduction in human, social, economic and environmental losses, the General Assembly launched the International Strategy for Disaster Reduction (ISDR). The aim of ISDR is to build disaster resilient communities. This was done to promote awareness of the importance of disaster reduction for sustainable development. The ISDR ensures synergy between activities of disaster reduction and those in humanitarian and socio economic fields. The ISDR coordinates strategies for disaster reduction. It is the main body of United Nations which works with close associations with national committees and regional initiatives. It encourages policy and awareness activities by working with national and regional committees committed to disaster reduction.

To create awareness among the people and prepare them fully to face a disaster, the United Nations and its agency have presented many agendas in the past. In the year 2004, the theme of the International Day for Disaster Reduction was "Learning from today's disasters for tomorrow's hazards". The Secretary General, have called the government authorities, businesses, community groups and individuals to see whether appropriate actions, such as early warning, were taken to save life and property .He also called for creating awareness about the disasters at schools, at university and through community networks. By engaging in community risk mapping exercises, young people can learn lifelong lessons, and help make their communities more disaster resilient.

Hyogo Framework for Action 2005-2015

After the Yokohama strategy on disaster risk reduction, two important resolutions were adopted at Hyogo in Japan in 2005. This world conference reviewed the Yokohama strategy and the outcome was the adoption of two important resolutions, the Hyogo declaration and the Hyogo framework for action 2005-2015. This led to the recognition of the essential relationship between poverty eradication, sustainable development and

disaster reduction. The aim of the nations in the declaration was to develop a culture of disaster prevention and resilience and to promote this strategy at all levels aligned from the individual to the international levels.

Though the examples of Katrina in USA and Tsunami in Asia have shown that these efforts at national, regional and international level have not been effective. The failure of the declaration is because there is no definite and accepted international law which frames legal procedures, duties and rights pertaining to disaster response. There is no organized attempt to amalgamate the variant threads of existing law. Neither there is any international standard for donating money nor any accountability of beneficiary government. Some exceptional disaster received relief from many sources while others go unreported and received inadequate relief and response.

SENDAI FRAMEWORK

After the Hyogo framework, another international agreement was adopted in the past 2015 development agenda known as the Sendai framework. Along with the framework, two major agreements followed in the same year: the Sustainable Development Goals 2015 – 2030 in September, and the UNCOP21 Climate Change agreement to combat human-induced climate change in December.

The sustainable development goals have talked about disaster resilience in seven out of seventeen goals making disaster risk reduction the most important themes of development. The disaster related goals incorporated includes poverty eradication, health, education, food security, infrastructure, cities, inclusive development and human settlements. Also the Paris agreement on climate change has highlighted eight areas which need action- for understanding, action and support for disaster reduction.

The common theme in these three global agreements is Disaster Risk Reduction (DRR). The Paris agreement on global climate change aims at minimizing loss and damage related to the adverse effects of climate change. These includes extreme weather events and slow onset events. With minimizing the loss and damage, the agreement also aims at preventing and inscribing the adverse effects of climate change.

These three agreements are focused on the desired outcomes in DRR. It encompasses the complex and interconnected social and economic processes associated with DRR. Building resilience in disaster is the key to development. Therefore an effective disaster risk management will contribute to sustainable development.

With its agenda the Sendai framework provides a major shift for the period ending in 2030.

- The government is placed at the centre of disaster risk reduction.
- It focuses on outcome based targets rather than focusing on sets of activities and actions
- The goal of the framework is to give equal importance to all kinds of disaster.
- A notable shift to disaster risk management is seen in the framework by focusing on the latent drivers of risk.
- There is a significant attention given to the implementation of integrated environmental and natural resource management approach for disaster reduction.
- DRR is seen as a policy concern that defines many sectors including health and education.

The Sendai framework outlines the need to address existing challenges and to prepare for future ones. As per the framework monitoring assessing and understanding disaster risk and sharing such information would reduce disaster risk. The Sendai Framework notes that it is “urgent and critical to anticipate, plan for and reduce disaster risk” to cope with disaster. In order to achieve this strengthening of disaster risk governance and coordination across various institutions and sectors is required. There is a need to invest in the economic, social, cultural, health and educational resilience at all levels. Further it promotes the need for research and technology to enhance multi-hazard, Early Warning Systems (EWS), preparedness, response, recovery, rehabilitation, and reconstruction.

It identifies four areas of disaster reduction-

- The various dimensions of vulnerability, exposure of people and assets, hazard characteristics, environment and the capacity to face disaster, should be understood

- for understanding the aim of disaster risk management. This knowledge could be used for risk assessment, prevention mitigation, preparedness and response,
- Disaster risk management needs efficient governance with accountability at all levels national, regional and global. It urges for a collaboration and partnership between governments. This would help in preventing, mitigation preparedness, response, recovery and rehabilitation.
 - DRR fosters for investment by public and private institutions to improve resilience through organization and non-organization measures. This becomes essential to strengthen the social, cultural, health and economic resilience of the individuals, communities and countries. Such investment would be necessary to enhance assets as well as the environment.
 - ‘Build back better’ is the key to disaster preparedness, recovery, rehabilitation and reconstruction. The development measures needs to incorporate disaster risk reduction for sustainable development. There is a need to strengthen disaster preparedness for response, take quick action in anticipation of events and to ensure capacities for recovery at all levels. To build back batter, the recovery, rehabilitation and reconstruction are important phases.

DISASTER MANAGEMENT ACT, 2005 IN INDIA

The disaster management act outlines its focus on disaster prevention and risk reduction unlike its management on relief centric approach. The enactment of the act in 2005 also mandates the formation of the National Disaster Management Authority (NDMA) along with the state disaster management authorities and district disaster management authorities at the respective levels. These bodies are responsible for disaster prevention, preparedness and risk reduction. The disaster management division of home ministry is responsible for the guidance of national disaster overall. The allocation of funds is done from the creation of a new body called the national disaster mitigation fund. Accordingly the concerned ministries and departments can outline their own plan in accordance with the national plan. The financial mechanism of funds at the state and district levels is also drawn from the act. The act gives all the power to the centre for dealing with disasters. This comprehensive power at the national level not only outlines the planning and

monitoring assistance to the states but it also includes executive powers and functions. The act gives power to the NDMA and the NEC (national executive committee) to plan, coordinate, monitor and provide assistance during disaster. The executive functions are related to implementation of the emergency relief and response. However the need of the hour is that the power needs to be further delegated to the functionaries in the forefront. The state government being aware of the field situation in any crisis will be able to effectively provide timely and best response. Therefore the empowerment of the state government and other functionaries is needed.

International practices also do not normally involve setting up centralized authorities with command and control functions to deal with disasters. The integration of the institutional structure prescribed under the Act with the existing administrative framework of the country may pose several problems. The NDMA and the NEC will also lay down guidelines for the state authorities, coordinate the enforcement and implementation of these policies and ensure timely response. All these functions traditionally have been performed by State Governments. The Cabinet Secretary at the union level is more appropriate authority for the coordination of disaster management efforts rather than the NEC under department secretary.

Challenges in the Act

The union government should play a supportive role and give primary responsibilities to the state governments in the disaster management act. Therefore the power and responsibility of mitigation, prevention and response measures should be given to the state governments. Likewise also the district authorities and local authorities should be involved.

The functions of the NDMA should be: to recommend policies, to lay down guidelines, to promote research, to advise on parameters of categorization of disasters, documentation and dissemination of knowledge, capacity building, early warning systems, to deploy resources in support of local/State Governments, and to give recommendations to the government.

The NDMA has failed the states to prepare for the disaster they are vulnerable to. Moreover the states have not been able to implement the concerned plans. Regarding floods, NDMA has no system in place for the early warnings in the vulnerable areas like for example Uttarakhand flood. There is a lack of coordination between the government agencies and ministries. NDMA has failed in performing many important functions like recommending provision of funds for mitigation, as well as relief in repayment of loans or grant of fresh ones. NDMA's project management capacity has been found deficient. NDMA has not been able to complete many major projects so far.

Since the field functionaries are aware of the ground reality, the role of local government in planning and monitoring disaster mitigation becomes more effective. Thus they should be brought to the forefront in disaster management. In this case the act should categorize different types of disasters in local, district, state or national level considering the intensity of each type of disaster. This categorization would help in deciding the level of authority first and foremost responsible for mitigating disaster and its response.

The act should strictly cast a duty on every government official to inform the concerned authority promptly about any crisis. The NEC specified under the disaster management act need not to be constituted. The previously functioning body, NCMC in place of NEC was more functional and effective than the NEC as seen in many cases for example the Kashmir, Bihar floods. The formation of new bodies performing the same functions delays the response to a disaster. Therefore the NCMC should continue its role as the apex coordination body and at the state level, the existing coordination mechanism under the Chief Secretary should continue.

The disaster management act, 2005 was enacted by invoking entry 23 namely 'Social security and social insurance, employment and unemployment' in the Concurrent List. All aspects of crisis management cannot be said to be covered by this entry in the list. Therefore the subject of disaster management is not mentioned in any of the three lists. Though the primary responsibility to manage disasters should be of the state governments, the parliament has the competence to legislate on this subject.

Since the nature of disaster management involves coordination between the union, state and local authorities with other departments and agencies involved calls for the setting up of a uniform institutional framework at all levels. This is of paramount importance because of its converging nature involving various institutions for example the water commission department, meteorological department, armed forces, Ngos and so on. Therefore there is a need for a balanced and consistent body with clear demarcation of division of labour among agencies at their respective levels. There should be laws for strict punishment for misutilization of funds meant for disaster management.

The formation of NEC when NCMC was already functional leads to more confusion in the execution of disaster management. Parallel bodies doing the same function would only create conflict between them.

The National Disaster Response Force created under the DM 2005 is a special force to response to disasters. While NDRF provides quick response in disaster situations, the army force should be available in the last resort. Both play an important role and cannot be substituted with each other's functions and role.

National Disaster Management Plan, 2016

The National Disaster Management Plan was released for the first time by the Prime Minister, Narendra Modi in 2016. It tries to encompass the framework adopted by the United Nations in Sendai at the third United Nations World Conference. India being among the signatory nations attempts to comply with on a voluntary basis as it is a non binding agreement. By abiding to globally accepted best practices India will make its best efforts to contribute globally in improving the entire disaster management cycle. The plan covers all the stages of disaster management like the prevention, mitigation, response and recovery. It also divides the responsibilities from the central, state to district to local level. It involves right up to the panchayat and urban local level. The plan also identifies major areas of concern i.e. education, communication, and information activities.

The plan has not provided any time frame for undertaking these activities. There is no mention of the framework for monitoring and evaluation of the plan. The funding

mechanism is also not clear about the project in need of funds. The activities that the plan has included are not new. Same activities were listed in the previous plans too that too with the time-frame for implementation. Although the plan is said to be aligned with Sendai framework, but there are no goals or targets, unlike Sendai framework. Moreover the plan fails to incorporate the vulnerable sections of the society. It does not identify them as vulnerable. For example vulnerable groups consist of women, disabled, aged, child, orphans and dalits in India. Such negligence would not make a plan successful in a country like India which is divided in the lines of caste, class, gender, religion, and ethnicity and so on.

Actions to be taken effectively

The system should not be completely centralised or decentralised. There should be a flow of power from the centre to the state and at the local level. Where ever funds and power needs to be given to the state and local authority should be given. The centre should not stop funds looking at its political affiliation with the state government.

There is misutilization of resources therefore a law needs to empower authorities handling disasters to acquire resources and remove hindrances.

There should be end to end early warning system for transmission of information with good technologies. In this regard individuals play a crucial role. This should be the statutory duty of the official concerned.

Often funds meant for disaster management is not used for its purpose. There should be penalty for misutilization of funds and this itself could be part of the law.

The closest to disaster is the local authority. But unfortunately they have very less means to rescue and rehabilitation. They have to wait for the orders from the above. Also they play an important role in crisis management under the head of district administrator.

