DISASTER MANAGEMENT AND PARTICIPATORY GOVERNANCE: A CASE STUDY OF DARJEELING MUNICIPAL AREA

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SHAILENDRA MANI PRADHAN

CENTRE FOR THE STUDY OF LAW AND GOVERNANCE
JAWAHARLAL NEHRU UNIVERSITY
NEW DELHI - 110067
INDIA

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DECLARATION

July 28, 2010

I declare that the dissertation entitled, "DISASTER MANAGEMENT AND PARTICIPATORY GOVERNANCE: A CASE STUDY OF DARJEELING MUNICIPAL AREA" submitted by me for the award of the degree of **Master of Philosophy** of Jawaharlal Nehru University is my own work. The dissertation has not been submitted for any other degree of this University or any other university.

SHAILENDRA MANI PRADHAN

CERTIFICATE

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

Prof. Niraja Gopal Jayal
Supervisor
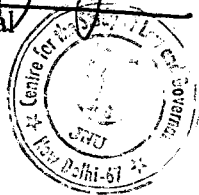
Prof. Amita Singh
Chairperson, CSLG
Centre for the Study of
Law and Governance
Jawaharlal Nehru University
New Delhi - 110067

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Jawaharlal Nehru University   Shailendra Mani Pradhan
New Delhi
28 July 2010

DEDICATION

This dissertation is dedicated to the people of Darjeeling Hills, the world's

nicest place.

&

Those affected by cyclone 'Aila' (2009).

CONTENTS

CHAPTER I

INTRODUCTION

Background

It is estimated that large-scale disasters will be pervasive features of social life in the twenty-first century. (Picou et al., 2004) The escalating incidence of severe disaster events in both the developed and developing worlds (Benson, 2002) pose a formidable challenge to human society. The Niigata earthquake in Japan (2004), the Aceh-Sumatra earthquake (2004), the tsunami in Indian Ocean (2004), hurricane Katrina in New Orleans, U. S. (2005), large earthquake in Pakistan (2005) (Zadeh and Takeuchi, 2007) and the recent earthquakes in Haiti (2010) and Chile (2010) are reminders of the fact that human society is constantly at risk and exposed to disasters of different types, magnitudes and frequencies. The looming threats of climate change and global warming only compounds this problem and has potential to bring about a considerable change in the hazard and risk profile of countries. (Prabhakar et al., 2009)

In the context of developing countries, Oliver-Smith observes that the increasing frequency and severity of natural and technological disasters place these countries at the centre of debates on human-environment relations and issues of development and sustainability. (1996) The developing nations face the pervasive risk of devastation, human and property loss resulting from human and natural disasters. This level of risk is attributable to socioeconomic stress, aging and inadequate physical infrastructure, weak education and preparedness for disaster and insufficient fiscal and economic resources to carefully implement the preparedness, response, mitigation and recovery components of integrated emergency management. (Henderson, 2004) The two master social trends of the present day – industrialisation and urbanisation – inherent in the very dynamics of societal life anywhere, are more prominent and pronounced in developing countries (Quarantelli, 1999; El-Masri and Tipple, 2002) and continue to push them towards the brink of crises and disasters. These two trends work concurrently: the first trend increases disastrous agents and occasions, while the second trend raises the risks

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and vulnerabilities of possibly impacted populations and societies (Quarantelli, 1999) that undermine the capacity, resilience and adaptability of the social and political system in the face of disasters.

It is now a commonly held belief that development and disasters shares an extremely close and complex relationship. (McEntire, 2004; Sanderson, 2000; Zadeh and Takeuchi, 2007) Disasters are often seen as turning back the development clock (Sanderson, 2000) with the poor and disadvantaged groups invariably constituting the most vulnerable sections affected most by disasters. (Benson, 2002; Daunert, 2005; Yodmani, 2001) Further, the fact that the increase in disaster trends is related to a rise in people's vulnerability (Yodmani, 2001) suggests that poverty and vulnerability, without being equal to one another, are still linked and mutually reinforcing (Benson, 2002), entrapping the poor in, what Ariyabandu and Wickramasinghe (2005) regard as, a 'cycle of vulnerability'. The other markers of vulnerability are population growth and density, the extent of unplanned urbanisation, the nature of physical assets and economic activities, and the state of the environment (Benson, 2002); gender (Myers, 1994; Ariyabandu and Wickramasinghe, 2005; Enarson, 2006; Fothergill and Peek, 2006; Ikeda, 2009; Fordham and Ketteridge, n.d.; Fordham, n.d.); race, class and ethnicity (Bolin, 2006); and social and economic factors. (Yeletaysi et al., 2009) These factors are based on unequal power relations – a by-product of social inequalities – and recurrently intersect (Yeletaysi et al., 2009; Enarson and Fordham, 2001; Fordham, n.d.) resulting in the marginalization of the poor, women, racial and ethnic minorities, and members of other disenfranchised groups that heightens their vulnerability and decreases their capacity to face natural hazards. (Mileti and Gailus, 2005; Gaillard et al., 2009)

Disaster losses are the results of interactions among three major systems: the physical environment, which includes hazardous events; the social and demographic characteristics of the communities that experience them; and the buildings, roads, bridges, and other components of the constructed environment. (Mileti and Peek-Gottschlich, 2001) In the context of Himalayas, the interaction and relationship between these factors are more pronounced, with the effect that the Himalayas have become increasingly disaster-prone with a disproportionately

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higher number of disasters as compared with other environments. (Hewitt 1997 in Gardner and Dekens, 2007) The mountainous regions in developing countries, owing to their highly fragile environment and lack of a proper natural resources management regime, are considered to be more vulnerable to environmental degradation than many other parts of the world. (Messerli and Ives, 1997) The geological characteristics of the Himalayas, particularly their geophysically active and unstable structure, fragile rock conditions, high seismicity and high rainfall along with increased human intervention activities – rapid growth of population, forests felling, degradation of land, rapid urbanization, construction of dams, bridges, roads and other developmental activities – have contributed to the vulnerability of the Himalayan region.

The Darjeeling Hills, a part of the Hindu-Kush Himalayas, are considered a geo-physically fragile environment with high seismicity zonation of the 4th level. (Government of India, 2009c; Ghosh, 2007) Covered by a hilly rugged terrain and mountains, Darjeeling is a hazard prone area, landslides being its most common disaster. Further, the human interaction with this fragile environment has been marked by population growth, rapid urbanisation, deforestation and unplanned development. These interventions and interactions with the natural environment have not only undermined the resilience of the communities in the Hills but has also exposed them to landslides that have become a recurrent feature here.

The above backdrop highlights the fact that there is a need to study disasters and their management in the Darjeeling Hills. Despite the fact that an overwhelming number of studies have been carried out on the landslides in the Darjeeling Hills, these studies have primarily focussed on finding scientific solutions and are geographical in their orientations, largely detached from the study of human society. Further, no systematic study has been done on the Darjeeling Municipal Area. This research attempts at understanding disasters and their causes within a policy framework that is sociologically sensitive, and helps to evolve long-term solutions for the Darjeeling Municipal Area.

Disaster management has come to be acknowledged as an important area of policy intervention in India, as is evident from the various policy initiatives taken by the central government – High Powered Committee on Disaster Management (1999), National Disaster Management Framework (2002-2003), Disaster Management Act (2005) and National Policy on Disaster Management (2009), among others. The fact that disaster and development are intrinsically linked and mutually reinforcing; that disaster can overturn years of development and that development cannot be sustainable unless disaster mitigation is built into the development process (Government of India, 2004a), suggest that disaster management can no longer be ignored as an allied-subsidiary matter of policy planning. In fact, the cross cutting nature of disaster management is being increasingly recognised by mainstreaming it in the developmental policies. The manifest advantage of such mainstreaming of disaster management concerns in development planning is that it can stimulate the process of disaster risk reduction through a multi sectoral approach, thereby helping to address the core issues of disaster management – poverty, underdevelopment, inequality and gender disparity – in a holistic manner. Besides, the mainstreaming would also ensure the sustainability of disaster management planning.

The Study Area

This study has been conducted in the Darjeeling Municipal Area of Darjeeling District, one of the oldest hill towns (station) in India. The area was selected because:

1) Darjeeling Hills has a notorious record of disasters due to landslides, unique and unparalleled, and has continuously experienced disaster (Table 1). In one of the worst disasters in the history of the region, landslides in the Darjeeling area destroyed vast areas of West Bengal and neighbouring state of Sikkim by unleashing about 20,000 landslides and killing thousands of people in 1968 (ARC, 2006; Bhandari, 2006; Nath et al. 2008; Government of India 2009c);

2) Darjeeling, located in the Eastern Himalayan region, is deemed tectonically unstable and is categorised under seismic zone IV and V, which are rated as the areas

that have high and highest earthquake occurrence chances respectively (Pradhan 2008);

3) Disaster management is emerging as a critical governance issue in India as is evident from the passage of Disaster Management Act (2005), ARC (2006) and other measures;

Table 1. Major landslides in Darjeeling Hills. (Ghosh, 2007; Malla, n.d.[1])

Factor/Period	Impacts
Landslides (September, 1899)	72 persons were killed in and around Darjeeling.
Landslides (June, 1950)	127 people died and thousands were rendered homeless. The Giel River (Siliguri-Kalimpong) line of Darjeeling Himalayan Railways was shut down forever as the hillsides were considered unsafe for railways.
Landslide (1968)	Around 667 people were killed and thousands injured. 10-15 % of the tea area was also destroyed. Anderson Bridge over the Teesta River was also destroyed.
Landslide (1980)	215 people died along with mass landslides in Rimbik, Lodhama, Bijanbari, Darjeeling town, Sukhia Pokhari, Sonada, Manebhanjiang, Tindharia, Happy Valley and Ambootia.
Landslide (July, 1993)	15 people died in Mungpoo & severely affected other places
Landslides (July, 2003)	Mirik severely hit by landslide that killed 24 people, injured hundreds and affected thousand persons.

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[1] The first four records on landslides was provided to me by K. P. Malla, President of Red Cross, Darjeeling.

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Study Area Maps

Fig. 1. Map showing Darjeeling District[2]

Fig. 2 Study area map

Darjeeling Municipality: A Brief Backdrop[3]

General Overview

The study area is situated in the Sub-Himalayan belts of the Eastern Himalayas in Darjeeling District of West Bengal and is basically composed of mountain terrain. (Desai, n.d.) The rugged topography composed of sedimentary and metamorphic rocks of various kinds, the complexities of geological movements, including an inbuilt instability along with high annual rainfall, averaging 2812 mm, makes Darjeeling highly susceptible to landslides and earthquakes. (Desai, n.d.; Darjeeling Municipality, 2007) Spread over an area of 7.43 square kilometres, Darjeeling municipality is divided into 32 wards, and two *mouzas* – Darjeeling and Jorebunglow. (Darjeeling Municipality, 2007) In terms of population, Darjeeling

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[2] Darjeeling District Magistrate Office. Available online: http://darjeeling.gov.in/

[3] The history of Darjeeling Hills and its evolution is discussed in detail in Chapter 4.

municipal area has witnessed enormous growth; the population increased from 27,224 in 1941 to about 107,197 in 2001. (Census, 2001) This has created a range of problems, including infrastructural and environmental problems (Pradhan, 2008). The growth of population has been propelled by the immigration of the people, both from the rural areas in Darjeeling and other regions, in search of better livelihoods provided by the tourism sector. (Darjeeling Municipality, 2007; Khawas, 2003) Additionally, the town also supports a floating population of over 20,500 in the form of tourists, students, visitors, and wage earners which puts enormous pressure on the environmentally fragile area of Darjeeling municipal area. (Khawas, 2003) These factors have led to a change in the urban land use pattern with 95.13% of the total area composed of built up area and the vacant area constituting only 4.17% (Darjeeling Municipality, n.d.1); the existence of a single commercial centre has restricted the sprawl of the town, making it more vulnerable to landslips, and over-straining the infrastructure. (Saha, 2006)

Darjeeling Municipality

Darjeeling Municipality, established in the year 1850, is one of the oldest Municipalities in India. (Dozey, 1922) The area of Darjeeling Municipality, which was originally co-extensive with that of the tract ceded by the Raja of Sikkim in 1835 (O'Malley, 1907), is today constituted of 7.43 sq. km (Darjeeling Municipality, n.d.2) The administration of Darjeeling municipality was previously governed by the ordinary Municipal Act of 1884, framed with reference to the requirements of towns in the plains, and hence manifestly ill-suited to the needs of a town situated in the hills. (O'Malley, 1907) However, frequent and disastrous land-slips caused the then Government to pass the special Act (1900) which extended the power of the Darjeeling Municipality to undertake and supervise such functions that could contain the occurrence of land-slips that the municipality, hitherto, did not enjoy: construction, maintenance and closure of all the roads and bridges; to repair and remove any building that threatened the security of a hill-side or bank; and to compel the owners to protect the sites when insecure. (O'Malley, 1907)

Along with the Act (1900), the Bengal Municipal Act (1932) provided the framework for the administration of Darjeeling Municipality. The affairs of the

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Municipality were administered by the Municipal Board that consisted of 25 members, of whom 3 were ex-officio members and 22 were nominated by Government; the Deputy Commissioner of the Board was its Chairman. (O'Malley, 1907) The town was divided into 9 wards with a Ward Committee, composed of Commissioners, responsible for reporting on and attending to the affairs of each ward. The Committees did not possess specific powers, however,

> all questions of importance arising within the respective wards [we]re referred
> to them for enquiry and report, and their recommendations [we]re then laid
> before the Commissioners in meeting. (O'Malley, 1907: 166)

Besides the Ward Committees, a number of consultative Committees were also formed for the various departments of the administration – Assessment, Appeal, Legal, Audit and Finance, Executive and Works, Water Supply and others. These Committees dealt with issues concerned with the various departments and formulated proposals for the approval of the general body of Commissioners.

The passage of the 74th Constitutional Amendment Act (1992) proved a hallmark initiative in matter of local self governing body in urban areas as it provided, for the first time, constitutional status to the urban local bodies, including municipalities. Subsequently to the 74th CAA, the West Bengal Municipal Act (1993) was passed for the administration of the municipalities in the State of West Bengal, which came into effect from July, 1994 onwards.

Composition, Powers and Functions of Municipalities under West Bengal Municipal Act, 1993

The Darjeeling Municipality, including other Municipalities in the state of West Bengal, are governed by the West Bengal Municipal Act, 1993. Under the WBMA (1993), following authorities are charged with the responsibility of municipal area administration:

1) The Municipality

2) The Chairman-in-Council

3) The Chairman

The Municipality refers to the Board of Councillors, which consists of both the elected members from the respective wards and the non-elected members nominated by the state government, and is responsible for the municipal governance of Darjeeling town. Decisions are made by a majority voting system (Pradhan, 2008); however, the nominated members do not possess voting rights in the meetings of the Municipality.

The WBMA (1993) provides for a Chairman-in-Council system of governance, consisting of the Chairman, the Vice Chairman and other members depending on the size and classification of the Municipality; the Chairman is responsible for nominating the members to the Chairman-in-Council, who also distributes various responsibilities to its members. In case of Darjeeling Municipality, the Chairman-in-Council is composed of seven members (Pradhan, 2008; Darjeeling Municipality, 2007; Khawas, 2003). The executive powers of the Municipality are vested in the Chairman-in-Council and the executive actions of the Chairman-in-Council are taken in the name of the Municipality.

The Chairman is elected by the Board of Councillors from among its elected members. Generally, the leader of the party with majority on the Board of Councillors is elected as the Chairman. (Pradhan, 2008) The Chairman is the executive and administrative head of the Municipality and presides over the meetings of the Chairman-in-Council as well as the Board of Councillors. The WBMA (1993) provides that the Vice Chairman, in the absence of Chairman, is responsible for discharging the responsibilities of the latter.

The WBMA (1993) provides for the establishment of the ward committee in each municipal ward; the composition and functions of ward committee is to be determined by the state government. The Ward Committee is headed by the Councillor of the respective ward who acts as its Chairman; the other members of the Committee include persons with special qualifications. The functions of the Ward Committee include: assisting the municipality in the planning and execution of development programmes, addressing citizen's grievances and detection of statute violations. The Committee is responsible for holding an annual public meeting of the citizens to discuss the Administration Report of the municipality as well as future

plans and programmes. It needs to be noted that Darjeeling Municipality never formed Ward Committees until 2002. (Khawas, 2003)

The WBMA (1993) provides for the 'appointment of various functionaries/officers for the effective and efficient administration of the municipalities, including the Executive Officer, Health Officer, Engineer, Finance Officer, and Secretary. The Executive Officer acts the principal executive of the municipality; and, (s)he along with the Finance Officer exercise powers and perform functions as notified by the state government under the supervision and control of the Chairman. Besides, the WBMA (1993) also empowers the board of councillors to decide and create posts that necessary with the prior approval of the state government.

The urban local bodies, under the WBMA (1993), are required to perform certain obligatory and discretionary functions. As a part of its obligatory and discretionary functions, the municipalities perform the functions related to public works, public health and sanitation, town planning and development, administration, education and social and economic development. It bears noting that providing relief to and establishing and maintaining relief works in time of famine, flood and earthquake, for destitute persons within the municipal area, forms a part of the discretionary functions of the municipalities. Besides, the WBMA provides that the state government may also transfer certain of its functions to the municipality such as town and country planning, urban water supply and sanitation, urban employment schemes, health and family welfare, fire fighting, sports and youth activities and environmental safety and improvement.

Furthermore, the urban planning functions relating to urban infrastructure and services, which were hitherto governed by the West Bengal Town and Country (Planning and Development) Act (1979), have been conferred upon the municipalities. Additionally, the District Planning Act (1994) and the West Bengal Municipality Amendment Act (1997) provide a framework for development planning of the area under the control of the local bodies. The municipalities are also enjoined upon to prepare a Draft Development Plan for every five years term along with Annual Development Plan each year. In the context of municipal area, the Board of Councillors is responsible for preparing the Draft Development Plan, in consultation

with the District Planning Committee. To strengthen the developmental functions of the local bodies, the WBMA allows the municipalities to extend their activities to include programs and projects in the field of economic and social development.

WBMA (1993) and the Safety of Hillsides

In order to ensure that 'safety' in the face of disasters is ensured, the West Bengal Municipal Act (1993) contains certain special provisions for the Darjeeling Hill areas. These provisions empower the Board of Councillors or the Chairman in Council to take such measures that will mitigate or lessen the impact of disasters. With regard to the construction of buildings, the Act enjoins the Board of Councillors to take measures to dismantle, remove, secure or repair building or structure that threaten the stability of security of hillsides or banks or other immovable properties; to call upon the owners of the land to construct, maintain, reconstruct, enlarge or strengthen the revetment that will ensure the stability or security of any hillside or bank or other immovable property. The Chairman in Council is also empowered to prohibit the occupation of or continued occupation of the hillsides that are 'unsafe'; and to prohibit the occupation of unsafe or unsanitary building and buildings with defective latrines or drainage.

Additionally, the Board of Councillors has been conferred with regulatory powers to protect and augment the environmental conditions of Darjeeling Hills. In this capacity, the Board of Councillors can prohibit the cutting or destroying of trees or shrubs, planting and maintenance of particular kinds of trees or shrubs, prohibiting excavations or removal of soil or quarrying, preventing the straying of poultry or grazing of cattle on hillsides, providing for the alteration, repair and proper maintenance of buildings and compounds and general protection of the surface land on any hillside, inter alia, which may be necessary for the maintenance of the water supply, preservation of soil, prevention of landslips and protection of land against erosion.

Research Purpose and Objectives

The basic purpose of this study is to critically examine and analyse the disaster management system in Darjeeling municipality area. The objectives of the study are:

1) to describe, examine and assess the current disaster management system and practices in the Darjeeling municipal area: This study is concerned with disaster management in the Darjeeling municipal area and, as such, the focus is on describing and examining various disaster management policies and practices of the government and other organisations in Darjeeling. How these policies and practices shape, alleviate or aggravate, the vulnerability of the people in Darjeeling is also assessed. Besides, the role of the government and other organisations in rescue, relief and rehabilitation efforts in the back drop of cyclone 'Aila' is examined to comprehend the disaster management scenario.

2) to identify the factors that influence disaster management in the Darjeeling municipal area. In order to understand the disaster phenomena in Darjeeling in a comprehensive manner, this study follows the critical research approach (Mcnabb, 2005) and seeks to contextualise disasters in the wider social, political and economic setting; the objective is to identify and unravel the factors that are either ignored or overlooked in disaster management in Darjeeling – population, urbanisation, land-use patterns, poverty and governance, among others. For this purpose, the study analyses the marginalisation of Darjeeling Hills from the standpoint of vulnerability theory, which views disasters as a 'social product'.

3) to examine the elements and prospects of participatory governance in disaster management. This study focuses on various elements of participation in disaster management; the measures and initiatives taken by the government, non-government agencies and the community themselves through community based organisations such as *samaj* to build community capacity and resilience. The shift from technocratic disaster management system to participatory governance with a focus on the community participation has been considered a watershed development that could stimulate a holistic approach towards disaster preparedness. However, there is evidence of a lack of people's participation in disaster management in Darjeeling that

contributes to the vulnerability of Darjeeling. To highlight the significance of community participation in disaster management, a study of Community Based Disaster Preparedness Project of Anugyalaya, DSSC is undertaken in chapter four of the thesis. The success of CBDP in Darjeeling Hills is an indication that community participation in disaster preparedness is not only a necessity, but also that the long term sustainability of disaster management requires community participation.

Research Methods

The study is based on the Critical Social Science research paradigm[4] and involves a qualitative -single case study of disaster management system in Darjeeling municipal area. In order to achieve the research objectives, data were collected from both the primary and secondary sources. The primary data were collected through observation, participation and interviews (Mcnabb, 2005), while the secondary sources consisted of a review and analysis of various official documents, statistics, reports, books, journals, articles and other information sources (Mikkelsen 2005) on disaster management.

The study employed Participatory Rural Appraisal (PRA) methods and techniques of data collection. (Mikkelsen 2005) The study adopted semi-structured, open-ended interview methods with individuals and groups (Mikkelsen, 2005), besides focus group discussion which were held with the communities affected by 'Aila'. Various workshops and seminars on disaster management along with informal meetings with groups (Anugyalaya, DLR Prerna, Save the Hills) connected with disaster management in the Darjeeling Hills also enabled me to enhance my understanding of the various issues involved in disaster management in Darjeeling.

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[4] The research methodology is discussed and explained in detail in Chapter 4.

Limitations of the study

The following are the limitations of this study: lack of time and political instability, lack of baseline data, position of the researcher.

1) Lack of time: The basic limitation of this study is related to the lack of time. Given the time, length and scope of this research, it was not feasible to undertake detailed examination of the various aspects of disaster management in Darjeeling. The problem was aggravated by the fact that the Darjeeling Hills have been marked by major political instability due to resurgence of the Gorkhaland agitation; frequent strikes have led to the closure of government departments, including the District Magistrate's Office (DMO) and the Darjeeling Municipality, and other private establishments, sometimes for indefinite time. Therefore, accessibility to data was hindered and proved time-consuming, while interviews and field survey, and the process of obtaining information on the research area was therefore necessarily conducted in a haphazard manner.

2) Lack of baseline data: Another limitation of this study is the lack of baseline data on disaster management. Despite the fact that a number of studies have been conducted on disaster management in Darjeeling Hills, these studies are limited by their disciplinary orientation, focusing primarily on geological factors. Besides, the Darjeeling Municipality does not have baseline data on disaster management, while the data available with the municipality and Relief Department, DMO were rudimentary. Therefore, much of the data and information on disaster management were collected through interviewing officials concerned with disaster management, emergency volunteers and the residents of the area.

3) Position of the Researcher: I am a native of Darjeeling and hence quite familiar with the ground situation of disaster management in the study area. As a native, I could understand the psyche of the people vis-à-vis disaster management as well as the context of my research objectives. Undoubtedly, my familiarity with the language, culture, custom of the study area and its various problems, could have brought in bias in this study; however, I believe that it, equally, enabled me to understand the disaster management scenario in-depth.

Thesis Organisation

This thesis is divided into five broad chapters. Chapter I provides the background, introduces and describes the study area, and outlines the research objectives and methods used in this study. Chapter II reviews the literature on disaster and its management with a focus on the participatory governance in disaster management, particularly community based disaster management. The chapter delineates vulnerability as it has been viewed by disaster researchers, its causes and various approaches undertaken to address the problems of vulnerability. Chapter III reviews various policies, measures and initiatives undertaken in relation to disaster management in India. Chapter IV outlines the study methods, provides historical background of the study area in relation to its crises and disaster, the disaster management system in Darjeeling municipality area and the findings of the field study. Chapter V consists of the summary and conclusions.

CHAPTER II

THEORISING DISASTER AND ITS MANAGEMENT: A THEORETICAL

OVERVIEW

The growing realisation that human and material losses from disaster events are on the rise, without a corresponding increase in the frequency of extreme hazard events (Yodmani, 2001), has led to a dramatic but pragmatic shift in the jurisdiction of disaster management. The scope for disaster management has broadened and is more sensitive and reflective of the socio-economic setting of a community. (Britton, 2001) Instead of focusing on 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. As Britton states, in the

> overall context of a community's economic and social activities...the social function of emergency management is shifting from one that only minimises losses (for example, reducing loss of life or property damage), but also maximises gains (such as supporting sound investment decision-making, and general community well being)...To be effective, hazard and emergency management practices must be integrated into the wider regimen of practices, processes and structures of the community. (Britton, 2001: 45-46)

In other words, disaster management has come to be viewed as requiring the addressing of a wide range of issues that a society confronts rather than dealing with discrete-abnormal situations produced by disasters.

Mapping Vulnerabilities: Locating Disaster in Human World

It has come to be acknowledged that an increase in disaster trends is related to a rise in people's vulnerability. (Yodmani, 2001) According to Benson, "Whether or not the outcome of a hazard event is a disaster depends on people's vulnerability". (2002: 1) In this sense, in order to be effective, disaster management should aim at understanding and reducing, if not completely mitigating, the vulnerability of the people. Blaikie et al., provide an insightful definition of vulnerability

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By 'vulnerability' we mean the characteristics of a person or group in terms of their capacity to anticipate, cope with, resist, and recover from the impact of a natural hazard. It involves a combination of factors that determine the degree to which someone's life and livelihood is put at risk by a discrete and identifiable event in nature or in society. (1994: 9)

Further, livelihood is defined as "the command an individual, family, or other social group has over an income and /or bundles of resources that can be sued or exchanged to satisfy its needs". (Blaikie et al., 1994: 9) The significance of this definition (of vulnerability) is that it weighs vulnerability not only in terms of loss of life or property but by relating it to livelihood, it also recognizes the complex and dynamic nature of vulnerability that is embedded, inter alia, in the social, economic, and cultural fabrics of society; vulnerability, therefore, and not disaster per se, is the issue. As the *'command over resource'* or *'livelihood'* is the function of convoluted social-cultural-economic processes and structures of a society, the challenge before disaster management is, therefore, to deal with factors that may be subtle and imperceptible, but nonetheless, may impact the goals of disaster management.

The vulnerability of a person or group is determined by a number of factors; Ariyabandu and Wickramasinghe (2005: 23) identify the following as constituting the vulnerabilities:

1) *Physical vulnerabilities* are related to hazard-prone locations of settlement, insecure and risky source of livelihood, lack of access to production resources (such as land, farm inputs, and capital), lack of knowledge and information, and lack of access to basic services such as health, sanitation, shelter, education, among others.

2) *Social Vulnerabilities* are reflected in the lack of institutional support structures and leadership, weak family and kinship relations, divisions and conflicts within communities, and the absence of decision-making powers.

3) *Attitudinal vulnerabilities* are based on dependency, resistance towards change, and other negative trends.

These factors are, however, not independent; rather, they tend to aggravate (or alleviate) the vulnerability of other. For instance, a group inhabiting a landslide prone zone may put itself at a risk of physical vulnerability; however, with strong institutional support structures in the form of community-based organisations or self-help groups, it may be able to lessen (or mitigate) the impact of landslide. Conversely, however, the same group may be at a greater risk owing to both physical and social vulnerability.

For Bolin, race, class, and ethnicity are the "key markers of a person's potential vulnerability to environmental hazards of all types". (2006: 114) According to Yeletaysi et al. (2009), social, economic, physical, and environmental factors contribute to people's vulnerability to hazards. The social factors consist of social equity, social class, gender, race and ethnicity, education, among others; the physical factors relate to susceptibilities of location and the built environment; the economic factors encompass the issues of poverty, economic reserves, levels of debt, and economic diversity; while the environmental factors include natural resource depletion, degradation and climate change. However, social vulnerability has often been ignored in emergency planning which tends to decrease resilience and impede recovery process. (Yeletaysi et al., 2009)

The factors of race, class and ethnicity as delineated by Bolin (2006), and the social and economic factors classified by Yeletaysi et al. (2009) are based, often than not, on unequal power relations and are a "by product of social inequalities". (Yeletaysi et al., 2009: 382) Besides, these factors recurrently intersect (Enarson and Fordham, 2001; Fordham, n.d.) and do not constitute a homogeneous category in itself (Fordham, n.d.) indicative of the fact that a person or group may be in a 'pluralistic' vulnerable position than others which renders vulnerability to a more complex process to resolve. For instance, as Wisner have noted:

> Women may not be particularly vulnerable qua women ... but more commonly poor women (e.g. class + gender), old, poor women (age + class + gender), or old, poor, minority women (age + class + ethnicity + gender) are most vulnerable. (Wisner, 1993: 22 quoted in Fordham, n.d.)

The intricacies around vulnerability are further ensconced due to the difficulty in determining the relative importance of different causal processes on vulnerability. (Eakin and Luers, 2006)

Bolin's review of the disaster research focusing on race, class, and ethnicity (2006) provides a critical insight into how the factors of race, class and ethnicity (along with historical and geographical processes) shape people's vulnerability. Bolin observes that disaster research in 1950's and early 1960's was strikingly mute about victim diversity or social inequalities by race or class (2006). Although not the foci of research, he observes that Moore's *Tornadoes Over Texas* (1958) included findings on the blacks and Mexican Americans which highlighted that blacks had disproportionate losses and a higher injury rate than whites from a tornado. (Bolin, 2006) This study of the 1970s focused on racial, ethnic, and socioeconomic difference in disaster response; however, "considerable variation in theoretical sophistication, diverse research methodologies, and study designs, as well as disciplinary differences, contribute to this lack of patterning". (Bolin, 2006: 120) It needs to be recalled, as noted above, that a situation of pluralistic vulnerability also inhibits a patterned study of disaster processes.