Having laid the mission of international frameworks it becomes increasingly important for national governments to build resilience. This cannot be fulfilled by the governments alone. There is the need of many stakeholders to support, facilitate and promote resilience

across sectors. Despite of such promising frameworks, the example of hurricane Katrina in the U.S broke the myth of the American fantasy of an egalitarian society. When social parameters cut apart it leads to more damages than a natural disaster. The race and class factor in Hurricane Katrina devastated the whole American society leading to marginalization on the basis of class, race and gender. Similar is the case of India. Despite of having an act and plan for disaster management, it has been a failure when it comes to relief and mitigation. The fragile communication system, the early warning system of the looming danger and the power with the bureaucrats has all made us ponder on the existing problems of disaster management. The example of Kosi flood in Bihar every year puts forward new challenges. The complex matrix of caste, class and gender makes the whole scenario more problematic. To substantiate the problems faced in a natural disaster, the next chapter would deal with the study and observation of the field. Maynaguri being one of the important blocks in West Bengal has Teesta and Jaldhaka flowing through it. Both are perennial rivers and carry huge capacity of run off during monsoon. This leads to water logging in the catchment areas when the river receives heavy rainfall. Also 88.5% of the population (census 2011) live in rural areas which are highly prone to floods. The block comprises of 16 gram panchayats, therefore the fieldwork was conducted in Domohani 1 G.P because it is the worst affected G.P.

CHAPTER 4

FIELD EXPERIENCES: GENDER INEQUALITY AND SOCIAL EXCLUSION IN DISASTER

Every year millions of people are affected by disasters, which are beyond human control and it causes huge loss of life and property and in the process leaves behind many affected people beyond boundaries, caste, creed or any religion. In these circumstances exclusion and discrimination is mostly faced by vulnerable groups such as women, children and marginalized section of the society. Mainly women and children face discrimination during their stay in temporary shelters due to lack of facilities for them. The term vulnerability gets further marginalised within community into different castes, women, children, elderly and orphans. Among women there are further divided into single women, widow and pregnant women.

In India the marginalized groups and communities are exposed to threats of flooding which poses a considerable challenge for their justice. The citizens are already exposed to risk and in such situation they are expected to play a pivotal role in facing it and further play active role in disaster risk management. When social identities become a constraint and resources available starts to shape human responses to natural disasters, it becomes very important for an inclusive policy to be adopted by the government. Such discrimination persists and shape how people interpret and respond to opportunities and outcomes around them.

It is true that during and post disaster, every affected person have the basic right to his/her dignity irrespective of race, place of birth, religion, caste, creed or gender. Traditionally people think of post disaster relief and funds only in the time of emergency but it should encompass the complete realm of activities including prevention, mitigation and preparedness.

AREA OF THE BLOCK

Area: 530.60 Sq. Km., GP: 16, Police Station: Maynaguri (Maynaguri Block, Disaster Management Plan, 2013). It was the war between the Britishers and Bhutan that led to the formation of western Dooers in 1864. This led to the formation of western Dooers and eastern Dooers in 1864. There was three subdivisions formed in western dooers – Buxa with headquarters at Alipur, Dalimkote and Sadar with headquarters at Maynaguri.

“The Duars was annexed with the British territory by the treaty of Senchula in 1865.Sadar comprised the tract of land between the rivers Teesta and Torsa with headquarters at Maynaguri. Later in the year 1866, the western Duars was formed in to a District and placed under the charge of a Deputy Commissioner.” Maynaguri was the administrative head quarter of erstwhile Western Dooars District till 1866.

Maynaguri block is one of the 07 Blocks of Jalpaiguri district having an area of 530.60sq.km. “The block comprises sixteen gram panchayats having a population of 329032 (male: 170030, Female: 159002)” (Maynaguri block, Disaster Management Plan,2013). Maynaguri is known as the land of three gods i.e. the Jalpesh, the Jatileswar and the Bateswar. All these names are given to Lord Shiva.

The block falls under the sub-himalayan region. The largest river is Teesta with a length of 411 km. It originates from the Zemu glacier of North Sikkim and enters Jalpaiguri district from its north-west corner. It the most turbulent river of North Bengal. The area of the study is mainly bounded by the river Teesta. In Maynaguri the river touches Domohani-I, Domohani-II, Barnesh, Padamati-I, Padamati-II and Dharmapur gram panchayats. Another river, the Jaldhaka with a length of 236 originating from the Bitang lake area in Bhutan flows in the Maynaguri block near Ramshai gram panchayats. These two major rivers, Teesta and Jaldhaka with other riverines carries huge amount of run-off during the monsoon season. Through their deep gorges with very high velocity, it gushes down the tracks leading to over spill which results in large scale water logging. These rivers are perennial in nature causing floods in the monsoon when the area receives heavy rainfall in their catchment areas. This becomes very problematic during monsoons and leads to worst situation like floods. Another river Jarda originating from Dooers forest

area receives huge water from the neighbouring areas. Though a small river but such situation add to its capacity and inundate its neighbouring localities. It flows through Maynaguri causing damage to dwelling houses of the families living on its both sides. During monsoon this becomes a perennial water logging problem.

Flooding in north Bengal is caused either by short duration, high intensity events where the drainage facilities are inadequate to cope with the rate of runoff, or by long duration, low to moderate intensity events where the substrata becomes saturated, and most of the rainfall results in runoff. The rainfall in North Bengal lasts five to six months from May to early October. The river beds of both Teesta and Jaldhaka are rising every year. This results in the deposition of silts on the river beds which damages huge properties in the unprotected areas.

All most every year some portion of Maynaguri Block is affected due to flood . Last year due to heavy rainfall during 08/08/2017 to 13/08/2017, Maynaguri Block faced flood. All sixteen panchayats were affected and around 41000 peoples were affected due to flood. In total seven relief camps were opened, all are temporary shelters with three gruel kitchen. Maynaguri Block have two permanent flood shelters, both of them are not used due to non maintenance. In this situation facilities provided to the people are in very worst condition particularly for women, children, aged people, and disabled persons.

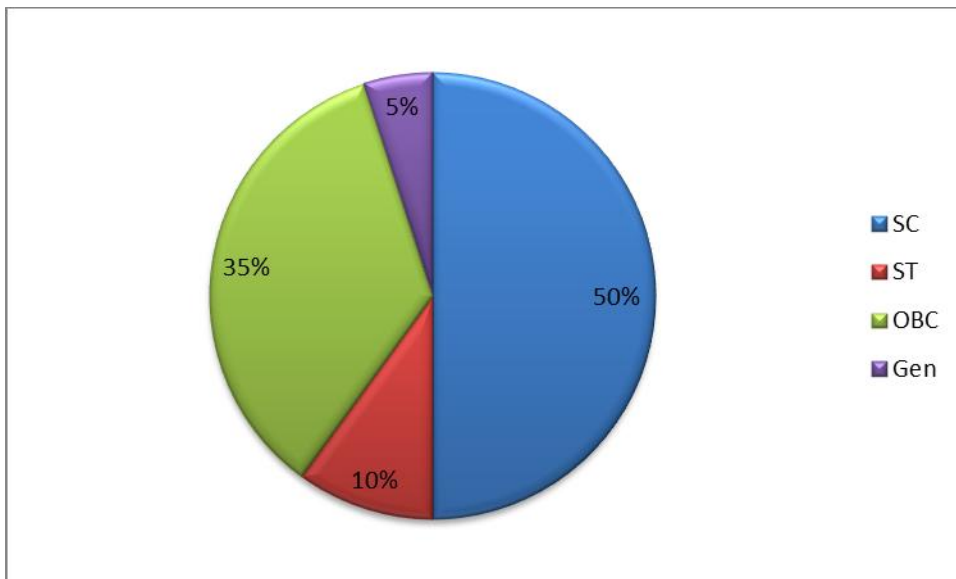
Pilot Study and Its Experience

Any pilot study can help a researcher to plan a blue print of the research. Like any other researcher I had many questions and pre conceived notions before visiting the field. It was an experience and opportunity to visit the field. It is due to pilot studies that the larger study can be understood and carried out. It improves the quality and efficiency of the larger study. It is a small experiment designed to gather information for a larger study. During my pilot study I visited most of the gram panchayats affected by flood in Maynaguri. The most affected flood area in Maynaguri were Domohani 1,Padmati 1,Padamati 2 and Barnesh. This took me almost 10 to 15 days. With new insights and findings, the notion I had on my mind was totally different from the reality. As a researcher it was insightful to face the ground reality. The interaction with the victims of a natural disaster was very different from any other study. The common language spoken

is Bengali. Though I could speak Bengali, I still took along my Bengali friend, Sushmita. During my pilot study observation I found out that it was not possible to visit all the sixteen gram panchayats in Maynaguri block. Among the most affected flood areas in the block was Domohani 1. What made me choose this gram panchayat? The fact that it was the most affected G.P in the block and in my pilot study I found out that there was no Ngos or any self help groups involved in the flood relief and rehabilitation. Also the socio economic status of the people living in Domohani was very poor in comparison to other gram panchayats. The very fact of the non involvement of NGOs made me more curious and inquisitive. Women in Domohani 1 were more friendly and interactive. Not only in Domohani 1 but in other gram panchayats as well men were a little uncomfortable and hesitant to answer my questions. Each time I visited the field during my pilot study they would be more sceptical. They would ask me question whether if I had come on behalf of the government and whether they would get something on behalf of answering my questions. To make them comfortable I decided to meet the pradhan of the village. This helped me to make them understand my work. Without pilot study it would have been very difficult to understand the area and make rapport with my respondents.

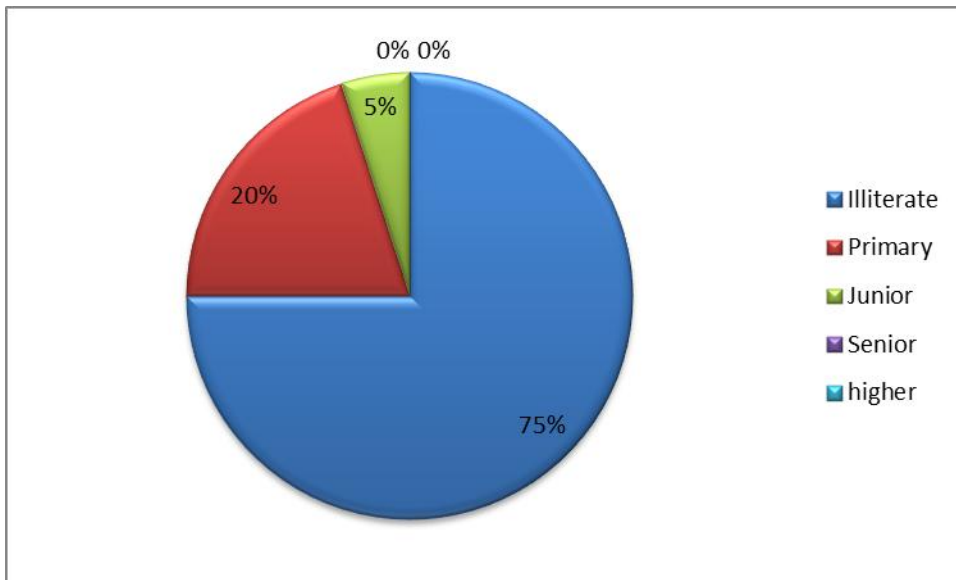
The socio economic profile of the respondents-

Pie Chart 4.1 Caste of the respondents



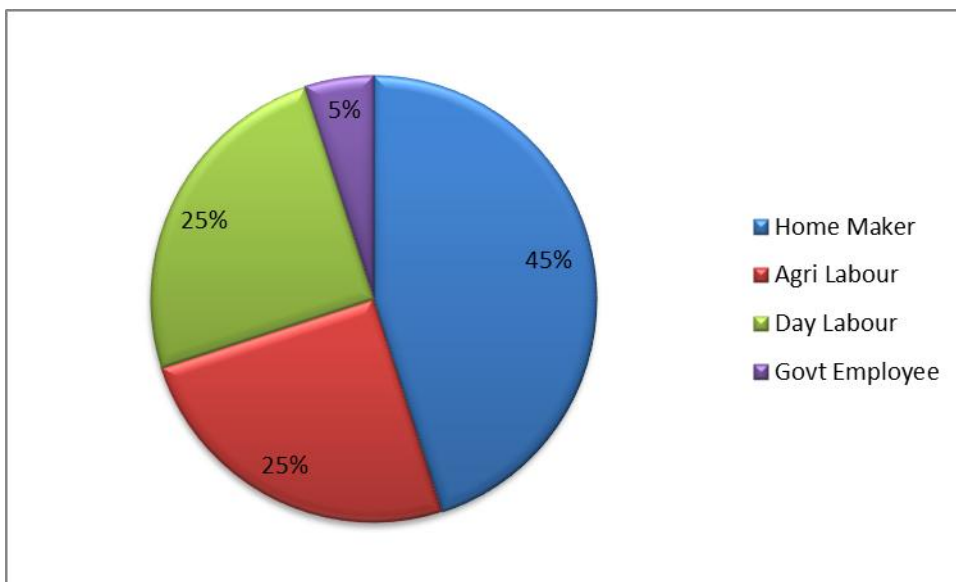
The respondents were women. 50% belonged to Scheduled caste, 35% to Other Backward Class, 10% from Scheduled tribe and 5% from General category.