In 1980s, the studies by Perry and Mushkatel (1986) and by Turner, Nigg, and Paz (1980) found statistical differences among different ethnic groups - Anglos, blacks, and Mexican Americans in relation to risk perception, disaster preparedness, and warning responses; Perry and Mushkatel (1986) found ethnic minorities were less likely to evacuate in the face of warnings than their Anglo comparison group. However, the class analysis was often limited to income measures which left other class-related factors *'untheorized'* and *'uninvestigated'*. (Bolin, 2006) The study on long-term household recovery by Bolin and Bolton (1986) found that

> blacks were more likely to live in mobile homes provided as temporary housing by the federal government than were whites (in Texas)...Such observations reflect class differences which, in this setting, were tightly coupled with race. (Bolin, 2006: 121)

Further, the study points out that at a California earthquake location, Latinos received less recovery assistance than Anglos. In another study on the Whittier Narrows earthquake, Bolton, Liebow, and Olson (1993) documented how low-income

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Latinos, housed in unstable masonry buildings, coped with housing damage and displacement; the study also factored linguistic barriers (which constituted an important theme along with other cultural and class barriers in 1990s disaster studies) that restrained Latinos from obtaining housing information and in working through the federal aid system. (Bolin, 2006) Besides, political mobilizations based on class and race which enabled Latinos to challenge the historic Anglo hegemony in the Watsonville earthquake culminating in a new earthquake assistance programme is documented in the works of Bolin (1994) and Schulte (1991). (Bolin, 2006) The Hurricane Andrew (1992) in Miami provided scope to trace people's varied experience based on race, ethnicity and class inequalities; the disaster research focused on

> impact related losses to access to assistance, inequities in insurance settlements, the effects of pre- and post-disaster racial segregation ... on an already marginalised and impoverished black community. (Bolin, 2006: 122)

Bolin regards the work of Peacock et al. (1997) as one that addressed issues of vulnerability; the work situated disaster in historical, spatial, and political economic processes in urban area and focused on how "social inequalities develop and shape people's vulnerability to disaster". (2006: 123) The work of Oliver Smith (1986) examines the Peruvian earthquake (1970) in the context of colonialism, underdevelopment and environmental degradation (Bolin, 2006); highlighting underdevelopment, chronic poverty and racial and ethnic marginalization as its off-shoots which rendered people vulnerable to earthquakes.

Poverty, as an indicator of lack of access to resources and income opportunities or livelihood, constitutes an important dimension of vulnerability. (Yodmani, 2001) It should be noted that although "poverty does not equal vulnerability" (Ariyabandu and Wickramasinghe, 2005: 23), poverty and vulnerability to disasters are linked and mutually reinforcing (Benson: 2002); poverty not only puts people at the hardship of making a living, but also places them in a vulnerable position to disaster. There exists, as Ariyabandu and Wickramasinghe observes, a 'cycle of vulnerability' –

> Because they are poor, they become vulnerable. Because they are vulnerable, they are at great risk in the face of natural hazard – leading to disaster.

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Because they suffer greater losses from a disaster, they become even poorer, more vulnerable, and are at an even greater risk of another disaster. (Ariyabandu and Wickramasinghe, 2005: 23)

This highlights the fact that unless people are emancipated from poverty to a better existence, they will continue to be entrapped in the 'iron cage' of disaster. Furthermore, disaster and vulnerability greatly imperils the process of development, thereby exacerbating the (severity of) poverty. Therefore, disasters are viewed as turning "back the development clock, destroying years of effort and labour and perpetuating poverty for those already poor". (Sanderson, 2000: 50)

The Other Side: Gender and Vulnerability

It is now recognized that people have different experiences of disaster. (Ikeda, 2009) As noted above, these experiences are shaped by numerous factors such as race, class, ethnicity, culture, language, among others. However, often it is found that gender does not figure much in the hazard and disaster studies (Fordham and Ketteridge, nd); gender as one of the determinants of vulnerability is conspicuous by its absence (Enarson, 2006) which also has a low profile in disaster plans. (Myers, 1994) The gender insensitivity reflects homogenization not only of disaster experience but also of disaster management in favour of men. As Ariyabandu and Wickramasinghe put it, "not being sensitive to gender issues in development planning and disaster mitigation means that interventions are often only targeted at men". (2005: 47) Therefore, disaster management represents, among others, a male dominated realm which

serves not only to reinforce existing masculine-dominated gender relationships, but to extend male dominance into traditional female spaces of authority". (Fordham and Ketteridge, n. d: 83)

The need of mainstreaming gender dimension in disaster management arises from the fact that while men "operate from a position of relative power and thus, arguably, have a lesser case in terms of social equity", women are pushed to "historic invisibility" (Fordham, n. d: 1) which makes disaster management lackadaisical one to the detriment of women. The need is, therefore, to put women's perspective, experiences and needs into disaster management policies and practices that will cater to the needs of women who invariably constitute the most deprived section

particularly, but not exclusively, in the developing countries. Fordham (n.d.) identifies a range of factors that contribute to women's vulnerability. These are:

1) *Biological:* Factors such as pregnancy, lactation and longer life span play a part in placing women in vulnerable position than men (Enarson, 2006); in the absence of adequate care, these may also amplify their vulnerability in pre- and -post disaster scenarios.

2) *Economic:* The task of reproductive work – a manifestation of biological factor – which involves performing arduous daily chores confine women to domestic/private sphere (while men's sphere relate to a wider public domain) results in *gendered division of labour* that adversely swerve the risks of women, coupled with the extra responsibility of caring for children and other dependents (Ariyabandu and Wickramasinghe 2005; Enarson, 2006); ironically, such roles of women go unnoticed or are deemed as unproductive and hence ignored in post-disaster relief and rehabilitation resources distributions. (Fordham, n. d.; Ariyabandu and Wickramasinghe, 2005) 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.

3) *Social:* The unequal access to educational opportunities, lower levels of literacy, male- centred customs and traditions, and lack of institutional support, serve to intensify gender inequalities, diminishing the resilience of women to cope with disaster in the long term. Further, women are put through stereotyping traits as 'risk-avoiders' in relation to men who are recognized as 'risk-takers' (Ariyabandu and Wickramasinghe, 2005; Fordham, n.d.) which reflects a deep-rooted gender bias in mentality.

4) *Political:* The lack of universal suffrage, limited access to, and occupation of decision-making power structures, and constraints on opportunities to participate in political processes, leads to the invisibility of women in wider policy arenas. Reflecting on the studies of women's involvement in emergency management decisions, Enarson observe that "while women are primary users of emergency help

systems, male-dominated planning and relief systems typically exclude their voices and concerns". (2006: 3)

5) *Cultural*: Women's culturally-determined subordinate status to men based on religion, vulnerability to domestic and sexual violence, dismissal of gendered knowledge or '*housewife's knowledge*' in the domain of decision-making, tend to worsen the vulnerability of women. In fact, in many developing countries, women incessantly remain behind the '*veil of ignorance*' which deeply ingrains the subordinate position of women in the social and political structures to the disadvantage of (women) future generation.

6) *Environment*: The domestic environment of the household, ridden with male domination, coupled with the above factors, further contributes to women's vulnerability.

These factors reflect fundamental social processes (Fordham, n.d.) which not only make women vulnerable to hazards of different kinds but also constrict their overall progress, adding to their already vulnerable position. Ariyabandu and Wickramasinghe (2005) observe that women are more disadvantaged than men; not only do women have to bear the brunt of other discriminatory practices based on race, class and ethnicity that men also experience, but they are also subject to gender-based discrimination that may be deeply entrenched in the families, kinship structures, and communities. (Ariyabandu and Wickramasinghe, 2005)

Works on gender-related disaster research focus on how women's needs are divested or often overlooked in the relief and assistance programmes in the disaster recovery phase; how gendered division of labour put women more at risk than before vis-à-vis men; how the patriarchal, male-dominant social structure makes women one of the most vulnerable groups in the face of hazards. Enarson et al. in a review of works on gender-related disaster research, observe that the researches on this dimension

> are moving toward a more nuanced, international, and comparative approach that examines gender relations in the context of other categories of social

difference and power such as race, ethnicity, nationality, and social class. (Enarson et al., 2006: 130)

Viewed in this light, the authors regard class status as constituting reposition a significant difference in the disaster experiences of women. Economically insecure and poor women reflect difficulty in recovery from disaster, are more dependent on community-based services, live in poorly maintained public housing or other temporary arrangements that barely, if at all, protect them from harm. (Enarson et al., 2006) On the other hand, affluent women displaying more resilience against economic loss following disaster, still undergo "emotional impacts of evacuation and losing their homes and belongings, the stress of rebuilding, and the anxiety over health and safety in general". (Enarson et al., 2006: 133) Beside class, race/ethnicity also shapes women's vulnerability such that women in subordinate ethnic and racial groups experience hardship and discriminations in relief systems, and take less part in long-term recovery processes than women from dominant racial groups. (Enarson et al., 2006) The incidents of gender abuse and violence against women are also accounted to be on the rise in the aftermath of disaster along with the shortage of counselling and anti-violence agencies to address these concerns. (Enarson et al., 2006)

The above account of women's experience and discrimination on the lines of class, race and ethnicity is also corroborated by the study of Enarson and Fordham (2001). In their study on race, class, and gender in women's flood recovery in the US and UK, Enarson and Fordham (2001) examine how social relations based on race/ethnicity, social class and gender increase the structural flood vulnerability of women; and how these patterns affect women's recovery from major flooding. Sketching a framework for women, the study draws attention to the fact that

> race/ethnicity, class and gender are inextricably interwoven into the consciousness, living conditions and social relations of the affected population, impacting emergency preparedness, relief, recovery and mitigation. (Enarson and Fordham, 2001: 44)

The study also explores how these social relations rooted in the axes of race/ethnicity, class and gender, create significant organisational barriers to resources vitally needed by women and their families Further, the study identifies common intersecting patterns, despite diverse geographical and cultural study locations, based

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on race, class and gender which forms an important part of social vulnerability analysis. The study suggests that addressing population diversity and community power structure is not an indulgence but a pre requisite in emergency management.

A Brief Survey of Disaster Management Literature

The ever-burgeoning literature on disaster management illustrates the fact that it has become a major area of concern, both for the policy makers and academicians. These works represent a wide spectrum of concepts, approaches, paradigms and analytical frameworks; are based on different assumptions and derive different, and at times, contradictory conclusions about disaster management. The common theme in these literatures, however, is their consistent focus on disaster management or at least aspect of it – mitigation, response or recovery phases. McEntire et al. (2002) in *"A Comparison of Disaster Paradigms: The Search for a Holistic Policy Guide"* provides an examination of different paradigms on disaster management – comprehensive emergency management, disaster-resistant community, disaster-resilient community, and sustainable development/sustainable hazards mitigation concepts. Beside, they also observe that "any future paradigm and policy guide must be built on- yet go further than- comprehensive emergency management". (McEntire et al., 2002: 267)

It should be stressed, however, that these paradigms are not exhaustive in that they do not sufficiently capture the changing trends in disaster management planning which is marked by a growing focus on community participation (for example, Pearce, 2003; Newport and Jawahar, 2003; Kweit and Kweit, 2004). Further, as Britton observes "change in the emergency management sector is both inevitable and necessary". (2001: 44) This change is most evident in the growing recognition of people's participation in disaster management, one which sees participation as the basic requirement towards developing a comprehensive and inclusive disaster management mechanism. The effort, hence, will be directed towards understanding the participatory processes in disaster management. To begin, however, we succinctly survey different paradigms that have evolved over a period of time.

Comprehensive Emergency Management

Comprehensive emergency management emerged in 1979 and emphasised inclusive emergency management policies and procedures. (McEntire et al., 2002) It acknowledges the diverse and cross-cutting nature of different types of disasters; conceptually incorporating each of the hazards, various phases of disaster management plan such as mitigation, preparedness, and response and recovery, and actors pertinent to emergency management. (McEntire et al., 2002) Besides, it also recognises the role of the different actors involved in disaster-management viz., the public, private, and non-profit sectors. However, it should be noted that the comprehensive emergency management concept possesses inherent drawbacks. (McEntire et al., 2002) By focusing too much on hazards, comprehensive emergency management represents a technocratic approach towards disaster management, one which sees disaster as a consequence of environmental factors - geo-tectonic, climatological or biological – and fails to recognize the many social, political, economic, cultural, and other variables leading to disaster. (McEntire et al., 2002) To be sure, disaster is a social phenomenon (Quarantelli, 1999) and a sound disaster management plan should take cognizance of the context – social cultures, habits and locations, among other variables, while planning for disaster administration. In fact, in overlooking these indispensable elements, the Comprehensive Emergency Management becomes quite reactive and incomplete as a paradigm. (McEntire et al., 2002) However, it should be acknowledged that in expanding the types of hazards; categorizing the functional areas of the disaster life cycle; and, in identifying the important activities involved in various phases of disaster, the Comprehensive emergency management paradigm expanded the horizons of disaster management planning which helped in concretising the disaster planning and administration.

The Disaster-Resistant Community

The disaster-resistant community model as propounded by Donald E. Geis (2000) seeks to assist communities in minimizing their vulnerability to natural hazards by maximizing the application of mitigation techniques. (McEntire et al., 2002) Indeed, with increasing losses resulting from natural disasters, it has become apparent that emergency management must include more proactive measures and

mitigation activities such as capacity building; assisting the communities vulnerable to natural hazards by invoking mitigation tools and techniques; invoking long term measures of disaster management such as hazard and vulnerability analyses, pre-zoning methods, land-use planning, community education, and more stringent building codes and regulations .(McEntire et al., 2002) The strength of the model lies in recognising the centrality of vulnerable community in mitigation measures.

However, the disaster-resistant community paradigm does possess certain flaws in drawing a sound disaster management plan. (McEntire et al., 2002) The disaster-resistant community model, for instance, seems to "apply only to extreme hazardous cover each of the functional areas of emergency management". (McEntire et al., 2002: 269) By focussing on the pre-disaster phase of mitigation and preparedness, it misses the post-disaster stage of recovery which is vital from the disaster management perspective. Further, it should be noted that by focussing on such measures as pre-zoning methods, land-use planning, building codes, it overlooks the cultural aspect of the community which to a great extent influence the vulnerability scale of the communities. To the extent that it calls upon scientific solutions (for example, engineering science in building disaster resistant buildings) to the problems of disasters, Disaster-Resistant Community also represents a technocratic approach.

The Disaster-Resilient Community

The disaster-resilient community model focus on the *'resilience'* of the community to deal with the threat of disaster. While there is no consensus on what constitutes *'resilience'*, it is often understood to "imply the ability to recover or bounce back to normalcy after a disaster occurs". (McEntire et al., 2002: 269) It is often held that the *'resilience'* aspect emerged as a reaction and alternative to the term *'resistance'*; McEntire et al. is of the opinion that "scholars may have developed this notion to capture social and other variables that had been neglected in previous studies". (2002: 269) The focus of the model is the post-disaster mechanism which addresses the need to incorporate, unlike the disaster resistant model, the social factors related to recovery. (McEntire et al., 2002) McEntire et al. identifies three strengths of this model: it recognises the vulnerability of the human beings to natural

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disaster; identifies the social factors and recognises the significance of cultural, psychological and economic variables in disaster management; embraces multi disciplinarity in its orientation and is able to address the issue of disaster management more comprehensively. (2002) It should be pointed out that both the disaster-resilient and disaster resistant community model suffer from the 'centric' syndrome and tend to limit their focus on either of the two aspects of disaster management — disaster-resilient model is recovery centric, while disaster-resistant model is conspicuously concerned with mitigation and preparedness. This makes both the models partial and contradicts the notion of comprehensiveness that is required in drawing a holistic disaster management plan.

Sustainable Development and Sustainable Hazards Mitigation

The concept of 'sustainable development' has gained currency since its inception in the World Commission on Environment and Development, 1987, popularly known as Brundtland Report. The Report defines sustainable development as the

> development that meets the needs of the present without compromising the ability of future generations to meet their own needs. (World Commission on Environment and Development Report, 1987 quoted in McEntire et al., 2002: 270)

In disaster management literature, the notion of sustainability finds broad expression in Dennis Mileti's 'sustainable-hazards-mitigation' concept (Mileti, 1999) defining sustainability as the ability of a locality to tolerate and overcome damage, diminished productivity, and reduced quality of life from an extreme event without significant outside assistance. (McEntire et al., 2002: 270) Further, McEntire et al. observe that the focus on the concept of sustainable development has been "to propose ways to integrate the delivery of aid with development for disaster reduction". (2002: 270) The sustainable-hazards-mitigation model acknowledges the critical interface between the eco-system and social system and calls for a comprehensive understanding of natural disaster along with a shift in the culture towards more sustainable practices to mitigate disasters. (McEntire et al., 2002)

Against the above models, McEntire et al. put forward the paradigm of Comprehensive Vulnerability Management (2002) claiming it as being

> holistic and integrated activities...reducing the emergencies and disasters by diminishing risk and susceptibility and building of resistance and resilience. (McEntire et al., 2002: 273)

The paradigm takes cognizance of the liabilities as well as capabilities from the physical, social, and organizational environments. Comprehensive vulnerability management, thus, refers to a concerted effort to identify and reduce all types of disaster vulnerabilities, both human induced and natural (McEntire et al, 2002). Central to the comprehensive vulnerability management concept is the idea of 'invulnerable development': "the development pursued in such a manner as to address vulnerabilities" (McEntire et al., 2002: 272); 'invulnerable' connotates the efforts aimed at reducing the liabilities that flow from the physical, social, and organizational environments, while 'development' expresses the idea of capacity building. The goal, as such, is to reduce the magnitude of risk and susceptibility, and simultaneously raise the resistance and resilience to disaster. McEntire et al. (2002) point out that the comprehensive vulnerability management concept represents a holistic approach towards disaster management in that it incorporates and integrates the findings from the various disciplines on disaster management and hence contributes towards the knowledge about disaster vulnerability.

Although the paradigm presented by McEntire et al. (2002) does address the gaps in other paradigms, in that it aptly recognises the significance of different phases of disaster management and its overlapping nature, its claim to being a 'holistic' approach to disaster management raises fundamental questions about its conceptualisation of development. The term development is elusive and is interpreted differently by scholars. Though development is often interpreted to mean economic growth or the rationalization of bureaucratic institutions (McEntire et al., 2002), it is more broadly understood in terms of freedom or capacity-building. (example, Sen, 2000) Defining development as just the capacity to endure the vulnerability of disaster limits the concept to being weighed only in terms of how safe a society is from

disasters; such conceptualisation, however, misses the point that a highly disaster-free society may still have high vulnerability levels owing to biased social processes and structures that put certain sections such as women at risk even during normal times.

In "*Different Strategies – Equal Practice? Risk Assessment and Management in Municipalities*", Nilsen and Olsen (2005) makes a study of two municipalities – Klepp and Time, located on the west coast of Norway. In their study, Nilsen and Olsen (2005) explore the '*mini risk analysis*' (MRA) and '*risk and vulnerability analysis*' (RAV) and highlights the similarity in the risk management practices in Klepp and Time, although the strategies are strikingly different in two municipalities. While Klepp adopted '*mini risk analysis*' (MRA) - a bottom-up strategy based on the rationale of revealing risks and implementing appropriate measures at the lowest level, Time undertook the '*risk and vulnerability analysis*' (RAV) model premised on rational planning and top-down strategy to prioritise preparedness measures based on calculations about probabilities and consequences. (Nilsen and Olsen, 2005) The similarity in risk management practices is attributed to a variety of factors: the institutional processes which exert more influence on organisational behaviour than do formal strategies and plans; government laws and formal procedures which reduce the number of alternative implementation strategies; rules and regulations which shape a strict framework for safety management; and, professionalism among '*street-level bureaucrats*' which plays a more significant role than organisational strategies in risk assessment and management. (Nilsen and Olsen, 2005)

It should be stressed that despite very different strategies both mitigation and preparedness practices and measures at the operational level are very similar in both municipalities which underscores the significance of behaviour and organisational culture in disaster management, and establishing the context which is imperative from a crisis-management perspective. Further, Nilsen and Olsen (2005) have aptly underlined the significance of combining 'mini risk analysis' and 'risk and vulnerability analysis' for a coherent risk management strategy in that while mini risk provides opportunity to the communities and 'street-level bureaucrats' to be active participants who can provide apposite feedback about the appropriateness of designed strategy; the 'risk and vulnerability analysis' enables the experts at the higher level of management to design a more robust risk management plan through coordination with

the bottom level machinery. These suggest that a sound disaster management plan should have feedback loops and the coordination of various actors for an effective approach towards disaster.

In *"Emergency Risk Management"* Alan Hodges examines the approach taken in the Australian - New Zealand Risk Management Standard. The basic objective of the risk management standard has been specified as

> the systematic application of management policies, procedures and practices to the tasks of establishing the context, and to those of identifying, analyzing, evaluating and treating risks. (Hodges, 2000: 8)

The first step involved in the overall risk management is the setting of context – strategic, organizational and risk – in the appraisal of risk. In the context of risk management, it is imperative that a framework is established to assess the risk, so that a better policy and practices may evolve and put to use to manage the risk in an optimal manner. The second step relates to identifying the risks which need to be managed, along with possible causes and effects. The third step involves two key elements: likelihood and consequences. The analysis of these elements provides an estimation of the level of risk in the perspective of existing control mechanisms and correspondingly the risk is evaluated, in terms of "comparison between the level of risk identified and the previously-established risk criteria". (Hodges, 2000: 10)

In case of the most vulnerable and impending risk, the options available are avoiding the risk, reducing the likelihood, reducing the consequences and transferring the risk. The identification and assessment of the risk is followed by the preparation of plans for an effective implementation (of the selected options) and coordination of actors involved in risk management. In the context of disaster management, the thrust is on prevention and mitigation to alleviate the vulnerability of the risk afterwards. Besides, the strategy also allows for more sustainable disaster management by involving the vulnerable community to participate in the disaster management. The most vital component of risk management, however, is the overarching emphasis on identifying risk as an integral part of the management process and the need for a multi-disciplinary approach towards risk analysis, a fact which is well acknowledged.

Disaster Management and Participation

The significance of participation in disaster management has come to be acknowledged in recent times. (example, Pearce, 2003; Warner et al., 2002; Newport and Jawahar, 2003; Chen et al., 2006; Yodmani, 2001; Ariyabandu and Wickramasinghe, 2005) Since disasters have implications for social collectivities – in that they affect more than one entity, i.e. individual, family, community or even a country – managing them invariably calls for and necessitates the participation of various groups and organisations. In other words, disaster management as a system and an activity requires and hinges upon the participation of various organisations – government, non-governmental organisations, community-based organisations and others. Besides, the community as the first respondent and affected unit (of a disaster) participates in different capacities – in search and rescue activities, recovery as well as disaster preparedness. The various paradigms, particularly the vulnerability paradigm and complexity paradigm (discussed below) take participation as their reference point. However, participation in disaster management like in other fields (for instance, natural resources and environmental management) has come to be informed and influenced by the wider discourse on participation in thinking about politics and development. Hence, participation as articulated and envisaged in the policy and development discourse will be our focus before turning to participation in disaster management.

Theorising Participation: Insights from the Political Discourse

Democracy, today, is a near-universal validating principle for political systems. (Dryzek, 2005) However, defining democracy is not an easy task for, as Post argues, it is a "notoriously vague and encompassing term". (2006) Yet democratic theory has basically followed two main trajectories: liberal-representative and deliberative-participatory democracy. Democracy – as encapsulated in the liberal-representative tradition, wherein democracy has been identified with competitive elections – is deemed as

an ineffective mechanism of political representation in accomplishing the central ideals of democratic politics: facilitating active political involvements of the citizenry, forging political consensus through dialogue, devising and implementing public policies that ground a productive economy and healthy society, and, in more radical egalitarian versions of the democratic ideal, ensuring that all citizens benefit from the nation's wealth. (Fung and Wright, 2001: 5)

In other words, liberal representative 'democracy' narrows down the role of the people to voting, while actual governance is undertaken by the politicians (Fung and Wright, 2001) – a manifestation of statist democracy which not only tends to exclude the vast majority of the people from political power (Fotopoulos, 2006) but simultaneously also adds to citizens' increasing distrust of political representation, their reluctance to participate in such basic democratic practices as voting in the elections, and scepticism about the effectiveness of the decision-making process. (Putnam, 1995 in Albrecht, 2006) The fact that representative democracy is based on the aggregation of individual preferences to "find the decision that will be most acceptable to all" suggests that it is not conducive to realise the interest and preference of the minority groups. (Wheatley, 2003: 509) In fact, representative democracy, it is alleged, is unable to protect citizens' interests; in particular, the 'marginalised' groups in both the North and the South, often do not participate effectively in representative democracy. (Pimbert and Wakeford, 2001) As a result, the distance between citizens and the state has grown, as evidenced by the declining political participation which, in the words of Zittel, reflects the symptom of a "crisis of democracy". (2003)

Bridging this distance between the citizens and state, and, hence, an attempt to resolve the "crisis of democracy", has involved the transformation of representative democracy to deliberative-participatory variant of democracy – a move towards, to use Barber's terminology, 'strong' democracy

> Strong democracy is a distinctively modern form of participatory democracy. It rests on the idea of self-governing community of citizens who are united less by homogenous interests than by civic education and who are made capable of common purpose and mutual action by virtue of their civic attitudes and participatory institutions rather than their altruism or their good nature. Strong democracy is consonant with – indeed it depends upon – the politics of conflict, the sociology of pluralism, and the separation of private and public realms of action. . . . Yet it challenges the politics of elites and masses that

masquerades as democracy in the West and in doing so offers a relevant alternative to what we have called thin democracy – that is, to instrumental, representative, liberal democracy in its three dispositions. (Barber, 1984: 117 quoted in Powell and Geoghegan, 2005: 129)

Participation is fundamental to political decision-making activities as Arnstein wrote many years previously.

> participation of the governed in their government is, in theory, the cornerstone of democracy—a revered idea that is vigorously applauded by virtually everyone. (Arnstein, 1969: 216)

Democracy, since the early 1990s, is a "matter of deliberation" with democratic practices too witnessing a range of deliberative innovations. (Dryzek, 2005: 218) It needs to be stressed that while there are many strands to the literature on deliberative-participatory framework, the point of convergence is their concern with the limitations of representative democracy and bureaucratic power as the way of organizing the state. (Heller, 2005) According to Baccaro, there are three fundamental features of participatory (or in his terminology "associational") democracy (2002 in Heller, 2005). First, participatory democracy involves a greater direct role for ordinary citizens in governance as against centralized, command and control bureaucratic modes of decision making. Second, participatory democracy promotes deliberation over bargaining and voting. Third, participatory democracy entails an affirmative state that uses state power to give greater voice to traditionally under-represented groups. In terms of practice, participatory governance involves intermediary spaces that readjust the boundaries between the state and its citizens, establishing new places in which the participants from both can engage each other in new ways. (Moote et al., 1997 and Cornwall, 2002) At the heart of deliberative democracy rests a "reason giving requirement"

> the citizens and their representatives are expected to justify the laws they would impose on one another by giving reasons for their political claims and responding to others' reasons in return. (Thompson, 2008: 498)

Under the deliberative democratic process, it is assumed that decisions are arrived at through the exchange of "reasons and arguments that appeal to shared objectives or values". (Fung, 2005: 401) Despite the fact that deliberative theorists differ on certain central questions such as

what counts as an adequate reason, how extensive the reason-giving forum should be, whether procedural norms are sufficient, and the desirability of consensus as a goal; they, however, believe and agree in rejecting conceptions of democracy that base politics only on power or interest, aggregation of preferences, and competitive theories. (Thompson, 2008: 498)

One of the core beliefs of the deliberative theorist, therefore, is that the realm of politics should extend beyond the aggregation of self-interest through critical engagement of citizens with each other. (Flynn, 2004; Bohman, 2003) The focus of the deliberative-democratic framework is on the three elements: process, outcome, and context. (Rai, 2007b) In terms of *process*, deliberation connotes the collective decisions of the participants based on "rationality and impartiality" that are aimed at public rather than individual or particular interest,

> ensuring that the interests of certain participants are not privileged over those of others and that no individual or group can dictate the outcome of others' actions, which means that outcomes are not known before deliberations are conducted and completed. (Rai, 2007b: 67)

As an output, deliberative democracy focuses on the educative and the "community-generating" power of the process of deliberation as well as the "knowledge-building outcome" of deliberation. (Rai, 2007b: 67) The 'context' is of particular significance in deliberative framework precisely because in the absence of "conducive context to open debate", deliberation based on "rationality and impartiality" cannot be expected to arise; the conducive context has often been understood as political equality, a kind of the 'level playing field' where the participants can put forward his/her argument/case as equal members. (Rai, 2007b: 67). This invariably entails the existence of what Habermas regards as the 'undeformed public sphere, that is the "absence of the state sanctioned hierarchical relationships, on the one hand, and societal-market sanctioned inequality on the other". (Habermas, 1962: 40ff in Zittel, 2003: 9) Button and Mattso (1999) identify four orientations to deliberation:

1) *Educative*: The educative aspect of deliberation is believed to act as a means of encouraging political learning about an issue or problem

> the objectives of discussion range from simply providing more information and knowledge to the greater expectation... [of] citizens making collective political judgments and participation in decision-making. (1999: 612)

2) *Consensual*: The consensus building highlights the "procedures" by which participants can come to a common agreement on an issue, values, or the direction of a future course of action by expression of different perspectives.

3) *Instrumental*: The instrumental aspect stresses "direct political or legislative results" as the purpose and end of discussion (Button and Mattso, 1999: 612). Deliberation, in this sense, seeks to achieve particular goals or outcomes with people participating to achieve things that they cannot get through private efforts (Fischer, 2006).