Pie Chart 4.2 Education level of the respondents



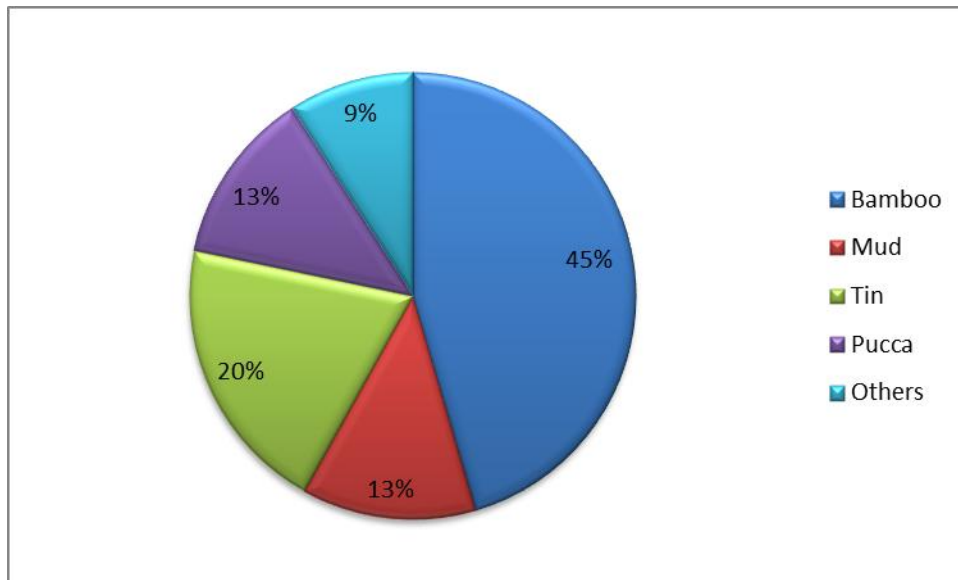
Among the respondents 75% were illiterate, 20% have done primary schooling and 5% have studied till junior school. No respondent did their secondary and higher education.

Pie Chart 4.3 Occupation of the respondent



The above chart states that 45% of them were home workers, 25% were agricultural labourers, 5% were government workers (agaanwadi workers) and 25% were day labourers.

Pie Chart 4.4 Type of houses of the respondents



Among the respondents 45% stayed in bamboo houses, 20% in tin houses, 13% in pucca houses, 9% in straw bamboo houses and 13% in mud houses.

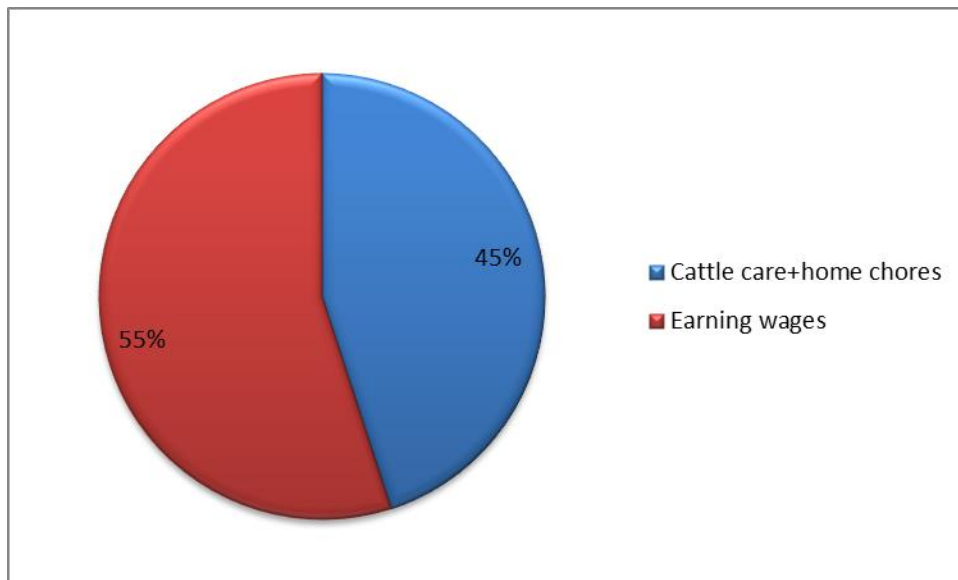
Women in pre-flood stage

Almost all of the respondents were of the opinion that nobody could do anything during flood or any natural disaster. People have to live with it, it is more of compulsion. But this compulsion also in a way gets normalised in the society. The flood victims due to their socio economic status are compelled to live in flood prone areas. They are already the victims of poverty and when a disaster strikes it becomes like a normal phenomenon for them. Every year the people of this area are affected by flood.

In pre flood period it is the women who play the vital role in the family. They are aware of the probable difficulties during disaster due to their experience. To preserve food women of the household prepare dry food like puffed rice, chira, dry vegetables and dry fishes etc. Also dry firewood for cooking is also collected by women. In order to preserve food or any other useful materials the women make matcha (elevated place made of bamboo). This can help saving livestock and themselves during flood. Also shrubs like banana are planted around the house which acts like a fence during flood. It is generally during the rainy season in the month of June and August the water level rises and causes

flooding in the area. Therefore early in the month of June people start preserving food and saving money for situations during flood. Though the amount one can save is very less. Food is also stored for livestock and portable stove are made to prepare food during flood.

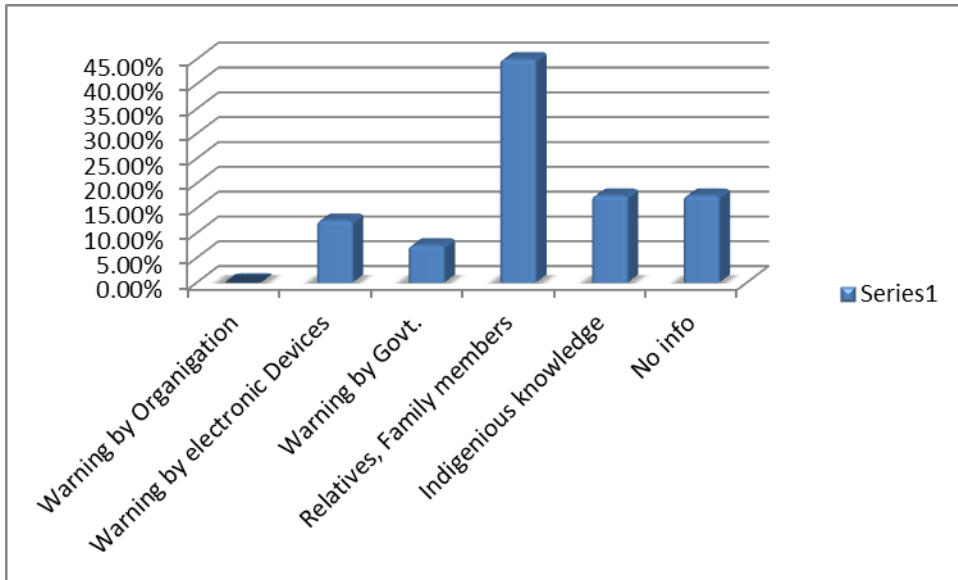
Pie Chart 4.5 Women's participation in pre-flood situation



In the pre flood stage women are either involved in home chores or earning wages. But this alone does not stop women from preparing themselves from flood. They prepare and preserve food, make elevated place to store valuables and also plant shrubs that would act as a fence during flood. 45% of the respondents were involved in home chores and cattle care while 55% in earning wages.

In case of forecasting of flood there is no formal organization found to make them aware of flood. People themselves are aware on the month of rainy season and sometimes by electronic devices such as radio and mobile. Very few get warnings given by the government which mainly occurs in a very informal way. Likewise they inform other family members, their relatives and other people directly or by using mobile. Only when the flood strikes, the government uses mikes to rescue people.

Graph 4.6 Early warning system



The respondents get 45% of early warning signal from their family members and relatives, 17.5% from their knowledge, 12.5% from electronic device like radio and television, 7.5% from government sources. There is no warning signal from any organization and 17.5% are not aware of any early warnings from any sources.

The sufferings of the affected people see no bounds once the flood occurs in the area. The entire land gets submerged in the water including agricultural land. This damages crops and homestead gardens are inundated. During flood and mostly post flood situation, most of the people starve themselves causing high malnutrition. In flood the communication system fails, the settlement is damaged, no proper sanitation system, lack of pure drinking water and loss of livestock makes the situation worse. Many water borne diseases arise like diarrhoea, fever, malaria, viral infection and other infectious diseases. When the families rescue themselves and stay in the shelter, they take their livestock and dry food along with them.

Women have different responsibilities than men during flood. They take care of the old people and children. The collection of relief provided by the government is often collected by the men. Very few medical services are seen in the locality. Vulnerability increases as old persons, disable and women suffer in a different manner during flood and

post flood. The tube wells were situated far from the low lying areas, so the women had to walk a long distance to collect pure drinking water. The responsibility of preserving important things of the household lies on the women. They generally store it in on matcha.²

Women Participation in Post Flood Activities

The people who take shelter in relief camps or migrate to other areas all come back to their home after flood with all their family members. The main work then becomes in reconstructing the house and homestead gardening. Some houses due to full inundation by river water get fully damaged. The male members of the family generally go to other nearby places to earn their livelihood. In such cases women are left behind to look after the family and house.

Within developing countries women are comparatively more vulnerable than men. This very fact is highlighted in disasters because due to their vulnerability women by nature are coupled with additional workloads and difficulties. There is cultural and economic aspect to this. Women have always been treated as secondary to men. They are responsible for looking after their family and children. The patriarchal norm restricts women from accessing opportunities for example access to education. The other factor is socio economic aspect where women profile is low. According to the study of World Bank, “women whose socio economic status are low than men are disproportionately more vulnerable to damages”. One’s education level, income level and occupation impact the standing of a person in the society which automatically provides them with greater opportunities. Women are excluded from policy making processes which lead to exclusion of their interest and needs. This causes gender gap in the policy (UNISDR,2009). From the institutional response to disasters shows the biasness towards gender. This is only a small example of the gender gap that they face and experience in reality.