4) *Conflictual*: This aspect of deliberation emphasizes giving the "widest possible space to the expression and development of individual points of view without being constrained by other demands"; the conflictual conception stresses conflict and difference over resolution and agreement, however the primary focus is on "unrestricted deliberation". (Button and Mattso, 1999: 612-613)

In their seminal paper *"Deepening Democracy"* Fung and Wright (2001) propose three important criteria for promoting participatory democracy:

- the devolution of public decision authority to empowered local units;

- the creation of formal linkages of responsibility, resource distribution, and communication that connect these units to each other and to superordinate, more centralized authorities and;

- the use and generation of new state institutions to support and guide these decentered problem solving efforts rather than leaving them as informal or voluntary affairs. (Fung and Wright, 2001: 17)

Participation is not a new concept in the development theory. (Kambou, 1999) In fact, it is commonly held that the 'world' of participation is the 'world of development'. (Tandon, 2008) However, the dominant and conventional approach to development – conceived as the Western model of development – in the 1950s and 1960s was based on the 'extension' of expertise, knowledge and top-down models from the developed to the developing countries (Tandon, 2008) with no scope for people's participation in the development activities. It was believed that development in the newly independent developing countries could be achieved by following the processes of development that were used by the developed countries; that through economic growth and modernization per se, the associated income and social inequalities which reflected it, would be eliminated[5]. (Thorbecke, 2006) This model, however, failed to accomplish the desired "trickling-down" of the benefits of development to the marginalised sections (Narayan, 2003), was oblivious to the subaltern 'models' being practised by the communities themselves in the developing countries and also raised the issues of inappropriateness, sustainability, local ownership and wastage of resources. (Tandon, 2008) The result was not only exacerbated poverty but also the destruction of natural resources and the environment in general by maximizing self-interest utilization. (Taye, 2006)

The top-down approach, it was alleged, protected those with powerful interests, where the priorities were identified outside the context of the community (Turner, 2009) and rendered the community into passive recipients of development, without the ability to conceive their own way to development. The failures of plans and programmes (such as Official Development Assistance) based on the top-down model sensitised policy-makers, administrators and donor agencies to the need for understanding the local realities which saw the gradual emergence of the concepts of participation and empowerment in the development literature. (Narayan, 2003) The 1970s proved to be a watershed in this regard, which saw a rise in the writings related to bottom-up, people led participatory development; the seminal work – *"Pedagogy of*

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[5] Economic growth (in terms of GNP) through rapid industrialisation was the main policy objective in the newly independent developing countries in 1950s; however, gradual shift of emphasis took place regarding the role of agriculture in development in 1960s (Thorbecke, 2006).

the Oppressed" (1968) – of Paulo Freire in Brazil (Taye, 2006; Perez, 1999; Tandon 2008), Myles Horton in Appalachia (USA) (1975) and Nyerere's attempts in Tanzania (1967) provided a new approach and 'model' of development based on participation. (Tandon 2008) While Tanzania's experiments with *'Ujama'*[6] put people at the centre to realise a self-reliant socialist nation, Myles emphasized collective learning and self-organizing by the agents of change themselves – workers, poor, colored people in southern USA. Paulo Freire's philosophy of "humanization through conscientization" assertively reclaimed space for people's participation in development,

> development is a result of raised consciousness of those who are oppressed or disempowered as they gain their ability to explore and recognize their situation and have the desire for transformation. Through a process of "humanization", those who are marginalized can become subjects (those who know and act) and attain the capacity to critically observeand analyze their own realities in order to act and transform themselves which in turn "creates the possibilities for fuller and richer life individually or collectively". (Freire, 2006 in Taye, 2006: 8)

These perspectives and practices became the foundation of the movement of Participatory Research by the late 1970s which subsequently contributed to the emergence of PRA (late 1980s) (Tandon 2008) to "incorporate the voices, perspectives and resources of the underprivileged". (Perez, 1999)

The Popular Participation Program of UNRISD also stimulated the development thinking on participation. The Programme, which focused upon the design of the administrative system of the governments to deliver 'participatory development', highlighted the manifest contradiction between a colonial system designed on the logic of control of masses and a system meant to facilitate the participation of the poor. (Tandon, 2008) As a result of this approach, the mid-1980s saw several development programs (particularly in the fields of forestry, health, education and drinking water) experimenting with some local structures of 'beneficiary' participation; the representation of hitherto excluded and marginalized groups, who invariably formed the nucleus of development programs, in such structures of participation was also promoted on a wider scale, which subsequently led to the mainstreaming of participation in the large-scale development programs by

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[6] As a philosophy, the central objective of Ujamaa was the attainment of a self-reliant socialist nation; Nyerere's philosophy of Ujamaa was based on three essentials to development – freedom, equality and unity (Ibhawoh and Dibua, 2003).

late 1980s. (Tandon, 2008) By the early 1990s, many international agencies (example, USAID) had formally adopted policies and procedures for mainstreaming participation (and empowerment) in all its development programs worldwide; the World Bank, which had already been incorporating local participatory structures and Participatory Rural Appraisal (PRA) into many of its projects by then, formally adopted a Participation Policy in 1994. (Tandon, 2008) By the mid 1990s, USAID was supporting 60 decentralization activities based on participation across the world, while the United Nation Development Programme assisted over 250 similar activities in various countries. (Taye, 2006) In recent years, the shift in participatory development from 'margins to mainstream' was focused in the World Bank's *World Development Report 2000/1: Attacking Poverty.*

Exploring Participation in the Policy Landscape: Insights from Natural Resource and Environmental Management

Largely emanating from the political discourse and development thinking on participation, public participation in resource and environmental management has also found fair support. (Arnstein, 1969; Fitzpatrick and Sinclair, 2003; Lemos and Agrawal, 2006; Ludwig, 2001; Ribot, 2003) According to Lemos and Agrawal, the move towards the decentralization of environmental governance is justified on three grounds: greater efficiencies can be achieved as a result of competition among subnational units; it facilitates in bringing decision-making closer to those affected by governance, thereby promoting higher participation and accountability; and it can enable decision-makers to take advantage of more precise time- and place-specific knowledge about natural resources (2006). For Ribot (2003: 1), the rationale behind decentralization and participatory process in environmental and natural resource management relates to the following factors:

- The natural resources serve as a "direct source of wealth as well as a target for investment", and, hence, help in financing both development and local governance.

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- The people in developing countries depend on natural resources for their livelihoods which require the democratic local governance to incorporate popular inputs in decisions about natural resources management and use.

- The effective management of diverse natural resources with multiple uses requires specific local knowledge. Controlling access to natural resources often generates overlapping claims and conflicts that must be settled locally.

Such a shift in policy orientation is, however, not surprising. Given the fact that the world is getting more complex by the day, traditional forms of top-down approaches to governance, as noted above, are not dynamic enough to be efficient and democratic in the true sense. (Fischer, 2006) To be sure, natural resources and environmental management involves dealing with factors that are generally non-linear, complex and uncertain (Capra, 1996) which inevitably calls for involving the people in decision-making and governance. (Renn et al., 1993) Under the decentralization and participation framework, power is devolved from higher level governments to institutions and actors at lower levels of political and/or administrative authority. (Ribot, 2003) According to Irving and Stansbury,

> ...the debate swirling around citizen participation is no longer representative government versus citizen participation, but what type of citizen-participation process is best. (2001: 56)

The success of public participation in decision-making is understood from two perspectives: i) success of participatory processes, and, ii) success of the outcomes. (Irving and Stansbury, 2001) The success of participatory process relates to participation as a tool to inform and educate the citizens regarding various policy issues. (Moote et al., 1997) This can lead to participatory processes being a means to bring about a transformative change in the society. Irving and Stansbury (2001) argue that a meaningful public participation process helps in transforming citizens into 'citizen experts' enabling them to see the issues holistically and derive community-wide solutions. Further, it has been argued that meaningful public participation allows the citizens to contribute with their expertise and knowledge regarding local issues and area. This in turn, helps the decision-makers to incorporate those factors into

decision-making which the decision-makers might have overlooked or were not even aware of. (Renn et al., 1993)

The participatory approach in the decision-making process ensures the social acceptance of administrative policies that would otherwise have remained unpopular with the masses through a collaborative process that builds community and shared understanding, and therefore overcomes societal divisiveness and polarization. (Renn et al., 1993; Moote et al., 1997; Irving and Stansbury, 2001) Beside, it also facilitates in smooth and effective decision implementation by resolving conflicts during the planning process, rather than delaying implementation of completed plans while decisions are reviewed through appeals and adjudication. (Moote et al., 1997) Public participation is also pivotal for ensuring fairness in the decision-making process (Renn et al., 1993) that also enhances the legitimacy and stability of the political system. Meaningful public participation also helps the government to build "strategic alliances" (Irving and Stansbury, 2001) in that the government can use public participation in decision-making processes as a tool to build trust, and assuage people's anxiety or hostility towards certain issues. (Fung and Wright, 2001)

Empowerment of the masses is another significant contribution of public participation in decision-making processes. (Fung and Wright, 2001) Regular contact with key decision-makers enables people from the grassroots level to persuasively convey their viewpoint in a non-confrontational atmosphere and also helps the citizens to emerge as legitimate political players. (Irving and Stansbury, 2001) Further, as Larson and Soto argue, the processes of participatory governance and decentralization are more likely to have positive social effects when they seek to empower local people. (2008)

In addition, meaningful public participation in the decision-making process contributes directly in the form of successful outcomes. In many instances, political discourse can lead to a deadlock, bringing decision-making to a halt. In such a scenario, as Moote et al. observe,

> an active and open dialogue allows the needs and concerns of each interested group or individual to be addressed during the planning process, and permits the various participants to gain an understanding of each other's values,

interests, and concerns, as well as the legal and policy constraints on agency decision-making. (Moote et al., 1997: 879)

Thus, a participatory framework provides a platform for the citizens to contribute valuable inputs which can vastly improve social outcomes. Inputs from citizen participants allow different sections to find a convergence point and find solutions to hitherto intractable problems. (Irving and Stansbury, 2001)

Participation in Disaster Management

The shift to a participatory approach towards disaster management has been propelled by a growing realisation in other domains of policy where the failure of state-only and market-only approaches (Warner et al., 2002) along with, as Lemos and Agrawal has observed,

> the capacity of communities and other small-scale social formations to manage resources has provided...a shift toward comanagement, community-based natural resource management, and environmental policy decentralizations. (Lemos and Agrawal, 2006: 303)

In concert with these changes in the overall policy orientation, the scope of disaster management has also widened to change from traditional and often exclusive emergency services to a far wider consortium of agencies, skills and practices (Britton, 2001); within international organisations such as International Strategy for Disaster Reduction (ISDR) and others there has been a policy shift towards disaster preparedness and public participation. (Warner et al., 2002)

The "paradigm shift" from reactive, response-based disaster management to a more proactive effort aimed at disaster mitigation and risk reduction (Henstra and McBean, 2005) has also meant "a shift that involves a viable role for public participation" (Pearce, 2003: 212) involving a more inclusive approach by encouraging the participation of communities, non-governmental organisations, environmental groups, educational institutions, and other stakeholders in disaster mitigation and management. It has been acknowledged that while a top-down policy is needed, it is the local-level bottom-up policy that provides the impetus for the implementation of mitigation strategies and a successful disaster management

process. (Pearce, 2003) In fact, as Warner et al., reflecting on the changing trend in international disaster management effort has observed,

> public and stakeholder participation and local action are deemed necessary for the new focus on risk reduction, institutional reform and capacity building. (Warner et al., 2002: 8)

In dealing with participation in disaster management, Warner et al. has identified four paradigms in which participation is embedded. (2002) (Table 1) These are:

- The technocratic paradigm: Based on the notion that natural hazards cause disaster with a solution in technology and science, the technocratic paradigm involves a top-down approach to disaster management; participation did not figure in disaster management when it was considered as the exclusive domain of state led bureaucracy.

- The behavioural paradigm: The behavioural paradigm was based on two premises – people have agency and choice (for example, people live in the flood plain because risk brings opportunity, so they may find it worth their while to court risk); and, people can be persuaded to make more 'responsible' settlement decisions, (for example through zoning or insurance programs and also by extension and education moving out of risk areas can be actively promoted). The participation of the people was to be given effect through education and training in mitigating the impacts of disaster.

- The vulnerability paradigm: Focused on the political "root causes" of disasters, it posits that the economic and political power differentials led to unequal distribution of vulnerability and hence differential risk and disaster impacts. The emphasis was placed on the social, political and economic exclusion of the poor and powerless. From a participation perspective, the vulnerability paradigm was "the first to seriously look at stakeholder involvement in addressing disaster" (Warner et al., 2002: 10); participation was encouraged to empower the vulnerable and affect capacity building.

- The complexity paradigm: Unlike the vulnerability paradigm which neglects the hazard aspect of disaster to concentrate on political-economic dynamics of the origins of vulnerability, the complexity paradigm focuses on the mutual constitution of society and environment and their complex interplay; trying to understand the complex interrelationships of ecology and society. The complexity paradigm calls for polycentric stakeholder inclusion, negotiation, social learning approach towards disaster management, beside a shift from

top-down interventionist forms of governance to governance as a quality of interacting social-political systems, such as international communities, national states, cities and localities, as well as in sectors such as agriculture, fisheries and domestic use

and a shift to adaptive management integrating multitude of users "based on a negotiated shared value system and on different knowledge domains". (Warner et al., 2002: 11)

Disaster Paradigm	Period	Implications for management	Implications for participation
Technocratic paradigm	Pre – 1960	Top-down control; embankments, physical protection from floods	None
Behavioural paradigm	1960 – 1970s	Early warning systems, flood zoning, change people's behaviour (through education)	Education and training, utilitarian perspective
Vulnerability paradigm	1980 – 1990s	Overall development, countering root causes of vulnerability (through revolutionary change)	Empowerment of the vulnerable, capacity building.
Complexity paradigm	Present	Adaptive management of society and environment, collaborative self-organisation	Polycentric stakeholder inclusion, negotiation, social learning.

Table 1. Four disaster paradigms (Warner et al., 2002: 12)

The different disaster paradigms, as noted above, have placed participation at different levels; while the technocratic paradigm is marked by the absence of

participatory mechanism, the other three paradigms acknowledge, though in varying degrees, the significance of participation. It should be stressed that these paradigms are not "mutually exclusive" (Warner et al., 2002); rather it helps in understanding how participation has been conceptualised in these paradigms. It also bears noting that the different *locus* on participation does not necessarily mean a shift in the *intent* of participation. For instance, a polycentric stakeholder inclusion or social learning approach may be undertaken to empower the vulnerable sections from the impacts of disasters. For our purpose, the focus will be more on the participation as envisaged in the complexity paradigm, yet, without losing sight of the vulnerability paradigm, precisely because both seek to address disaster management from a wider participatory standpoint and thus facilitate in understanding the participatory process in disaster management in a comprehensive manner.

Further, these paradigms also keep abreast with the changes taking place in the wider policy environment which helps in understanding the relationship that disaster management has come to forge with its counterparts in other policy spheres. In doing so, this study will dwell on the participatory mechanisms that have found wider acceptance in the disaster management literature and which may be taken as constituting a 'sub – paradigm' – paradigm within a paradigm. Hence, community based disaster management (CBDM hereafter) and collaborative management (involving participation of community, multi stakeholder, non governmental organisation, among other actors) will be the prime focus. This does not, however, mean straitjacketing these notions into distinct specialities of disaster management approach. The underlying principles and goals are the same; both are grounded in similar ideology conceiving participation as the fulcrum of disaster management; and there appear to be several cross-cutting themes making it easier to trace their commonalities and convergence than differences which inhibits any attempt at uni-dimensional analysis.

Community Based Disaster Management

According to Warner et al., "public participation in its broadest sense concerns the inclusion of the people who have a stake in disaster management". (2002: 13) It is believed that to be effective, participation of the vulnerable communities in disaster

preparedness is a necessary ingredient. (Newport and Jawahar, 2003) Disaster, to be sure, has differential impacts on the people with the effect that certain sections are more susceptible to hazards; and in the event of disaster, are rendered even more vulnerable. The participation of the vulnerable community in the disaster mitigation process, therefore, constitutes a prime component. (Newport and Jawahar, 2003) However, often it is found that affected populations are viewed as victims which not only connotates a state of dependency of affected people, but also overlooks people's own capacities and coping strategies. (Warner et al., 2002)

Addressing this lacuna, created by the bureaucratic top-down approach to disaster, has brought forth the solution in the form of community based disaster management which takes the *'vulnerable'* community as the reference point in disaster management. Building safer communities, after all, hinges upon understanding the communities and their vulnerability to natural hazards (Chen et al., 2006); and, as communities are considered "the best judges of their own vulnerability and can make the best decisions regarding their well being" (Yodmani, 2001: 8), their participation in the overall disaster management planning and implementation assumes paramount importance. Further, approaching the problem of disaster through community is beneficial to government. Depending on the type or size of a disaster, governments' emergency services might lack time to act instantly in the immediate aftermath of disaster when communities can play a significant role in responding to disaster. (Chen et al., 2006) There is, indeed, a great deal about CBDM approach than this occasional advantage. Simply stated, Community Based Disaster Management aims at addressing the vulnerabilities and strengthening "people's capacity to cope with hazards" (Yodmani, 2001: 8); the causes of vulnerability to disaster, within the CBDM framework, are discussed by the community and action is aimed at the reduction of disaster risks. (Ikeda, 2009)

The success of disaster management depends, to a great extent, on mitigation measures; this entails undertaking adequate hazard, risk and vulnerability (HRV) analyses in the absence of which communities "may neglect to plan for the hazards", thereby failing to achieve sustainable hazard mitigation. (Pearce, 2005: 413) The hazard, impact, risk and vulnerability (HIRV) analysis advanced by Pearce (2005) is one of the efforts aimed at achieving sustainable hazard mitigation. A community and

region-based model, HIRV is premised upon local knowledge supplemented by experts; provides a platform in the form of HIRV Committee which facilitates community participation involving such participants as emergency manager, local resident, business community, representatives from industry and environmental organizations, disaster experts, media, representatives from the third sector (vulnerable populations), among others; and, entrusted with the task of hazard identification, risk analysis, vulnerability analysis, impact analysis, and risk management; HIRV analysis helps in expanding the terrain of disaster mitigation and management to develop sustainable mitigative strategies *vis-à-vis* hazards by encouraging community participation.

Within the context of HIRV analysis, the participation of different stakeholders is essential in providing diverse and critical inputs that are often overlooked or deemed 'insignificant'; and, together with the 'experts' knowledge, may enhance and augment disaster mitigation strategies. Further, the HIRV analysis goes a long way in securing "the political will of the elected officials" that determines the adoption or otherwise of mitigative strategies in that it can "assist politicians in determining how the voters will judge their actions regarding whether or not mitigative strategies are implemented" .(Pearce, 2005: 429) Suffice it to say that HIRV model encapsulates the significance of community participation in disaster mitigation mechanism and to the extent it resolves the participation deficit, may accomplish a comprehensive community-oriented disaster management. Chen et al. study of Integrated Community-Based Disaster Management (ICBDM) Project in Taiwan confirms the imperativeness of community participation in disaster mitigation. (2006) The ICBDM project envisaged not only building a community capable of protecting the lives and property, but more importantly in empowering the community to take actions in minimizing their risk of loss and improve their quality of life. (Chen et al., 2006)

Taking Shang-An Village as a case in point, Chen et al. examine Taiwan's new community-based disaster management program – Integrated Community-Based Disaster Management (ICBDM) – which has successfully adopted participation, thereby building a more robust disaster mechanism to counter the risk and vulnerability facing Shang-An. (2006) Launched with the vision of enhancing

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community preparedness and response capabilities, ICBDM focused on promoting pre-disaster planning, facilitating disaster resistance capability, and supporting communities with the purpose of moving towards a more resilient and sustainable future that brought "communities together to take actions that prepare for and protect themselves against natural disasters in a collaborative effort". (Chen et al., 2006: 212)

The success of the Shang-An ICBDM project rested on building community partnerships by including not only traditional participants in the form of government at different levels but also encouraging the participation of community leaders, experts in various hazard mitigation fields (e.g. flood, landslide, and public policy), local emergency management agencies (e.g. the fire brigade), local governments, public institutions and academia. With such diversity of participants, ICBDM could avail a huge range of assistance in accordance with each contributor's specialty or responsibility. The participatory process of the ICBDM project was given effect by dividing it into 6 phases:

- Orientation: It aimed at involving the public in the project; to address the objectives of the project, how to implement it and the expected results thereof. This was necessary to identify and recruit potential participants; which was then divided into smaller groups in accordance with the neighborhood to go deep into discussion and focus on more specific issues.

- Collecting disaster experiences: This phase entailed gathering information about past disaster events from disaster experiences; the disaster history of the community; descriptions of emergency conditions by reviewing past disaster events and personal experiences. Information exchanges enabled the participants to identify and understand the natural hazards in their community (e.g., frequency of occurrence, vulnerable areas, magnitude).

- Assessing vulnerabilities: It related to identifying risk areas, exploring problems, and putting these areas on a map; by way of conducting a field survey along with hazard experts via direct observation, the participants identified the problems of community environment, its risks and identifying its vulnerabilities to those risks; followed then by highlighting on a detail map the

areas of past disaster locations, their effects, and potential hazardous areas as to identify where they should be most concerned.

- Evaluating problems and developing solutions: The focus here was on problems evaluation, solutions development and mitigation strategies classification. It was important that community identified its own strategies using its own reasons and mitigation goals.

- Establishing a community-based disaster management organization: This required developing a framework for a community-based hazard mitigation organization, which could be either a new form or a combination of existing community groups. It was important to stress that the framework of the organization is flexible, so that it could be changed to fit the needs of different circumstances.

- Final presentation: Sharing project results with other community inhabitants acted as a platform to inform the community about the benefits of hazard mitigation and the effects it would have on the community in the future so that they also would be willing to input mitigation efforts.

Besides, ICBDM also trained the members of the community- based disaster management organization with such basic skills as first-aid, search and rescue, and others required to respond to the community's immediate needs in the event of disaster, when emergency services are not immediately available. (Chen et al., 2006) Through these phased processes and trainings, participants in the ICBDM project were able to identify potential hazards, assess the risks from these hazards, analyse problems and develop strategies, besides establishing a community database about rescue equipments, refuge facilities and a list of vulnerable people through comprehensive surveys. (Chen et al., 2006) ICBDM, in short, relied on the community participation that enhanced the disaster mitigation and preparedness mechanism.

Identifying vulnerabilities of the community is, however, one facet of disaster preparedness. It is equally, rather more, important to address their capability to cope with disaster. Newport and Jawahar holds that building the capacities of community in coping mechanism can foster a *"self-reliant community"* which requires all the possible resource to make it more sustainable. (2003: 33) These capacities are related, inter alia, to awareness generation among the people at the village level; community mobilization (for instance, women plays an important role in self help group); mending weak community structures and individual assets and building task force trained in both pre- and post disaster management skills. (Newport and Jawahar, 2003) Additionally, the capacity building of the community to protect itself from disaster is a long term process that cannot have a quick-fix solution; its success will invariably depend on how well the vulnerabilities (along with the causal factors) of the marginalised groups are addressed. These may require nothing less than a structural transformation that will obliterate those social and political processes that are often the cause of vulnerability.

These may partially, if not wholly, be accomplished by embarking on the Alternative Perspective that envisions not only a way of dealing with disaster in isolation, but in looking at disaster as "part and parcel of the 'normal' development of societies – as unresolved problems of development" also identify the *'root'* causes that breeds vulnerable conditions in the first place (Ariyabandu and Wickramasinghe, 2005: 35); resolving these *'root'* causes then may automatically enhance the capability of the community to respond to disaster. In tune with the changing trend in disaster management, Alternative Perspective is based on the principle that participation of the communities in disaster mitigation such as risk reduction, disaster preparedness, rehabilitation, long term reconstruction and others, beside adopting a needs-based approaches can facilitate in strengthening the capacities of communities and individuals to reduce their vulnerability level. (Ariyabandu and Wickramasinghe, 2005) What is unique to Alternative Perspective is that it "emphasizes on solutions that change relationships/structures in society" with the aim of reducing people's vulnerability and simultaneously strengthening their capacities; unlike the technocratic paradigm which regards intervention measures as a return to a situation of *'normalcy'*, disaster in this perspective is viewed as "opportunities for social transformation". (Ariyabandu and Wickramasinghe, 2005: 36-37)

Envisioning the transformative role of communities in dealing with disaster is compatible with the vision of participation as an empowerment process where the individuals form an integral part – agents of transformation – in the development process rather than being passive recipients of the same. Another noteworthy dimension of the Alternative Perspective, inter alia, relates to accountability and transparency variables in the implementation process (Ariyabandu and Wickramasinghe, 2005); often in the absence of information availability, the communities at large remain behind, as noted before, the 'veil of ignorance' which may greatly impede the participation process in disaster planning. Interestingly, the bureaucratic norm of expertise, regularized procedures and the ultimate goal of efficiency, more often than not, runs counter to the democratic values of responsiveness, accountability and transparency which obstructs the participation of the people. (Kweit and Kweit, 2004)

The impasse around the 'root' cause may also be resolved, as Ikeda suggests, by promoting the linkages/integration of the

> disaster risk reduction policy with other social service sectors, such as health, and other key development agendas, such as local legal system reform, so that people can more easily understand the root causes of their disaster vulnerabilities. (Ikeda, 2009: 76)

The need to recognise the relationship between disaster and development has also been reiterated by international organisations such as UNDP (2004) that views disaster risk reduction as a challenge for development. (Coate et al., 2006) Unsurprisingly, the integration of disaster management policy with other development policies to evolve a sound disaster reduction planning that addresses the 'root' causes of vulnerability has found fair support. (example, Sanderson, 2000; Yodmani 2001; Ariyabandu and Wickramasinghe 2005; Coate et al., 2006; Ikeda, 2009; Pearce, 2003)

Since poverty is often viewed as the cause of vulnerable conditions of the poor, for Sanderson (2000) and Yodmani (2001) adopting a sustainable livelihood approach by integrating the poverty and development policies with disaster reduction programs can be pivotal in vulnerability reduction. Similarly, Coate et al. (2006) maintain that to ensure long-term economic recovery in the aftermath of a disaster, it

is necessary to provide the basis of livelihood support. Ariyabandu and Wickramasinghe (2005) by way of mainstreaming gender concerns in disaster management suggests that planning and implementation of development and disaster management should be gender sensitive at all stages of the disaster cycle; understanding specific gender concerns in disaster mitigation planning; recognising women's capacity as a resource and ensuring their participation in both risk reduction and in disaster management; and, making disaster risk management an integral part of development planning. Though not squarely concerned with the *'root'* causes of vulnerability, Pearce (2003) considers integrating disaster management planning and community planning can make an important contribution to community safety; mitigation activities in disaster management are considered as being conducive to cooperation and coordination between the disaster management and community planning. To be sure, these integrations between disaster management and other development policies are encouraged and centres on participation; reflecting a shift to multi-dimensional approach to disaster that appreciates the value of public participation. The above account highlights the following features of CBDM (Yodmani, 2001):

- The community has a central role in long term and short term disaster management; the focus of attention in disaster management is the local community.

- Within CBDM, the primary content of disaster management activities revolves around reducing vulnerable conditions and the root causes of vulnerability; the strategy is to reduce vulnerability by increasing a community's capacities, their resources and coping strategies.

- CBDM aims at general improvement of the quality of life of the people and natural environment. It seeks to achieve these objectives by contributing to people's empowerment through participation in decision-making and securing more access and control of resources, among others.

- Community is the key actor and the primary beneficiary of disaster risk reduction. It is the community which defines its goals of disaster mitigation and directs the resources to that effect. Within the community, priority attention is given to the conditions of the most vulnerable as well as to their mobilization in the disaster risk reduction. The community participates in the whole process of disaster risk management from vulnerability analysis to planning to implementation.

- CBDM is based on participation of diverse community stakeholders for disaster risk reduction. These enriches not only the input in the form of resources, it also enhances the legitimacy of CDBM to ensure effective implementation of its objectives.

- CBDM involves a dynamic framework of sharing experiences, methodologies and tools by communities to evolve a disaster mitigation measures to respond to communities needs during emergencies.

Collaborative Management

As the domain of disaster management widens, a variety of new factors and forces are emerging that mark today's *'disaster-scape'*, prompting a major paradigm shift involving new actors. (Gopalakrishnan and Okada, 2007: 368) These include, as Okada observes

> an emerging role of NGOs; innovative schemes of public–private partnership; increasing importance of citizen-initiatives; institutionalised participatory process for multiple-stakeholders; public information as common goods and its release to society and stakeholders; and growing concerns for public risk and increasing need for integrated risk management. (Okada, 2003: 6 quoted in Gopalakrishnan and Okada, 2007: 368)

Ironically, though, Waugh and Streib find modern emergency management as presenting a paradox. (2006) They believe that "emergency response requires meticulous organization and planning, but on the other hand, it is spontaneous". (Waugh and Streib, 2006: 131) This paradox has led to a growing realisation that no

agency or organization, public or private, can by itself manage the complexities and challenges of disaster. The need is therefore to work together around shared goals and visions. Towards this end, a plethora of agencies – government, non-governmental organisations, international donor agencies, environmental groups, communities and other organisations – have directed their efforts to build a common platform that could be effective in dealing with disasters. The trend is, therefore, towards collaborative management of disaster.

Singleton identifies three principal sources of collaborative policy movements: alternative dispute mediation or resolution (ADR), ecosystem management, and political devolution (2002); ADR seeks to explore mutual common ground acceptable to the disputing parties without having to involve in the intricacies of judiciary; ecosystem management undertaking the task of understanding the complex interrelationships of ecology and society rather than in terms of single resources (Warner et al., 2002 and Singleton, 2002); while the rationales for political devolution are grounded on such factors as better informed decision, advantage of place-knowledge, empowerment of grass roots, among others. Attuned to the changes in the broad policy movements, disaster management has its own experiences of collaborative management. (example, Kapucu, 2006; Waugh and Streib, 2006; Weber and Khademian, 2008; Waugh, 2006; Mitchell, 2006) Although still in its infancy, collaborative management in disaster has craved a niche for itself in the disaster management planning, particular after such disasters as 11th September terrorist strike on Twin Towers, Hurricane Katrina, and Indian Ocean Tsunami, among many others. As the severity and uncertainty of disasters, with more being added by vexatious threat of global warming and climate change, put societies increasingly at risk, collaboration has come to be viewed as a way to a more resilient and adaptive human society.