Women have ranked their own personal concern in the last when it comes to ranking their priorities during and after disaster. Their cared more about the needs of their family

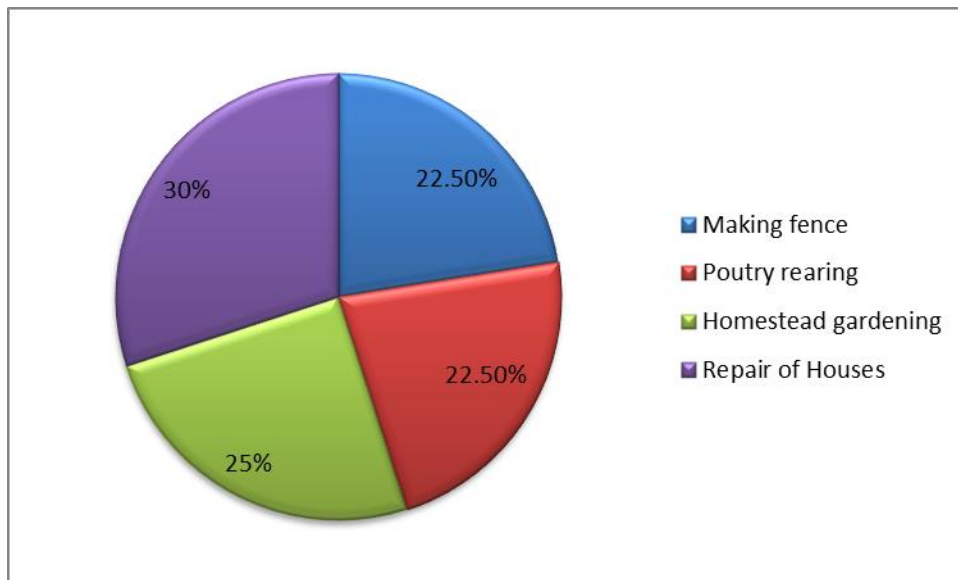
² Elevated place made of bamboo

members, need for food, water, clothing, medicines and housing. On the question of their personal hygiene, the supplies during relief like supply of sanitary napkins are not prioritized by the local government. Such concerns are heavily neglected. Bathen and Khan in their study of women's specific health needs and concerns showed the same result in Bangladesh that overlooked their concerns (Bathen and Khan,2010). Disaster relief in Domodahin1 similarly has no supply of sanitary pads. Women also suffered from anxiety, lack of food supply and injuries during flood. Moreover women become more vulnerable during disasters due to the spread of diseases. When the women are themselves on the verge of illness she has to take responsibility as a caregiver to her family members. Her mental health is also being affected with her physical health due to workload. The role women perform as home makers and the responsibility she carries only amounts to reproductive work. Such work as child rearing and housekeeping are not counted as actual work or productive work and so are unpaid. Women are ascribed to such works. World health organization conducted a study that showed how women were assumed to be responsible for those affected by disasters particularly the children and the old (WHO, 2002). This increases their emotional and psychological burdens during disaster situations. This Doerner calls "double victimizations" meaning as "already victimized and you end up going through the victimization again from the system you are in". (Doerner, 2012). Among the respondents the majority of them belonged to poor families. Bourdieu's different types of capital can be used here to explain how women's socio economic status can determine the other factors like government or political ones. The economic capital accounts to greater cultural and symbolic capital which can take form of the political and the like (Bourdieu, 1986). The respondents belonged majorly to low income groups therefore become more vulnerable because of their lack of economic capital which reinforces their lack of political capital. This leads to double burden further marginalizing them.

Women are being continuously socialised to the prevailing nature of the society. They fail to identify their domination and vulnerability. They accept it as their duty which makes them a marginalized section in the society. There is depiction of different dimensions of how a woman becomes the prime victim in flood. Women are vulnerable in access to food, clothes, sanitation, hygiene, drinking water and so on. Such deprivation

and discrimination are of utmost importance in deciding women's role in the society despite being the most active participant in different stages of floods. Social marginality is seen both in pre and post floods period. A woman faces multiple challenges in the context of being a woman. The relief help and support from government and non-government agents during flood also brings out the ignorance of the government in considering gender aspects of a disaster.

Pie Chart 4.7 Women's participation in post flood activities.



Women actively take part in post flood activities so that they get back to their normal life. Works like making fence, poultry rearing, homestead gardening and repair of houses are done by them because their husbands leave for work. This shows 30% women are engaged in repairing of houses, 25% are engaged in homestead gardening and 22.50% are involved in making fence and poultry rearing.

Women's vulnerability during flood

Natural disaster like flood induces vulnerabilities depriving women of their basic right of proper food and shelter. Poverty and one's social identity further adds to the problem of women. They automatically become more vulnerable to disaster than their counterpart. Women face hardships in finding adequate food, clean water, fuel for cooking, shelter and maintaining personal hygiene. All these factors prevent them from performing their

usual roles at home. Almost all the women informants of the village emphasized that they performed more work than the men during pre flood stage. A woman of age 35, Kalpana Barman said she had to perform more work with the responsibility of her family. She also took in charge of protecting things that were needed. She would often fold off things that could be protected. Because her husband worked in the mainland he could not help much in pre flood stage. Women were overburdened with responsibilities during flood and the only task of their husbands was to keep them safe during flood. There was no particular role of men in pre flood stage. She used to work in MGNREGA when such opportunity was provided by the govt as unskilled manual labourer.

Tuli Barman, aged 32 shared her experience during flood when she slipped in the camp and severely injured her leg. Since there was no medical help at that time, she was treated with traditional practises. Later with the health officers visited the camp she was given one month bed rest as she had fractured her leg severely. Many women responded that they suffered from physical injuries.

Kavita Barman informed that her work during rainy season and during flood was almost the same. In both ways she had to stay back at home and take care of the family though during flood the effect was devastating. She was a marginal worker. Since her husband had to go to work daily she had to stay back when it was needed. Even when she left for work she would be late because she had to look after her children and elderly members of the family. She said when it rains heavily she always prepares herself for flood. There is too much of mental stress, pressure and danger. Women worry about their family all the time. Worries like getting drowned in the flood and getting sick are her prime concern. This affects her mental health. During flood there is less mobility among women.

Similarly Kavita Barman said when flood hits the area; the burden is heavily upon women to take responsibilities of family members. She further said that when the water starts to dry up and when they have to return back to their houses, the burden becomes double. When the water dries it leaves behind a foul and stinking smell. Women take the responsibility of rearranging their houses so that they can live in it.

Kamla, 27 years said: many at times I have slept with a hungry stomach in order to satisfy our family's need. Women are the ones who see first whether their family member's hungry stomach is satisfied or not. The needs of their husband and children are first considered. This increases the risk for women's nutrition.

In the relief camps there is no special and separate arrangements made for the women. Everybody has to live together in a room. Almost fifteen to twenty people are accumulated in the same room. Generally they are kept family wise. Also there are no separate toilets for women.

Women's diet is not only important for their personal health but it becomes increasingly important when a woman is pregnant or in case of lactating mothers. Same amount of food is distributed to all regardless of pregnant women or lactating mothers or children. Proper nutritional food is not at all available and to add to the problem whatever the amount of food is present is also further shared with the family members. Those preserved food by the women also gets eroded in the water many at times.

Clothes

There is scarcity of clothes at times of disaster. People spend 2-3 days in the same clothes and sometimes with the wet clothes. Flood not only sweeps away the basic amenities but also shyness of the womenfolk. Women argued that there was lack of clothes. The government provided clothes but were not sufficient. Living in such filthy clothes led to illness and infections. Flood is such a disaster which sweeps away with it everything even the shyness of the womenfolk especially. The women of the village argued that sometime they have to spend two three days with the same attire and sometime with wet clothes. This further leads to different illness and infections.

The infants and also the weak and bed-ridden elderly people sometimes do their defecation in their clothes. This creates a very stinking smell as they do not get enough clothes to change nor place to soak them. Thus this creates a dishabille place where living becomes quite impossible but still they have to only for the sustenance.

The women also reported that during flood the menstruation day come like a curse upon them. There are no sufficient clothes to be used and the repeated use of the same dirty and torn clothes creates immense stinking and infection within their delicate body organs. Sometimes the stains get stick to their clothes and then it become a great problem for them as they have to stay communally with their male counterparts. This seriously affects the dignity and the self respect of the womenfolk.

Shelter

The flood impacts everybody in case of shelter. The relief camps made by the governments are places where they live during flood unanimously with everyone. Generally they are kept family wise. There are no separate rooms for men and women. They are kept here till the water level dries up. Cattles and domesticated animals are also brought together with the victims. During such situation when there is no protection every individual becomes open to be attacked by danger. Generally the men take advantage of this situation but in my responses no such information was recorded. One of the respondents said she had to live with her brother in laws in the camps while at home they never eat and sleep in the same room. But in the camps all were kept in one single room.

Water and sanitation

Disasters like flood bring serious health issues and leads to infections and illness. It is a period of public health hazard. During flood water is contaminated and it becomes very difficult to access pure drinking water. The relief camps provide packets of water to the victims but this alone is not satisfactory and enough for the whole affected people. Especially after they go back to their homes the women have to get pure water from wells and tube wells that are situation away from their houses.

Another health issue is the problem of defecation. Since the respondents mostly live in kutchha houses³ there is no proper sanitation. And in the floods the relief camps do have concrete toilets but it is not in a good situation. Toilets in the relief camps are less and often people defecate in the open. Women have no separate toilets. For women to

³ Houses made of mud, thatch or other low quality materials.

defecate in the open was also not possible both in day and night. The situation was very difficult for them. Sometimes while defecating litchis and other insects get stuck to their bodies and also to their personal organs. Thus, to control their defecation the women tries to skip their meals. By controlling their defecation it leads to back pain and other infections.

The major problem women face is the period of menstruation. Women generally use a cloth during their menstruation. Since there is no proper arrangement of clothes in the camps and no sanitary pads provided by the government women have to cope with this problem themselves. Disposal of such clothes become problematic so they just use the same stinking cloth for more than one day.

Education

It is next to impossible to go to schools during and after flood for a long period of times. Post flood period things take time to be normal. The schools are declared closed during flood. In order to assist their mothers, a girl child always stays back and thus is worst sufferers of flood in case of education. This leads to higher rates of dropouts among the girl child.

Women's sexual and reproductive health during floods suffers mainly due to poor living conditions and institutional responses. No separate rooms for male and female, no proper cooking place, no separate toilets further deteriorate their health. Women find refuge in traditional unhygienic practices for example usage of torn and dirty cloths during menstruation. The respondents earlier did use torn cloths for menstruation but during flood they have no extra clean cloth and even when they have there are no clean water to wash, soak and dry such cloths. Thus during floods they suffer from menstruation problems, waist pain, malnutrition, urinary infections and complications related to pregnancy. Flood for women thus comes like a nightmare.

Poor access of women in the society

Poor environment health	Poor communication and information
Women's role as are taker in the family	Women have less access to information sources
Women's role in hygiene	Information communication is often at in appropriate times for women
Women's role as water manager	Massage is often formulated without involvement of women

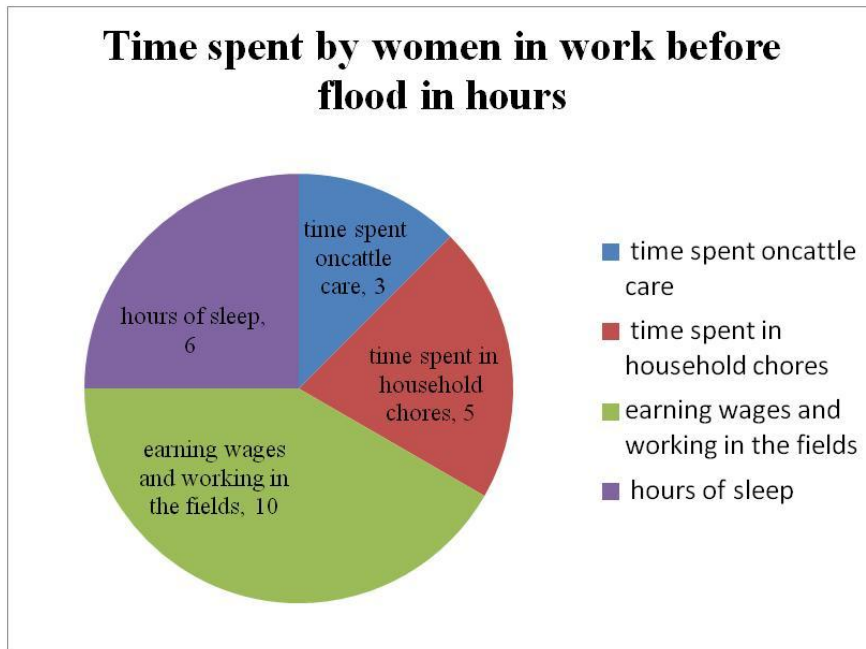
Women's responsibilities and work load during floods.

Flooding stage	Responsibilities of women (W) vs (M)
Pre Stage	W>M
During Flood	W<M
Post stage	W>M

Indigenous coping and adaptive strategies of women

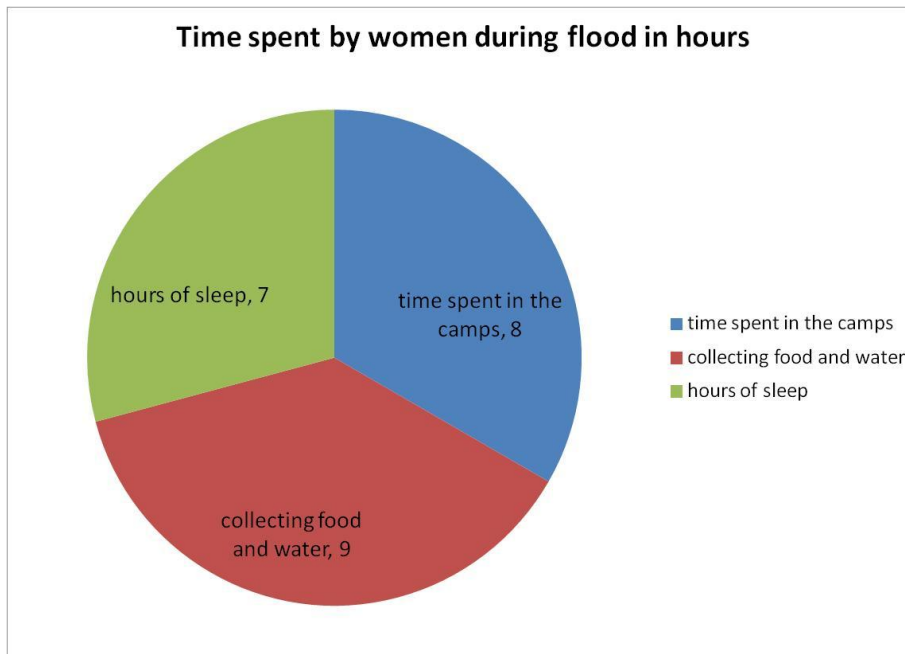
Short term strategies	Long term strategies
Coping strategies to a specific shock (e.g. Flood, Displacement, Making fence)	They adapt to long term behavioural change
Changes in life style	New income generating skills

Pie Chart 4.8



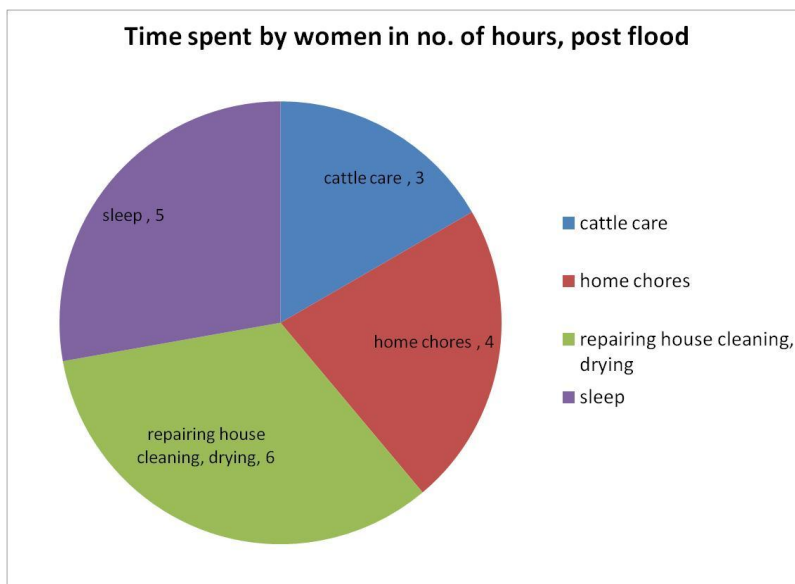
Women mainly are involved in work throughout the day; she is engaged in some work or the other. She only gets 6 hours of sleep and the rest of the time she is continuously working.

Pie Chart 4.9



The chart above illustrates the division of time of a women's life during flood. She mainly is occupied in collecting food and water and looking after her family.

Pie Chart 4.10



In the post flood stage, she bears heavier work load than men do. The above chart illustrates the burden of work and the no. of hours she is engaged in completing the work.

An analysis of the impact of flood upon different categories or stages of women

Adolescent girls

The respondent told me her situation during her stay in the relief camps. Reena, aged 23 mainly faced major problem during menstruation. Already in flood situation, there is scarcity of clothes. This is accentuated by no government help. There was no facility for women and no sanitary pads were provided by the government. In a situation where she had no spare cloths she was compelled to use the same dirty wet cloth for 2 days. She felt so helpless that she had to stay with stains on her clothes till the second day. On the third day she had to tear the cloth she was wearing and use it as supplementary to sanitary pads. When stains get attached to their clothes it became very awkward leading to a shameful moment. There were young boys and men in the camp with her. She said in this context, that being a girl there is a veil of shyness but such situations due to their disadvantaged position she could not anything.

Another respondent, Mampi talked about defecation when she had to use mud to clean her hands. The government relief did provide soaps but in a very less quantity. They had no option then to resort to it. This leads to an unhygienic atmosphere all around. Though she belongs to a poor family but when there was no flood, they could clean using water and soap but flood situations completely makes them helpless. The government did provide wash kits but it was not sufficient for everyone.

On talking to Neelima, 25 years old she laid emphasis on boys getting more facilities than a girl. For example she said that the boys were first served food. But on asking others they agreed that sometimes it did happen but it was not obvious. Whoever was in the line first could get the food first. The marginalization of women is not only due to biological construct but also from a social construct. It is actually mainly from a social construct. Many people believe that a girl should learn to eat less and to swallow suffering.

Pregnant women

It is the most difficult time in a flood situation to reproduce. Though none of my respondents were pregnant during flood but the stories they told me about the past flood experiences were painful and sad. Fatima's sister had to face such hardship when flood occurred last year. Due to no access to medical facilities or any help her sister had to give birth to the child on a raft made of bamboo. Since all the roads were muddy and closed there could not avail the facility of an ambulance. There was no privacy. Another case of a woman named Bimola, who was known to the respondent Anita Roy was laid out in the camp bounded in a circular form by the other woman in the camp. Since the health officers did not visit on that particular day the villagers themselves conducted the delivery. The nutrition food for pregnant women, hygiene maintenance and all the necessary things need to be done are absent during flood. When the pregnant mother also has to look after her other child if she had been pregnant for the second time, the situation gets worse. Due to lack of basic facilities and no proper care and necessities she gave birth to very weak and fragile baby. Also the whole atmosphere becomes very unhygienic which is not suitable for breathing. Flood devastated the whole situation putting heavy burden on the womenfolk and it brings with it a lot of curse for the entire population and creates a wide gap between the two genders marking the vulnerability of the women.

Lactating women

It is an important part of pregnancy. This produces a thick yellowish fluid during the latter part of pregnancy when the breast produces colostrums. Lactation comes during the latter part of pregnancy when the child is born. Two of the respondents were lactating mothers. In a situation where there is already scarcity of food, it was obvious that there was no help in the relief camps for the lactating mother as well. There was no adequate consumption of nutritional food as a result the child's health gets affected. There was no proper place to rest and sleep for the mother. Instead there were sleepless nights in the camp where the people were always in fear of loss and damage. Despite of this phase they had to look after their family members. There was huge workload which made them easily tired and weak. In the camps there was always the fear of being drowned.

Due to lack of nutritional food, the mother became very weak and was not able to produce milk for the child. Later in the camps the health staffs provided her with milk packets and baby food which was not sufficient to feed the child. Both the mother and child's health suffered during flood.

The women also suffered from proper defecation process and as a result certain internal complications were raised in their latter life.

Thus, from the report it can be analysed that flood brings with the tools of oppression through which severe pain is inflicted upon the women. During the period of breast feeding the women need to have good diet. But everything gets destroyed due to the over rising of flood water. The women could not get enough protein and as a result the child that is born happened to be weak and sometimes gets prone to diseases.

Elderly old women

During this stage old people need equal care like that of a child. Elderly old people become helpless and need help in everything they do. They are unable to move from one place to the other. This stage of life is the last stage. It was really sad that elderly people thought of themselves as a burden to the family. Jyoyanti' s mother in law aged 72 said she preferred to die in such situation rather than being a burden to her family. It is evident how old women feel about themselves and the mental trauma they go through.

Analysis and interpretation of data

The following were the findings on the vulnerability of women in the flood area of Domohani 1-

The inaccessibility of food and water hampers the health of women. They are not provided with sufficient food in first place itself leaving the question of nutritional food behind. Women have huge responsibility mainly after flood and before flood. Since they are in constant contact with water, this leads to many water borne diseases. The pregnant women are also devoid of the nutritional food they needed during their pregnancy stage of life. There is lack of proper clothes and as a result they have to use the same clothes

and there are insufficient sources to wash and soak their clothes so that they can further use for their purpose. During their menstruation the women are in a very deplorable state with lack of every necessary need. Again in a refugee camp shelter, women are like an open treasury where they can be under the vulture's eye that is under the crooked grasp of the men. Although such instances were not reported because they said that flood is such a period when everyone is in a state of tension, fear and distress. Everyone lives together whether it is domesticated cattle or people. Although certain young youths (boys) just try to tease or bully their counterpart out of fun but at times of need everyone stand together in hand in hand. The diseases and psychological distress at the time of different phases of flood is also more among the womenfolk. They are always in constant fear of losing their dear ones, their kin's and others. The respondents agreed that it is the health of the women which is mainly prone to the disaster. They try to protect their health but they ultimately fall prey to the dangers of the disaster. This is because they head most of the responsibilities before and after flood. The women are less conscious towards their health. They always put themselves at back and look into the interest of their male members. This is reflected when the women remains hungry and satisfy the hunger of the other members especially of the males.

One of the findings of the study revolves around the injuries and of growing diseases in flood prone area. When individuals try to protect themselves, their family members or valued possessions, there is high risk of suffering from injuries. Also when they start cleaning their houses after flood when the water starts drying up, they are in the risk of getting hurt and injured. It is found that during flood there is an oral transmission of diseases especially where there is inaccessibility to clean and safe drinking water and also there is lack of proper sanitation system.

The study found out that the women were very ignorant and unaware of the prevailing situation and hence they could not cope up with the problems. To my surprise there were no NGOs involved either in relief camps or spreading awareness among flood victims regarding flood related issues. All the little help they could get was only from the government. Also there were no proper self help groups in the village. There was no prior discussion on flood or any early warning system.

The study also focused on the role of governmental agencies that came forward to help the victims flood ridden society. There is a difference between the actual relief provided by the government and the relief needed to be provided. The governmental agencies provide low quality of rice and provided plastic water to them. It is found that the real amount which is being sanctioned to association for the people of the village do not reach to them. There are some middle men or brokers who appropriate the fund leading to a corruption within the association. The government also provided biscuits and clothes but it is not sufficient for everyone.

Limitations of the study

- Some selected respondents were absent at the time of interview.
- Some respondents refused to give answers or were afraid to give answers.
- Consumed more time to find out the actual answers, the question which were asked were different and they answered something else. So, it was quite difficult to make them stick to the point of inquiry.
- Hiding personal information: Most of the respondent was not ready to share their personal information with the researcher like information about their family members, occupation and income related.

The flood is a natural disaster that brings down huge losses to the entire human race. But from the findings of the study it is seen that women are more vulnerable especially in context to health and hygiene. The women mainly face problem in their access to nutritional and hygienic food, clean and safe water and sanitation. The findings also depicted that the impact of flood felt upon women of different categories with different degree. That is, the experience of an adolescent girl is different from that of an old woman. For instance, the intake of food and defecation of a pregnant woman is different from that of an adolescent. The study also found that flood creates both physical and psychological threat to women in special. Injuries, diseases and fear were common among every victims of the flood.

CHAPTER 5

CONCLUSION

Disaster relief and social exclusion intertwined together tries to have a holistic approach of the study conducted in Domohani 1 gram panchayat of the Maynaguri block in West Bengal. The study tries to highlight some of the important aspects of women's vulnerability during flood. During flood, women face the problems due to scarcity of food, clothes, shelter, and safe drinking water and due to lack of proper sanitation system. After the flood water dries up it is not easy for the depressed flood victims to decide from where they could start and also could not identify how they could cope up with the devastating impacts inflicted upon the entire population and especially upon the women. The relief provided to them were also not sufficient. The findings from the case studies are more honest in the sense there is less contradiction within their response. The patterns of a patriarchal setup reveal itself through the different case studies. This is a hierarchical structure where the male is all in all and the female tries her heart and soul to satisfy the males irrespective of the prevailing disadvantageous position of their soul, body and mind. This is reflective of a society that has a homogenous model of gender identity and that considers different gender practices as "deviance resulting from inadequate or aberrant socialization" (Connell, 2003).