It is held that the response to natural disasters is, often, an ad hoc affair involving nongovernmental actors, governmental actors, and emergent groups that often become well organized and long lived (Waugh and Streib, 2006; Robinson and Gaddis, 2007); however, in the absence of collaboration, with each actor operating within its own jurisdiction, the effectiveness of disaster response either gets diminished or achieves partial success. Multi-agency collaboration is, therefore,

crucial to effective decision-making in all aspects of disaster risk management. (Gopalakrishnan and Okada, 2007; Kapucu, 2006) Although multi-level governance encompasses two main dimensions, namely vertical and horizontal (Maldonado at el., 2009), collaborative management of disaster requires both horizontal (intra-agency) and vertical (inter-agency) linkages (Gopalakrishnan and Okada, 2007) in that it facilitates a more entrenched and broad integration of the agencies promoting greater interaction that is vital from collaborative perspective. It should also take place in multi-jurisdictional settings Collaborative management involves participation of various stakeholders in the decision-making and implementation process. The participatory platform is intended to, as Warner et al. puts it, "bring together all actors depending on or taking an interest in the resource". (2002: 21) It is imperative that collaboration in disaster management should be based on participation with *'multiplicity of voices'* as it leads to a more democratic, integrated forms of resource management (Warner et al., 2002: 21) beside, facilitating the articulation of critical perspectives and insights that each stakeholder may have to offer, which others may not be aware of.

As deliberation is at the heart of participatory governance, grounded in the "belief in the power of dialogue and consensus building, breaking down institutional and power barriers" (Warner et al., 2002: 21), within a collaborative framework, the stakeholders are supposed to engage in what Innes and Booher term as, *'authentic dialogue'*

> each speaker must legitimately represent the interest for which he or she claims to speak, each must speak sincerely, each must make statements that are comprehensible to the others, and each statement must be accurate. (2003: 38)

The purpose being to find consensus based solutions arrived at through Habermasian *'communicative rationality'*; taking into account the wider social and political context where these solutions are ultimately to be implemented; and, depending on its authenticity will either pass the test of legitimacy or otherwise of the solutions among the stakeholders. However, the process of deliberation and collaboration could be impeded when stakeholders hold negative perceptions of one another or try to co-opt the less powerful by powerful interests. (Schusler et al., 2003) Given the need for, as noted before, inter-sectoral integrated planning that has come to mark the disaster management policies, multi-stake holder participation often

becomes more complex and '*highly political*' which may result in conflict among the stakeholders (Thabrew et al., 2009: 68), provoking negation of the rationales that drive collaborations.

Acknowledging diversity and interdependence among stakeholders, hence, is a necessary condition; *diversity* is important in that it promotes creativity "that can respond to a wide set of competing interests", while interdependence facilitates in creating an '*adaptive learning system*' that is more robust and effective (Innes and Booher, 2003: 40) mechanism of decision-making. These factors – *authentic dialogue, diversity,* and *interdependence* – results in *reciprocity, relationships, learning and creativity* (Innes and Booher, 2003: 42) that further enhances the effectiveness of collaborative deliberation and management. Further, effective collaboration requires taking cognizance of the social, cultural, and, political environment; the identity of various stakeholders is formed around, inter alia, race, class, and, gender that shape their orientation and determine their vulnerability to disaster; respecting these elements and genuinely integrating them in collaborative policy framework is critical to the success of any disaster management policy. As Gopalakrishnan and Okada observes,

> it is crucial to take into account the cultural context of the affected localities and regions...customs, traditions, local practices and racial and ethnic composition of an area should all be factored in when devising an appropriate user friendly package for effective and easy implementation. (2007: 364)

The problem that continues to plague the management of response to disasters is the lack of coordination between the various agencies involved in disaster response. (Smith and Dowell, 2000) The existing disaster management approaches are quite problematic in that they are unstructured and centralised in nature; based on hierarchical, '*command and control*' systems of information flow (Scalem et al., 2004; Waugh, 2006; Waugh and Streib, 2006) that "generally perform badly in emergencies, because if any of a hierarchy's top nodes fail, they isolate large networks from each other". (Kapucu, 2006: 208) However, given the challenges that disaster throws by way of its uncertainty, scale, stress and long term effects, along with the inadequacy of ad hoc response mechanisms and the inability of hierarchical systems to press into service immediate relief measures in the event of disaster, makes

it imperative that comprehensive and reliable information is made available and accessible to the actors; approaches, techniques, policies and institutional mechanisms are put in place that are sustainable in the long term. (Gopalakrishnan and Okada, 2007) This entails building more collaborative networks (Waugh and Streib, 2006) that have the capacity to retain its connectivity, are flexible enough to distribute the information across various agencies, and, minimize the possibility of failure, which is fundamental for the resilience of the community under emergency conditions. (Kapucu, 2006) To be sure, the emergency management system involves not only governmental emergency management agencies but also nongovernmental disaster relief organizations; private sector organizations; community groups; and volunteers that have the capacity to deal with disasters. (Waugh, 2006 and, Waugh and Streib, 2006)

The need is to synchronise and coordinate their action towards a common goal of relief and assistance; network is the *mantra* that has come to guide various actors and agencies in the search for an effective, well coordinated, and, responsive disaster management measures. According to Comfort et al., the efficiency of disaster response is influenced by such factors as severity of disaster, type and amount of resources available, number of jurisdictions involved, and complexity of the response strategies; based on these factors "efficiency in disaster response has a negative relation to initial disaster severity and a positive relation to initial supply capacity" (2004: 310); that is, the more efficient the disaster response in terms of resource availability, number of agents involved and so on, the lesser the severity of disaster impact. Interestingly, against the generally held observation that "efficiency drops as the number of jurisdictions involved in response operations increases", Comfort et al. posits that the greater involvement of agents promotes the efficiency of disaster response operations. (2004: 310) This implies that critical to the success of response mechanism is the element of information exchange among various actors; in turn, how speedily the information is exchanged and acted upon determines the effectiveness of response mechanisms. As Kapucu so elegantly puts it,

> The effective flow of information across organizational boundaries is critical for an organization's ability to remain effective in a dynamic disaster environment... Communication of the current status of the community and of the actions of participating organizations allow them to make informed

decisions about how to proceed in concert with others in the networks to achieve the overall goals of protecting the community and of restoring its functionality. (2006: 208)

In other words, effective information management systems and sharing vital information among the actors is significant for successful outcomes of the disaster management. (Maldonado et al., 2009) Within the collaborative management framework, dynamic networks underpinned by reciprocity and mutual trust, allow members to share information, risks, and opportunities with greater ease (Kapucu, 2006), securing what Waugh and Streib calls as 'unified command' - 'more sharing of information and coordination of effort' (2006: 134) that facilitates multiple nodes of information transmission, an effective interorganizational coordination, and apposite allocation of resource that enhances disaster resilience and the capacity of the organisations. These processes – *cooperation, coordination, and network* – help in developing a more adaptive management that fosters flexibility, organizational learning, adaptation and improvisation (Waugh and Streib, 2006), while simultaneously enhancing the capacity of individual actors and disaster management system.

The above account highlights that collaborative management has several positive aspects: healthy deliberation among the stakeholders, dynamic network, efficient information flow and feedback, effective cooperation and coordination among the agencies. This in fact, contributes to resilient and sustainable hazard mitigative strategies. However, all this looks simple but is not easy. Beside the factors noted above, such as the risk of co-option of less powerful by powerful interests, deliberative arenas are '*highly political*' making them places of contestation rather than *communicative rationality* marked by lack of trust, reciprocity, and cooperation among the stakeholders. Thus, the process of collaborative management is often inhibited because collaboration among the stakeholders and agencies is hard to bring about. As King observes,

> diverse players...come to a disaster with an equally diverse range of ideas, approaches, agendas and needs...at times contradict one another, get in the way of one another and even argue and accuse one another. (2007: 664)

Innes and Booher holds that collaborative policy dialogue is not suited to all policy conditions. (2003) Disaster is one, as Weber and Khademian term it, *'wicked'* problem that is

> relentless or persistent; there are no permanent solutions, only temporary and imperfect resolutions involving multiple government and policy jurisdictions as well as a broad cross section of societal interests. (2008: 432)

This necessitates a leadership role on part of the emergency managers (Waugh and Streib, 2006 and, King, 2007) to build collaboration, facilitate its process and enhance the capacity of the disaster management system.

CHAPTER III

DISASTER MANAGEMENT IN INDIA

The world is no stranger to disasters, which have been a recurrent phenomenon. The recent earthquakes that struck Haiti (January, 2010) and Chile (February, 2010) are powerful testimony to the fact that disasters are on the rise, both in terms of frequency and magnitude. India is not an exception to this phenomenon. In fact, India has been the epicentre of disaster as is evident from the recent and past incidents – the Aila cyclone (2009), the Indian Ocean tsunami (2004), Gujarat earthquake (2001), Orissa super cyclone (1999), to name just a few. According to Gardner, India is one of the most disaster-prone countries, vulnerable to almost all natural and man-made disasters. (2002) India figures among the first 10 in the world in terms of fatalities in a variety of disasters. (Kapur, 2005) Its vulnerability to natural disasters arises on account of its vast territory, large population and unique geo-climatic conditions. (Sarkar and Sarma, 2006; Government of India, 2004b; ARC, 2006) Floods, cyclones, droughts, landslides and earthquakes are not unusual and are experienced almost every year in different parts of the country.

Almost 85% of the country is vulnerable to single or multiple disasters and about 57% of its area lies in high seismic zones (ARC 2006); about 60% of the landmass is prone to earthquakes of various intensities; over 40 million hectares is prone to floods; about 8% of the total area is prone to cyclones and 68% of the area is susceptible to drought. (Government of India, 2004b) Further, human-induced disasters in the form of industrial, technological chemical and biological disaster puts the country high on the world's disaster map. The Bhopal Gas incident (1984) is etched in disaster memory as one of the worst industrial disasters in the world that killed thousands, rendered millions homeless, destroyed property and assets worth billions; and left millions with lingering health impacts that are felt even today.

These have resulted in massive loss of human life, beside loss in terms of private, community and public assets. According to Sarkar and Sarma, the average loss of human life every year is 3,600; about 1.42 million hectare crop area is affected

and 2.36 million houses are damaged annually due to various disasters. (2006) According to one estimate of the World Bank, during 1996-2000, the loss in terms of GDP amounted to 2.25% and 12.15% of the revenue of the country due to natural disasters. (ARC, 2006) Even as the hardship and psychological stress suffered by the disaster victims is difficult to put into figures, disasters worsen the risk and exposure of vulnerable communities. In the event of disaster, the victims, children, women, the elderly, physically and mentally challenged people in particular, become more vulnerable to future disaster risks. In the context of developing countries, Menon observes that communities are increasingly exposed to greater numbers of natural and man-made disasters, resulting in larger numbers of people becoming victims. (2009) Further, disasters counteract apposite allocation of resources that are already scarce in these countries and retards their growth and development; in this sense, dealing with disasters through appropriate disaster management measures can endure development, besides ensuring a 'safe' society to live in.

Policy Initiatives

In pre-Independent India, recurrent crises such as famines and locust invasions led to the setting up of various famine commissions and Famine Codes were developed to counter the crises posed by famines. (ARC, 2006) The Great Famine of 1876-1878 led to the constitution of the Famine Commission (1880) and eventual adoption of Famine Relief Code. (Gupta, undated) The 'crisis' management, however, was primarily oriented at dealing with droughts and famines rather than the whole gamut of crisis situations as understood today. According to ARC, "The entire crisis management exercise was confined to fighting natural calamities, particularly severe droughts causing famines". (2006: 26) These could, of course, be attributed to a lackadaisical and 'distorted' account of disaster which was often related to natural hazards, and, within it, confined only to droughts and famines.

Disaster management in the post-Independence era also suffered from similar handicaps as before: disaster was still understood in terms of natural calamities and hazards; disaster management occupied a low profile among policy priorities and figured only in passing in various policies; and always replete with the traditional approach of rescue, relief and response, disaster management was still technocratic,

with little or no scope for people's participation. Reflecting this dismal state of disaster management, it is observed that

> For far too long disaster management in India was marginalized as an issue of providing relief and rehabilitation to the people affected by natural calamities... issues of disaster risk reduction in the policies and programming of various plan schemes on poverty alleviation, environment, micro-credit, social and economic vulnerabilities, etc., have hardly ever been deliberated in the apex planning body of the country. (Government of India-United Nations Development Programme, 2007: 30)

The threat of disaster and mounting loss in terms of life and property brought about by events, both natural and man-made, such as Bhopal Gas incident (1984), Latur earthquake (1993), the super cyclone in Orissa in October, 1999 and the Bhuj earthquake in Gujarat in January, 2001 exposed the fallacies in disaster management system of the country; underscoring the acute need to adopt

> a multi dimensional endeavour involving diverse scientific, engineering, financial and social processes; the need to adopt multi disciplinary and multi sectoral approach and incorporation of risk reduction in the developmental plans and strategies. (Government of India, 2004a:3)

These have led to a steady change in the rationale and understanding of disaster management; the legal and institutional framework have been well established; specific agencies have been created that deal solely with disaster management rather than as a subsidiary function; the cross cutting nature of disaster management is being recognised by mainstreaming it in wider developmental policies; and, strategies have moved from bureaucratic control to those that hinge upon the participation of various actors, in particular the community. Accordingly, the government has adopted a series of measures to deal with disasters, including the enactment of the Disaster Management Act 2005.