Using social exclusion perspective we can throw light on the vulnerable groups who are socially excluded due to class, caste and gender. When we look at the people living in flood prone areas, like Domohani 1, it is interesting to note that most of the people belong to the deprived section of the society both class and caste wise. Though there is no caste based discrimination as the majority belong to the same barman caste which falls under scheduled caste in India. They live mostly in kutchha houses and are poor and illiterate. The study looks into the gender perspective of disaster. Women are the worst affected in disasters. The social construction of gender roles based on social, economic, religious and cultural aspects marginalise women across all boundaries of caste, class, status, age, ethnicity and so on. The levels of poverty also marginalize communities on the basis of gender. It is because of this fact that women in the world accounts for sixty percent of

poverty (Enarson, 2009). There is very less ownership of property and assets among women. They not only earn less but are also paid less than her counterpart for equal amount of work. To add to this women are less skilled and have fewer opportunities to develop skills. Both in public sphere and within family, they have very few decision making role.

The life experiences, skills owing to gendered identities, role and responsibilities vary among various age groups in cases of both men and women. This different experience of men and women is the key to understand gender based differences in disaster studies. Both are affected differently in case of disaster impact, response, relief and recovery. It is widely observed, researched and documented that women belonging to different social classes, races, ethnic and age groups are more vulnerable than their male counterparts of the same social class/group before, during and after disasters (Enarson, 2009). It is the social construction of gender within the community that brings differential experiences on how men and women respond and deal with disasters before, during and in the aftermath. The experiences also differ according to various age groups among men and women. The socially constructed identities are the result of social interactions between men and women in society. The roles and responsibilities vary for men, women, girls and boys. This is extensively reflected in different gender identities based on a mixture of physical and behavioural features which distinguishes and sets apart boys from girls and men from women. In all spheres of life from social, cultural, economic and political, there is a major gap in gender relations. Gender relations are almost always unfavourable and prejudiced towards girls and women. They are not equitable. Gender relations have evolved in such a way, resulting in women occupying a subordinate status within family, community and society; and within the same class or caste category women have less power to effect change in comparison to their male counterparts.

Women become more vulnerable than men within the same social group. In terms of survival, injury, recovery and trauma, the impacts of disasters become different for men and women. Also in the different stages of disaster cycle, the needs and priorities are different. Gender biasness often makes women victims in crisis situation in disasters. Women are seen as weak and passive victims although in reality they play an active role.

Due to the pre existing notions of gender men are viewed as strong and capable who require least assistance whereas women's capabilities and skills are not considered and neglected. The division of labour among men and women further aggregates the problem. There is gender insensitivity when it comes to accessing relief and recovery whether in case of relief shelters or relief measures, women are often denied opportunities to participate and contribute with their experience and knowledge. This in fact makes women vulnerable. Reduced opportunities force women into situations like humiliation and distress. This acts as a barrier for women to come out of the vicious cycle of exclusion and poverty. Such interventions not only put women under extra pressure but also limit their engagement in areas such as recovery planning and management and long-term disaster risk reduction, where their opinions and points of view are valid and relevant. This further affects women's position in the society and reinforces their subordinate position in the society. These clearly are outcomes of continuation and extension of existing socially inequitable gender relations. There is an urgent need to address the problem of inequality which leads to imbalance in the society. There is a need for awareness which addresses the vulnerability of women of all age groups. The insensitivity of policy makers to gender issues in disaster risk reduction in a way hampers the whole idea of development. Therefore the interventions of policy makers fall short of reaching both the development and the disaster reduction goals. Only gender inclusiveness in policies, strategies, plans and programmes will successfully build the resilience to face the challenges posed by disaster.

Women can take leadership roles, often being the male domain, acquire skills and take active roles to rebuild their communities. This should be one of the key aspects in any mitigation measure that would not only reduce their economic vulnerability but will also reduce future losses from disasters. The ignorance of disaster managers about the differential impacts of disaster on men and women overlooks the needs of women and challenges the efficiency of disaster response. The needs of women should be addressed by providing them with essential toolkit to make the disaster management inclusive, efficient and equitable.

Disaster is increasingly happening due to human interaction and intervention in the functioning of nature and societies that are at risk and their lack of capability to face them on their own. Therefore there is a global need to learn from the best existing practices around the world. In order to study disaster looking mainly into the marginalization and vulnerability aspect the above framework helps us to uncover exclusion in the whole process of disaster relief and rehabilitation. Having said that there is also a need to look into the framework of various international policies. Also to look into government policies and the role of different stakeholders in the process. What are the global trends in disaster management? Does the management provide the overall direction to achieve the goals? How effective is its management or is it just another white elephant in the long run?

The mission of international frameworks becomes increasingly important for national governments to build resilience. This cannot be fulfilled by the governments alone. There is the need of many stakeholders to support, facilitate and promote resilience across sectors. Despite of such promising frameworks, the example of hurricane Katrina in the U.S broke the myth of the American fantasy of an egalitarian society. When social parameters cut apart it leads to more damages than a natural disaster. The race and class factor in Hurricane Katrina devastated the whole American society leading to marginalization on the basis of class, race and gender. Similar is the case of India. Despite of having an act and plan for disaster management, it has been a failure when it comes to relief and mitigation. The fragile communication system, the early warning system of the looming danger and the power with the bureaucrats has all made us ponder on the existing problems of disaster management. The example of Kosi flood in Bihar every year puts forward new challenges. The complex matrix of caste, class and gender makes the whole scenario more problematic.

The flood is a natural disaster that brings down huge losses to the entire human race. But from the findings of the study it is seen that women are more vulnerable especially in context to health and hygiene. The women mainly face problem in their access to nutritional and hygienic food, clean and safe water and sanitation. The findings also depicted that the impact of flood felt upon women of different categories with different

degree. That is, the experience of an adolescent girl is different from that of an old woman. For instance, the intake of food and defecation of a pregnant woman is different from that of an adolescent. The study also found that flood creates both physical and psychological threat to women in special. Injuries, diseases and fear were common among every victims of the flood.

RECOMMENDATIONS FOR THE STATE

There is an urgent need to set up an early warning system about the incoming disaster. For such purpose mobile communication, regular meetings with the communities and loudspeaker announcement and so on can be effective in spreading the news of the incoming danger. The government here can work with local partners. There is a need for active involvement of the community. Also women participation through self help groups can be of great help. This would not only make them a part of the whole system but would also help in their emancipation. Therefore the early warning systems should be in gendered.

Since there is no involvement of non government organizations, the victims depend wholly on the government. The role of NGOs in disasters is of immense importance. They are important in mobilising resources- both financial and human resources. The NGOs should actively participate in relief works and address gender issues in disaster.

The government should make community development programmes for the welfare of its people. Having community based participatory system is very important.

Due to social inequality in gender lines during disasters further degrade the position and status of women, there is an urgent need to educate and organize the womenfolk. Women are not aware of their discrimination. There is a certain normalisation in the society. This should be addressed by educating women and making them aware of their vulnerabilities. The government can open women development centres, community handicraft associations or other community gender sensitive initiatives.

There is only coping mechanisms provided by the government. It should go beyond evacuation and rescue. There is a need for coordination between government and

community. Only providing help and rescue is not enough. After relief measures, the government leaves the community on its own. Providing them only with tarpaulin to cope with disaster is not the way out. There is a need for robust ways to reduce loss. They should instead provide insurance mechanism.

Also the disaster management act 2005 is mainly about management and not governance. How do we as a system can be accountable for disasters like flood is the real question. Who are to be blamed and how do we keep accountability? In DM act there is a huge gap between bureaucratic norms and the emergency norm. People suffering only get help in relief but no initiative is being made in their rehabilitation. As a society, we lack in the culture of safety. We lack empathy. Unless the people in power and position can feel empathy, only then there can be something done. Power comes with a lot of responsibility, this need to be taken seriously as flood is not just a natural disaster but in real sense is everybody's business. In fact the whole problem is beyond flooding.

There is constrains in implementation of DM Act. The real issue is that there is a need to work with communities as they are the first responders to flood. In the act the main role is of the central government. Working with communities, women group, and youth group will bring out the real issue. It thus becomes important in any civil society to include them. The community at risk is the most important stakeholder among all, keeping them on the centre stage makes it easier to look into the whole issue in a better way. We need to focus on how community itself becomes involved, how do we bring them in the centre stage? For this there is a need to make a local level disaster management plan. We need to reach out to the last mile.

There should be campaigns to make women and girls aware about various issues such as hygiene, sanitation, education and many others. Only providing them with wash kits will not do the needful.

The gram task force should organise regular drills and prepare everybody in disaster emergency response.

It becomes very important in a flood prone area to make the land people's property. In this way they will be able to interpret it better. Capacity building and public awareness should be people centric.

The above recommendations help us to conclude that there is a need for democratising different institutions involved in a disaster like flood. The vulnerable people should be the first stakeholder in the process and among the vulnerable; women should not be left out. Since disaster is everybody's business, the relief provided by the government should involve everybody. The ignorance of the government in not looking at women's concern itself portrays an ambiguous approach to disaster management. Gender issue need to be addressed at all level as it is a human issue and in some way or the other affects all.

BIBLIOGRAPHY

Books

Alexander, D.E. (1993). *Natural Disasters*. London: UCL Press.

Alexander, D.E. (2000). *Confronting Catastrophe: New Perspectives on Natural Disasters*. Harpenden, UK: Terra Publishing.

Bankoff, G. (2003). *Cultures of Disaster: Society and Natural Hazard in the Philippines*. London: Routledge.

Barton, A. H. (1963). *Social Organization Under Stress: A Sociological Review of Disaster Studies*. Washington, DC: National Academy of Sciences-National Research Council.

Committee on Disaster Studies. (1956). *Disaster Study Number 1: Human Behavior in Extreme Situations*. Washington, DC: National Academy of Sciences-National Research Council.

Douglas, M. and Wildavsky, A. (1982). *Risk and Culture*. Berkeley: University of California Press.

Enarson, E. and Chakrabarti, P.G.D (ed.) (2009). *Women, Gender and Disaster*, Global Issues and Initiatives, Sage publication.

Perry, R.W. and Quarantelli, E. L. (2005). *What is a Disaster? New Answers to Old Questions*, International Research Committee on Disasters.

Quarantelli, E. L. (1994). *Future Disaster Trends and Policy Implications for Developing Countries*. Newark, DE: Disaster Research Center, University of Delaware.

Sebald, W. (2003). *On the Natural History of Destruction*. NY: Random House.

Stallings, R. (1995). *Promoting Risk: Constructing the Earthquake Threat*. NY: Aldine de Gruyter.

Article/Journals

Abarquez, I. and Murshed, Z (2004). "Natural Disasters, Social Structure and Change in Traditional Societies". *Journal of Asian and African Studies*. Field Practitioners' Handbook. Asian Disaster Preparedness Center, Bangkok.

Adger, N. W. (2000). "Social and ecological resilience: are they related? Progress in Human Geography", P No.347-364.

Aitchison, J.C. (2005). "The great Indian ocean tsunami disaster: Guest editorial". *Gondwana Research*, 8(2).

Bankoff, G., Freks, G. and Hilhorst, D. (2004). "Mapping Vulnerability: Disasters, Development and People", *Earthscan*, London, U.K.

Alexander, D (2000). "Confronting Catastrophe", *Oxford University Press*, New York.

Ashraf, M.A and Azad A. K. "Gender Issues in Disaster: Understanding the Relationships of Vulnerability, Preparedness and Capacity", *Ministry of Disaster Management and Relief, Bangladesh Secretariat, Bangladesh, Institute of Disaster Management and Vulnerability Studies*, University of Dhaka, Bangladesh.

Belkhir, J.A. and Charlemaine, C. (2007). "Race, Gender and Class Lessons from Hurricane Katrina, Race, Gender & Class", *Jean Ait Belkhir, Race, Gender & Class Journal*, Vol. 14, No. 1/2, pp. 120-152, <http://www.jstor.org/stable/41675200>

Bevc C.A. (2010). "Emotional Dimensions of Conducting Research in Disaster Settings: A Note on Social Psychological Considerations". *Journal of Applied Social Science*, Vol. 4, No. 2. pp. 33-42. Sage Publications, Inc. URL: <http://www.jstor.org/stable/23548936>

Bevc, C.A. (2010). "Emotional Dimensions of Conducting Research in Disaster Settings: A Note on Social Psychological Considerations", *Journal of Applied Social Science, Sage Publications*, Vol. 4, No. 2 , pp. 33-42, <http://www.jstor.org/stable/23548936>

Bhadra, S. (2017). "Women in Disasters and Conflicts in India: Interventions in View of the Millennium Development Goals", pp 196–207, www.ijdrs.com

Blaikie, P. and Cannon, T. et al (1994). "At risk: natural hazard, peoples vulnerability and disaster". *Psychology press*.

Burnham, G. (2006). "Preventing Disaster: Realizing Vulnerabilities and Looking Forward". *Harvard International Review*, Vol. 28, No. 1, p. 84, 83. Harvard International Review. URL: <http://www.jstor.org/stable/42763093>

Calder, N. (1972). "The Restless Earth : A Report on the New Geology". *London: Viking Press The Boundaries of Jalpaiguri*, S.P. Mallik: Jalpaiguri District Centenary Souvenir.

Carmalt, J. "Prioritizing Health: A Human Rights Analysis of Disaster, Vulnerability, and Urbanization in New Orleans and Port-au-Prince", *Health and human right journal*.

Crabtree, A. (2013). "Questioning Psychosocial Resilience After Flooding and the Consequences for Disaster Risk Reduction, Poverty, Vulnerability And Resilience In A Post-2015 World". *Social Indicators Research*, Vol. 113, No. 2, pp. 711-728. Springer Stable URL: <http://www.jstor.org/stable/24719381>

Crabtree, A. (2013). "Questioning Psychosocial Resilience after Flooding and the Consequences for Disaster Risk Reduction, Social Indicators Research", *Springer*, Vol. 113, No. 2, <http://www.jstor.org/stable/24719381>

Dynes, R. R. (1995). "Working Sociologists as Globetrotters: Utilizing Disaster Research and Policy Networks", *Journal of Applied Sociology, Sage Publications*, Vol. 12, No. 1 (1995), pp. 11-21, <http://www.jstor.org/stable/43481373>

Elliot, J. R. and Pais, J. (2006). "Race, class, and Hurricane Katrina: Social differences in human responses to disaster". *Social Science Research*, Vol 35, Issue 2, Pages 295-321.

Enarson, (2012). “Women Confronting Natural Disaster: From Vulnerability to Resilience”. Review by: Megan Reid, *American Journal of Sociology*, Vol. 118, No. 3. pp. 840-842, The University of Chicago Press Stable URL: <http://www.jstor.org/stable/10.1086/667858>

Gokhale, V. (2008). “Role of Women in Disaster Management: An Analytical Study with Reference to Indian Society”, *World Conference on Earthquake Engineering*, Beijing, China

Gore, C. and Figueiredo, B. (ed.) (1997). “Social exclusion and anti-poverty policy: A debate”, *International Institute for Labour Studies United Nations Development Programme, ILO Publications*.

Haan, Arjan de (1998). “Social Exclusion: An Alternative concept for the study of Deprivation?” *IDS Bulletin*, Vol 29 No. 1.

Haan, Arjan de (2011). “Rescuing exclusion from the poverty debate: group disparities and social transformation in India”, *Institute of Social Studies*, The Hague, The Netherlands.

Izadkhah, Y.O. “Towards resilient communities in developing countries through education of children for disaster preparedness”, *Resilience Centre, RMCS*, Cranfield University Shrivenham, Swindon, UK, International Institute of Earthquake Engineering and Seismology.

Jenkins P. and Nowell B. (2010). “Humanistic Perspectives on the Policy and Praxis of Disaster Management: Reflections on Freire and Recovery Post-Katrina”, *Administrative Theory & Praxis*, Vol. 32, No. 3, pp. 431-437. Taylor & Francis, Ltd. Stable URL: <http://www.jstor.org/stable/27868932>

Jensen, L. (2010). “Evaluation of UNDP Contribution To Disaster Prevention And Recovery”, Manufactured in the United States of America. *Printed on recycled paper. Printing: A.K. Office Supplies, Ltd*

Jha, M. K. (2015). "Liquid disaster and frigid response: Disaster and social exclusion", *Tata Institute of Social Sciences, India, International Social Work*, Vol. 58(5) 704 –716, sagepub.co.uk/journalsPermissions.nav

Jha, M. K. (2015). "Liquid disaster and frigid response: Disaster and social exclusion". *Tata Institute of Social Sciences, India International Social Work*. Vol. 58(5) 704 –716

Johnson, V. A. (2011). "Disaster Preparedness Education in Schools: Recommendations for New Zealand and the United States", *Ian Axford (New Zealand) Fellowships in Public Policy*.

Kabeer, N. (2000). "Social Exclusion, Poverty and Discrimination: Towards an analytical framework", *IDS Social Policy Research Programme*, Vol. 31, No. 04.

Lindell, M. K. "Disaster studies", *Texas A&M University, USA*.

Mallick B, Rahaman KR, Vogt J (2011). "Social vulnerability analysis for sustainable disaster mitigation planning in coastal Bangladesh". *Disaster Prevention and Management*; pp. 220-237.

Mener, A. S. (2007). "Disaster Response in the United States of America: An Analysis of the Bureaucratic and Political", *History of a Failing System, University of Pennsylvania*.

Mishra, D. K. (2001). "Living with Floods: People's Perspective". *Economic and Political Weekly*, Vol. 36, No. 29. pp. 2756-2761 URL: <http://www.jstor.org/stable/4410885>

Munneke, G. A. (2018). "Disaster Planning: What We Have (and Haven't) Learned", *Business Law Today, American Bar Association*, Vol. 17, No. 3 (January/February 2008), pp. 22-28, URL: <http://www.jstor.org/stable/23296764>

Nasreen, M. (2004). "Disaster Research: Exploring Sociological Approach to Disaster in Bangladesh", *Sendai Framework for Disaster Risk Reduction, Bangladesh e-Journal of Sociology*, Vol. 1, No. 2, July.

Nath, S. K., Roy, D. and Thingbaijam, K. K. S. (2008). “Disaster mitigation and management for West Bengal”, *India An appraisal, Curr. Sci.* 94 (7): 858–866.

Nath, S. K. et al (2008). “Earthquake Hazard in the Northeast India- A Seismic Microzonation Approach with Typical Case Studies from Sikkim Himalaya and Guwahati city”, *Jour. Earth Syst. Sci.* 118: 809–831.

Nath, S.K. and Singh K.K. (2008). “General Articles, Current Science”, *Department of Geology and Geophysics and Debasis Roy is in the Department of Civil Engineering, Indian Institute of Technology, Kharagpur, India, VOL. 94, NO. 7.*

“National Disaster Management Plan (NDMP)”, 2016, A publication of: National Disaster Management Authority, Government of India, New Delhi.

Neumayer, E. and Plumer, T. (2008). “The Gendered Nature of Natural Disasters: The Impact of Catastrophic Events on the Gender Gap in Life Expectancy, 1981-2002”, *Annals of the Association of American Geographers*, 97:3 pp 551-556.

Neumayer, E. and Plumperw, T. (1981-2002). “The Gendered Nature of Natural Disasters: The Impact of Catastrophic Events on the Gender Gap in Life Expectancy”, *London School of Economics and Political Science, University of Essex and Max-Planck Institute of Economics.*

Porio, E. (2011). “Vulnerability, Adaptation, and Resilience to Floods and Climate Change-Related Risks among Marginal”, *Riverine Communities in Metro Manila, Asian Journal of Social Science*, Special Focus: Special issue on Post Disaster Societies, Brill, Vol. 39, No. 4, pp. 425-445, <http://www.jstor.org/stable/43498807>

Pradhan, A. (2012). “Disasters and Disaster Management: Some Reflections”, *Scholarly research journal for humanity science and English language*, Naharakanta, Bhubaneswar.

Quarantelli, E.L. “Research based criteria for evaluating disaster planning and managing”, *Disaster Research Center, University of Delaware, Newark.*

Raju, E. (2013). "Housing Reconstruction in Disaster Recovery: A Study of Fishing Communities Post-Tsunami in Chennai, India", *Training Regions Research Centre/ Lund University Centre for Risk Assessment and Management*, Lund, Sweden. PLOS, Edition 1.

Rashid, A. K. M. (2013). "Gender and social exclusion analysis in disaster risk management". *Springer Verlag Mamunir Rashid, Ready Resources in Disaster and Recovery, American Bar Association, GP Solo*, Vol. 23, No. 8, pp. 54-55 <http://www.jstor.org/stable/23673376>

Reid, M. (2012). "Women Confronting Natural Disaster: From Vulnerability to Resilience", Reviewed Work of Enarson, *American Journal of Sociology, The University of Chicago Press*, Vol. 118, No. 3, pp. 840-842, URL: <http://www.jstor.org/stable/10.1086/667858>

Reyes, D.D and Leilanie, J. (2017). "Gender Dimensions and Women's Vulnerability in Disaster Situations: A Case Study of Flood Prone Areas Impacting Women in Malabon City, Metro Manila", *Journal of International Women's Studies*, Volume 18, Issue 4.

Ronoh and Gaillard J.C. et al. (2017). "Bridging the Participatory Gap: Children with Disabilities and Disaster Risk Reduction", *International Journal of Mass Emergencies and Disasters, The University of Auckland and Jay Marlowe*, Vol. 35, No. 3, pp. 271-297.

Ronoh, S and Gaillard, J.C. (2017). "Bridging the Participatory Gap: Children with Disabilities and Disaster Risk". *International Journal of Mass Emergencies and Disasters. . The University of Auckland and Jay Marlowe The School of Counselling, Human Services and Social Work, The University of Auckland* Vol. 35, No. 3, pp. 271-297

Saith, Ruhi (2001). "Social Exclusion: the Concept and Application to Developing Countries", *Queen Elizabeth House, University of Oxford* .

Salam, D. "Disaster relief Workforce considerations for employers", *CPP, and Deborah Spyker*.

Scanlon, J. "Research about the Mass Media and Disaster: Never (Well Hardly Ever) The Twain Shall Meet", *Emergency Communications Research Unit, Carleton University, Ottawa, Canada*.

Sen, A. (2000). "Social Exclusion: Concept, Application, and Scrutiny", *Master of Trinity College, Cambridge, and Lamont University Professor Emeritus, Harvard University, Social Development Papers No. 1, Office of Environment and Social Development Asian Development Bank*.

Silver, H. (1994/5-6). "Social exclusion and Social solidarity: Three Paradigms", *International Labour Review, Vol. 133*.

Singh, S. R., Eghdami, M.R. and Singh S. (2014). "The Concept of Social Vulnerability: A Review from Disasters Perspectives", *International Journal of Interdisciplinary and Multidisciplinary Studies (IJIMS), Department of Anthropology, Panjab University, Chandigarh, Vol 1, No.6, 71-82. 71*.

The birth of the District: Sri Abdul Bari: Jalpaiguri District Centenary Soubenir.

Tierney, J. K. (2007). "From the Margins to the Mainstream? Disaster Research at the Crossroads", *Annual Review of Sociology, Vol. 33. pp. 503-525. Annual Reviews Stable URL: <http://www.jstor.org/stable/29737773>*

Tierney, K. J. (2007). "From the Margins to the Mainstream? Disaster Research at the Crossroad", *Annual Review of Sociology, Annual Reviews, Vol. 33 (2007), pp. 503-525, <http://www.jstor.org/stable/29737773>*

Wiest, R. E., Mocellin, J.S.P., Motsisi, D. T. and Manitoba, W. (ed.)(1994). "The Needs of Women In Disasters and Emergencies Prepared for the Disaster Management Training Programme of the United Nations Development Programme and the Office of the United Nations Disaster Relief Coordinator".

Reports

Adger, W.N. et al. (2004). New indicators of vulnerability and adaptive capacity. Tyndall Centre for Climate Change Research, Norwich, Report 7.

Adhikari, A., Hassett, B., Lamsal, R., Sherpa, S. (2016). Nepal's 2015 Earthquake: Communication and the Marginalization of Dalits, An Interactive Qualifying Project, WPI Advisor: Thomas Robertson

Administrative and Jurisdictional changes in the District of Jalpaiguri since its formation: Sri Dipak Kr Roy: Jalpaiguri District Centenary Souvenir.

Banerjee, K. (2015). Inclusive State, Excluded People The Emperor's New Clothes? India Exclusion Report 2015 by Centre for Equity Studies; New Delhi: Yoda Press. pp 283.

Bihar Floods 2007, The Affected and the Relief & Rehabilitation Dalit Watch (Forum for equality and inclusion of Discriminated in Relief & Rehabilitation)

Bradshaw, S. and Fordham, M. (2013). Women, Girls and Disasters, A review for DFID

Chakraborty, Debojyoti (2017). State IAG members, Department of Disaster Management, Government of West Bengal an media, West Bengal State IAG

Das, Arpita (2017). India Exclusion Report 2016, Yoda Press, New Delhi, First Edition.

Did the Humanitarian Response to the Nepal Earthquake Ensure no one was left behind? A case study on the experience of marginalised groups in humanitarian action.

Environmental management and the mitigation of natural disasters: a gender perspective, 25 October 2001, Division for the Advancement of Women (DAW), International Strategy for Disaster Reduction (ISDR), United Nations, Expert Group Meeting on 6-9 November 2001, Ankara, Turkey

Final report of the International Forum in Shinjuku Asia-Pacific Cultural Centre for UNESCO, Urban Community based disaster education through esd (Tokyo, Japan, 15–19 February 2011)

Impact of natural disasters on girls and women, Literature compilation of key facts and recommendations for relief practitioners with regard to the earthquakes in Nepal, June 2015

Nath, Sankar Kumar. Roy, Debasis. Singh, Kiran Kumar. Disaster mitigation and management, West Bengal, India, An appraisal

National Disaster Management Guidelines Management of Floods

National Disaster Management Guidelines Role of NGOs in Disaster Management (Draft), February 2015

Report (2004): Reducing disaster risk: a challenge for development, UNDP-Bureau for Crisis Prevention and Recovery (BRCP).

Report (2004): United Nations/ International Strategy for Disaster Reduction (UN/ISDR). Living with risk: a global review of disaster reduction initiatives. Geneva: United Nations.

Report: Caste discrimination in disaster situations in India Reports by National Dalit Watch.

APPENDIX I

Table I.1 Maynaguri Block Data

	Total	Male	Female
Children (Age 0-6)	41,633	21,468	20,165
Literacy	75.63%	71.63%	60.11%
Scheduled Caste	234,287	121,477	112,810
Schedule Tribe	4,328	2,217	2,111
Illiterate	111,673	48,245	63,428

Source: Census 2011

Table I.2 G. P Wise Population with Households

Sl. No.	Name of the G.P	No. of House hold	Male	Female	Total	Remarks (Total)
1	Ramsai	6030	13453	12516	25969	
2	Amguri	6413	14720	13475	28195	27971
3	Domohani – I	3538	7593	7251	14844	
4	Domohani – II	4584	10736	9984	20725	20730
5	Churabhandar	6688	14985	13976	28961	
6	Khagrabari – I	2781	9606	9454	19060	Including D/Khagrabari 7482
7	Khagrabari – II	3555	8268	7612	15880	
8	Maynaguri	7565	15448	14735	30183	30238
9	Madhabdanga – I	4216	8975	8478	17453	
10	Madhabdanga – II	4000	9047	8357	17404	17398
11	Barnesh	5727	13197	12136	25333	
12	Saptibari – I	4132	9057	8486	17543	
13	Saptibari – II	3671	8014	7619	15633	
14	Dharmapur	4007	9170	8606	17776	
15	Padamati – I	4407	9950	9067	19017	
16	Padamati – II	3328	7623	7073	14699	

Source: Disaster Management Plan 2013

Table I.3 Religion-Wise Population - Maynaguri Block

Religion	Total	Percentage	Male	Female
Hindu	296,184	(90.02%)	153,213	142,971
Muslim	32,218	(9.79%)	16,503	15,715
Christian	105	(0.03%)	56	49
Sikh	33	(0.01%)	19	14
Buddhist	193	(0.06%)	100	93
Jain	43	(0.01%)	22	21
Other Religion	9	(0%)	4	5
No Religion Specified	247	(0.08%)	113	134

Source: Census 2011

Table I.4 Urban/Rural Population - Maynaguri Block

	Total	Urban	Rural
Population	329,032	37,959	291,073
Children (0 - 6 years)	41,633	3,748	37,885
Schedule Caste	234,287	15,550	218,737
Schedule Tribe	4,328	234	4,094
Literacy	75.63%	86.28%	74.19%
Sex Ratio	935	970	931

Source: Census 2011

Table I.5 Working Population - Maynaguri Block

	Total	Urban	Rural
Main Workers	95,835	84,239	11,596
Cultivators	31,695	29,993	1,702
Agriculture Labourer	28,565	23,265	5,300
Household Industries	1,348	1,033	315
Other Workers	34,227	29,948	4,279
Marginal Workers	24,456	11,175	13,281
Non Working	208,741	74,616	134,125

Source: Census 2011

Table I.6 Demographic Details

Sl. No	Name of the GP	Total number of HH	Population				Category			
			Adult		Children < 5 yrs	Total	SC	ST	OBC	GEN
			>60	>18						
					M+F=T					
1	Barnesh	5030	1283	12498	869+763=1632	21290	18820	1399	1174	2390
2	Maynagui	7196	1261	15661	1362+1327=2689	26404	8745	318	1016	12203
3	Churabhandar	5134		14265	762+754=1516	25224	21233	192		
4	Madhab-I	5466	860	8101	1172+1080=2252	13974	11673	202	231	1699
5	Madhab-II	3335	985	11340	892+826=1718	15260	10671	0	126	5620
6	Padamati-I	5440	1398	10742	979+848=1827	16237	14615	0	138	5373
7	Padamati-II	2899	766	8567	685+660=1345	13377	9658	0	1137	2263
8	Dharmapur	3343	670	8291	997+993=1990	17491	14132	205	194	2579
9	Ramshai	5845	1122	12481	1150+986=2136	24261	23267	1740	185	6087
10	Amguri	5910	3467	14041	1342+1270=2612	27491	19232	1578	1293	1754

11	Domohani-I	3150	1019	7473	679+681=1360	14052	9557	208	528	3927
12	Domohani-II	3526		10384	1256+1268=2524	17680	13122	65		
13	Khagrabari-I	2784	820	9953	788+770=1558	15085	6256	308	5397	15085
14	Khagrabari-II	2943	525	7562	1565+1580=3145	13667	8230	16	471	3587
15	Saptibari-I	3791	553	8818	810+764=1574	10880	7088	55	717	2884
16	Saptibari-II	2856	618	7738	854+832=1686	14362	10545	0	85	4510

Source: Census 2011

Table I.7 Household Details

Sl. No.	Name of the GP	No of APL HH				No of BPL HH				Total
		ST	SC	OBC	GEN	ST	SC	OBC	GEN	
1	Barnesh	5	1941	73	279	8	2415	96	460	5277
2	Maynagui	74	1767	207	2704	34	1214	139	950	7089
3	Churabhandar									2534
4	Madhab-I	18	889	49	295	37	1537	39	173	3037
5	Madhab-II	8	1186	15	527	4	3072	24	725	5561
6	Padamati-I	28	1218	14	355	0	2026	22	599	2414
7	Padamati-II	0	992	126	241	0	1178	98	308	2943
8	Dharmapur	6	1595	44	102	50	1378	28	284	3487
9	Ramshai	206	2712	64	275	152	2508	63	426	6406
10	Amguri	353	2715	167	250	177	2099	62	300	6127
11	Domohani-I	06	1054	38	427	28	1094	33	523	3150
12	Domohani-II									2558
13	Khagrabari-I	39	974	47	827	19	357	17	177	2457
14	Khagrabari-II	0	1216	239	237	3	1115	92	210	3112
15	Saptibari-I	1	814	15	452	11	629	103	419	2444
16	Saptibari-II	0	993	5	230	0	1536	10	450	3224

Source: Census 2011

Table I.8 Risk/ Vulnerability Assessment of Maynaguri Block

Type of Hazard	Time of occurrence	Potential Impact	Vulnerable areas
Cyclone	April, May, October	Destruction of houses, loss of property	Barnesh, Maynaguri, Churabhandar, Madhabdanga-I, Madhabdanga-II, Padamati-I, Padamati-II, Dharmapur, Ramshai, Amguri, Domohani-I, Domohani-II, Khagrabari-I, Khagrabari-II, Saptibari-I, Saptibari-II (upon previous experience)
Flood	July to September	Destruction of houses, loss of property, human lives and animal husbandry, infrastructure	Mainly > Domohani-I, Padamati-II, Amguri in Churabhandar, Padamati-I, GP Next in Khagrabari-I, Maynaguri, Barnesh, Madhabdanga-I, Madhabdanga-II, Dharmapur, Ramshai, Domohani-II, Khagrabari-II, Saptibari-I, Saptibari-II (upon previous experience)
Drought	Does not occur in Maynaguri Block but it may occur during August to September in absence of rain.	Dearth of water, non-availability of irrigation water and rural people does not get work in rural areas.	In fact, Maynaguri Block did not face drought like situation in recent year. However, if the situation remains unfortunately, it may affect in almost all the gram Panchayat area.
Earthquake	Any time	Mainly, destruction of houses, loss of property, human lives and livestock, infrastructure	Barnesh, Maynaguri, Churabhandar, Madhabdanga-I, Madhabdanga-II, Padamati-I, Padamati-II, Dharmapur, Ramshai, Amguri, Domohani-I, Domohani-II, Khagrabari-I, Khagrabari-II, Saptibari-I, Saptibari-II GP
Sunstroke	May, June	Sickness, death	
Fire	November to April	Destruction of houses, loss of property, human lives and animal husbandry	Barnesh, Maynaguri, Churabhandar, Madhabdanga-I, Madhabdanga-II, Padamati-I, Padamati-II, Dharmapur, Ramshai, Amguri, Domohani-I, Domohani-II, Khagrabari-I, Khagrabari-II, Saptibari-I, Saptibari-II (upon previous experience)
Chemical Accidents	Any time	Disruption of transport arrangement. Breathing	One State Highway passes through the block and container-vehicles

		problem.	with chemical articles. Vul. Areas: Barnesh, Madhabdanga-I, Khagrabari-I, Khagrabari-II, Churabhander G.P. Besides this, chemical hazards may be occurred from any plastic industry or plastic corrugated transport sheet industry or paint making industry.
Boat Capsize		Loss of life	Barnesh, Madhabdanga-I, Padamati-I, Padamati-II, Dharmapur, Amguri, Domohani-I,
Epidemic	April to October	Loss of life,	Tea Garden areas, Forest Villages and in Backward Villages
Accident	Any time	Permanent deformity and loss of life	State Highway passes through the block from Teesta Bridge (Domohani-I GP <> Barnesh GP) to Churabhander GP (Near Jaldhaka Bridge) and from Maynaguri to Ramshai G.P. and Maynaguri to Padamati-II GP
Lightening	Especially during rainy season.	Loss of property, human lives and animal husbandry	Barnesh, Maynaguri, Churabhander, Madhabdanga-I, Madhabdanga-II, Padamati-I, Padamati-II, Dharmapur, Ramshai, Amguri, Domohani-I, Domohani-II, Khagrabari-I, Khagrabari-II, Saptibari-I, Saptibari-II

Source: Maynaguri District Disaster Management Plan 2013

APPENDIX II



Figure II.1: Government vehicle with mikes after flood.



Figure II.2: Men working after flood.



Figure II.3: River Side – Maynaguri Flood



Figure II.4: Rescue Boats



Figure II.5: Relief material – Tarpaulin Distribution



Figure II.6: Relief distribution – A group of men



Figure II.7: Food cooked in the relief camp