In 1999, the Government of India constituted a High Powered Committee on Disaster Management (HPC) to develop disaster management plans at the national, state and district levels. (Menon, 2009) The HPC in its final report submitted in October 2001 outlined a vision to create a "disaster-free India through adherence to the culture of preparedness, quick response, strategic thinking and prevention". (ARC,

2006: 31) The HPC made several recommendations, dealing with the constitutional and legal framework, organizational structures and institutional mechanism in the overall disaster management system of the country (ARC, 2006); inter alia, its recommendations included a draft of the Disaster Management Act, a National Response Plan, a move from disaster response to disaster preparedness, and the establishment of a National Disaster Management Authority. (Gupta, undated) The draft of the disaster management act, according to ARC, aimed at ensuring efficiency and effective management of natural and other calamities; achieving greater coordination and responsiveness with respect to prevention and mitigation of disasters so as to provide better relief and rehabilitation of victims of disaster. (2006) The disaster management function, hitherto under the supervision of Ministry of Agriculture was also transferred to the Ministry of Home Affairs by the National Committee on Disaster Management following the HPC's recommendations. (Menon, 2009; Gupta, undated) According to Kaur, the High Powered Committee Report (2001) presents a "strong case for ushering in a new culture of disaster management". (2006: 555)

The National Disaster Management Framework (2002-2003) provided a roadmap covering, inter alia, such aspects as institutional mechanisms, disaster prevention strategy, disaster mitigation, preparedness and response and human resource development; identifying expected inputs, areas of intervention and agencies to be involved at the national, state and district levels. (Government of India, 2004b; Government of India-United Nations Development Programme, 2007) The State Governments and Union Territory Administrations, Ministries and Departments of the Government of India, were encouraged to develop their respective roadmaps taking the national roadmap as a broad guideline; putting in place a common strategy underpinning the action being taken by all the participating organisations/stakeholders .(Government of India-United Nations Development Programme, 2007; Government of India, 2004b) The National Policy on Disaster Management (2009) outlined its vision to

> build a safe and disaster resilient India by developing a holistic, proactive, multi-disaster oriented and technology driven strategy through a culture of prevention, mitigation, preparedness and response. (Government of India, 2009a: 7)

The central theme of the National Policy (2009) is the belief that a "disaster intelligent and resilient community, duly empowered by a newly created DM Structure, working in cohesion multi-sectorally, will help realise the national vision". (Government of India, 2009a: 39) The National Policy (2009) aims, inter alia, at: promoting a culture of prevention, preparedness and resilience at all levels through knowledge, innovation and education; encouraging mitigation measures based on technology, traditional wisdom and environmental sustainability; mainstreaming disaster management into the developmental planning process; establishing institutional and techno-legal frameworks to create an enabling regulatory environment and a compliance regime; ensuring efficient mechanism for identification, assessment and monitoring of disaster risks; ensuring efficient response and relief with a caring approach towards the needs of the vulnerable sections of the society; undertaking reconstruction as an opportunity to build disaster resilient structures and habitat for ensuring safer living; promoting a productive and proactive partnership with the media for disaster management. (Government of India, 2009a)

The National Policy (2009) seeks to achieve these objectives by undertaking a holistic and integrated approach with emphasis on building strategic partnerships at various levels. The broad themes underpinning the policy are: Community-based Disaster Management, through integration of the policy, plans and execution; capacity development in all spheres; consolidation of past initiatives and best practices; cooperation with agencies at National and International levels; multi-sectoral synergy. The National Policy (2009) keeps pace with the changing trends in international disaster management system; an improvement over previous policies in so far as it spells out and attempts at establishing community based disaster management; building strategic partnership with other institutions at various levels will strengthen the disaster management system; and, in promoting multi-sectoral synergy, a better synchronisation of policies addressing both disaster and development concerns can be achieved.

Legal and Institutional Framework

Within the Indian federal system of governance, the subject relating to disaster management has not been directly covered under Union, State and Concurrent List of the Constitution of India. Under Seventh Schedule of the Constitution, the Parliament and State legislatures has jurisdiction over the items provided in the Union and State List respectively; while under the Concurrent List, both Parliament and State legislatures has the jurisdiction to make laws. It should, however, be noted that 'Disaster Management' as a subject is not mentioned in any of these lists. In such a context, Parliament is supposed to possess the jurisdiction under residuary powers of the Union under entry 97 of the Union List. (ARC, 2006) The enactment of the Disaster Management Act, 2005 (Act hereafter) puts the subject under the 'Social Security and Social Insurance, Employment and Unemployment' in the Concurrent List. Subsequently, both the Union and State Governments share a concurrent jurisdiction over disaster management. In view of the subject of disaster management not finding specific mention in any of the three List, ARC recommends that

> a new entry, "Management of Disasters and Emergencies, natural or manmade", may be included in List III (Concurrent List) of the Seventh Schedule of the Constitution. (2006: 35)

This, according to ARC, will enable State Governments to legislate on the subject without any ambiguity. (2006)

The Act seeks to build a disaster-free India; steer disaster management to a new direction of safety, resilience, development and participation; and, provides a mechanism to build a robust institutional and policy framework. The Act highlights government's

> resolve to bring about change in orientation from relief-centric approach to a holistic multi-disciplinary and multi-sectoral approach with greater involvement of Panchayati Raj Institutions and Municipalities. (Government of India-United Nations Development Programme, 2007: 26)

The Act thus encapsulates a paradigm shift in Disaster Management from the earlier relief-centric approach to a proactive regime with a greater emphasis on preparedness, prevention and mitigation; putting in place the requisite institutional,

legal, financial and coordination mechanisms at the national, state, district and local levels .(Government of India, 2009a) The salient features of the Act are as follows:

1) The Act defines disaster as:

> a catastrophe, mishap, calamity or grave occurrence in any area, arising from natural or man made 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 to, or 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.

2) The Act mandates the setting up of a National Disaster Management Authority (NDMA) under the Chairmanship of the Prime Minister. The functions of NDMA are to: lay down policies on disaster management; approve the National Plan; approve plans prepared by the Ministries or Departments of the Government of India in accordance with the National Plan; lay down guidelines to be followed by the State Authorities in drawing up the State Plan; lay down guidelines to be followed by the different Ministries or Departments of the Government of India for the purpose of integrating the measures for prevention of disaster or the mitigation of its effects in their development plans and projects; coordinate the enforcement and implementation of the policy and plan for disaster management; recommend provision of funds for the purpose of mitigation; provide support to other countries affected by major disasters as may be determined by the Government of India; take such other measures for the prevention of disaster, or its mitigation, or for preparedness and capacity building for dealing with threatening disaster situation or disaster as it may consider necessary; and, to lay down broad policies and guidelines for the functioning of the National Institute of Disaster Management.

3) The Act provides for the constitution of a National Executive Committee (NEC) with the Union Home Secretary as its Chairperson, and the Secretaries to the Government of India in the Ministries/Departments of Agriculture, Atomic Energy, Defence, Drinking Water Supply, Environment and Forests, Finance (Expenditure), Health, Power, Rural Development, Science & Technology, Space, Telecommunications, Urban Development, Water Resources and the Chief of the Integrated Defence Staff of the Chiefs of Staff Committee as members. The NEC is

the executive committee of the NDMA, and is mandated to assist the NDMA in the discharge of its functions and also ensure compliance with the directions issued by the Central Government.

4) The important functions of NEC, inter alia, are: to act as the coordinating and monitoring body for disaster management; prepare the National Plan to be approved by the National Authority; coordinate and monitor the implementation of the National Policy; lay down guidelines for preparing disaster management plans by different Ministries or Departments of the Government of India and the State Authorities; provide necessary technical assistance to the State Governments and the State Authorities for preparing their disaster management plans in accordance with the guidelines laid down by the National Authority; monitor the implementation of the National Plan and the plans prepared by the Ministries or Departments of the Government of India; monitor the implementation of the guidelines laid down by the National Authority for integrating of measures for prevention of disasters and mitigation by the Ministries or Departments in their development plans and projects; monitor, coordinate and give directions regarding the mitigation and preparedness measures to be taken by different Ministries or Departments and agencies of the Government; evaluate the preparedness at all governmental levels for the purpose of responding to any threatening disaster situation or disaster and give directions, where necessary, for enhancing such preparedness; plan and coordinate specialized training programme for disaster management for different levels of officers, employees and voluntary rescue workers.

5) The Act establishes a State Disaster Management Authority (SDMA) in each State/UT under the Chairmanship of Chief Minister/Lt-Governor/Administrator. The SDMA is responsible for laying down the policies and plans for disaster management in the respective states in accordance with the guidelines laid down by the NDMA. The State Executive Committee constituted by the State Government and headed by the Chief Secretary assists the SDMA in the performance of its functions.

6) The Act provides for constituting a District Disaster Management Authority (DDMA) with District Magistrate as the Chairperson and President, Zila Parishad or Chief Executive Member, District Autonomous Council as Co-Chairperson. The

DDMA acts as the planning, coordinating and implementing body for District Management at the District level and takes necessary measures for the purposes of DM in accordance with the guidelines laid down by the NDMA and SDMA. It, inter alia, prepares the District Disaster Management plan for the District and monitors the implementation of the National Policy, the State Policy, the National Plan, the State Plan and the District Plan; ensures that the guidelines for prevention, mitigation, preparedness and response measures laid down by the NDMA and the SDMA are followed by all the Departments of the State Government at the District level and the local authorities in the District.

7) Local authorities such as Panchayati Raj Institutions (PRI), Municipalities, District and Cantonment Boards, and Town Planning Authorities which control and manage civic services have been assigned a key role. These bodies are responsible for preparing Disaster Management Plans in consonance with the guidelines of the NDMA, SDMAs and DDMAs; carrying out relief, rehabilitation and re-construction activities in the affected areas; ensuring training and capacity building of its officers and employees; maintenance of resources so that these are readily available for use in the event of a disaster and ensuring that all construction projects in their area of jurisdiction conform to the prescribed standards and specifications.

8) The Act envisages the creation of a National Institute of Disaster Management (NIDM) as the apex training institute for disaster management. NIDM plans and promotes training and research in disaster management, documentation and development of national-level information base relating to disaster management policies, prevention mechanism and mitigation measures.

9) A National Disaster Response Force (NDRF) has been constituted, under the Act, with personnel from the para-military forces for strengthening the preparedness and emergency response.

10) The Act seeks to constitute Disaster Response Fund and Disaster Mitigation Fund at the National, State and District level. It mandates that there shall be no discrimination on the ground of sex, caste, community, descent or religion while providing compensation and relief to the victims. The powers to issue directions to the

Government authorities, organization and statutory bodies to facilitate and assist in disaster management have been vested in the Government of India. The Act seeks to make provision for punishment for obstructing response, making false claims, misappropriation of money or materials and issue of false warning. However, it provides immunity to Government organizations and officers for action taken in good faith. The Central Government shall constitute a National Disaster Response Fund for emergency response. (ARC, 2006; Menon, 2009; Government of India–United Nations Development Programme, 2007; Government of India, 2009a)

Analysis of the Act

The Act defines disaster as a natural or man-made event that causes substantial loss to life, property and environment. It should be noted that the Act possess certain lacunae relating to the conceptualisation of disaster. (ARC 2006; Sarkar and Sarma, 2006).\ In this regard, ARC observes that the scope of this definition "does not cover a variety of other crisis situations that may or may not culminate in a disaster". (2006: 38) For instance, a region reeling under severe water shortage may not result in immediate loss of life or destruction of property; nevertheless, it may disrupt normal and essential functions of the society and over a period of time, the water crisis may culminate in disaster. Besides, in defining disasters as sudden acts, the Act overlooks the fact that in many cases it is progressive. (Sarkar and Sarma, 2006: 3761) For instance, epidemics or diseases like tuberculosis and dengue are progressive in nature and results in massive loss of life every year. Viewing disaster only as sudden acts may result in lethargic disaster management system that responds only when disaster strikes.

The Act does not contain provision for declaration of a disaster or disaster-prone zones and classification of disaster (national, regional or local). In the absence of these provisions, necessary assistance may not reach the disaster-struck region, thereby furthering enlarging the impact of disaster. As Sarkar and Sarma put it, "Without an area being declared as "disaster prone", a pro-active role by the state cannot be expected". (2006: 3761) Classification of disaster is important in assessing the extent of damages and determining the responsibility of various concerned agencies. In this respect, the ARC recommends that the Act should provide .

categorization of disasters (say, local, district, state or national level). This categorization along with intensity of each type of disaster will help in determining the level of authority primarily responsible for dealing with the disaster as well as the scale of response and relief. (2006: 41)

The Act concentrates very comprehensive powers and functions at the national level for dealing with disasters. (ARC, 2006) The National Disaster Management Authority (NDMA), as a nodal agency, is responsible for not only laying down policies, plans and guidelines, but also has executive functions. It should be noted that local authorities such as Panchayati Raj Institutions can play an effective and valuable role in disasters management at the grassroots level. Corresponding to 73rd and 74th Constitutional Amendment Act (1993-94) which confers wide ranging power to PRIs in the governance system, the Disaster Management Act does not provide much scope to local authorities in disaster management. To fill up this gap, ARC recommends that "the role of the local governments should be brought to the forefront for crisis/disaster management". (2006: 42)

The Act, in setting up a unified disaster management structure with extensive powers vested in NDMA and NEC, poses vexing problems in the context of the existing constitutional, legal and administrative framework of the country. (ARC, 2006) To be sure, the basic responsibility to undertake rescue, relief and rehabilitation measures rests with the State Governments. (Sarkar and Sarma, 2006) Instead of strengthening the front-end functionaries in the implementation of disaster management plans, the Act confers both plan formulations and executive powers to NDMA; thereby curtailing the authority of the State which is in a better position to provide timely and effective response. (ARC, 2006) To restore the authority of the State in disaster management, ARC recommends that

> Disaster/Crisis Management should continue to be the primary responsibility of the State Governments and the Union Government should play a supportive role. [Further ARC recommends]... mitigation/prevention and response measures may be left to the State Governments and the district and local authorities with the line ministries/departments of Government of India, playing a supportive role. (2006: 41)

Further, the creation of several agencies at different levels with a strong command and control mechanism may underplay the effectiveness of disaster

response; information flow is of paramount significance which would be hindered by strict bureaucratic set up as provided in the Act.

The Act provides minimal in terms of community participation. Of course, the Act mandates District Disaster Management Authority (DDMA) to "facilitate community training and awareness programmes for prevention of disaster or mitigation with the support of local authorities, governmental and non-governmental organisations" (ARC, 2006: 158), and it concentrates extensive powers with governmental departments/functionaries that may debilitate a prompt response mechanism in the event of disaster. The fact that the community is the first respondent to any kind of disaster signifies their role from plan formulation to its execution; in this sense, the trend of involving the community in disaster management is not properly addressed by the Act. As Sarkar and Sarma observe, "No disaster can be ever dealt with effectively only through administrative set-up, alienating the community as a whole". (2006: 3762) Community participation in disaster management is being actively promoted not only for its effectiveness in disaster reduction but also because it addresses the core problem that creates vulnerability. Approaches like sustainable livelihood framework that centres on community participation enhance community capacity and resilience to disaster, besides facilitating the overall development of society, particularly the vulnerable sections. The Act, in short, is highly technocratic and fails to institutionalise community participation.

Mainstreaming Disaster Management in Development Planning: A Shift to Disaster Risk Reduction Approach

In concert with the changing dynamics in the international disaster management practices, the Indian disaster management system has also embraced disaster risk reduction approach by mainstreaming disaster management concerns in the overall development planning. As disaster management in India rapidly moves from a traditional approach – rescue and relief – to proactive measures incorporating prevention, mitigation and preparedness processes, the thrust has been on Disaster Risk Reduction. The Yokohama Strategy and Plan of Action for Safer World in May, 1994, observed:

Disaster prevention, mitigation, and preparedness are better than disaster response in achieving [disaster reduction] goals. Disaster response alone is not sufficient, as it yields only temporary results at a very high cost... Prevention contributes to lasting improvement in safety and is essential to integrated disaster management. (Coppola, undated: 6)

The Hyogo Framework for Action (HFA) 2005-2015 reiterates the significance of Disaster Risk Reduction. Both the Yokohama Strategy and the Hyogo Framework have informed the Indian disaster management approach, stimulating the process for an emphatic shift in the strategy for disaster mitigation. (ARC, 2006) The belief that disaster can overturn years of development; that development cannot be sustainable unless disaster mitigation is built into the development process; and that investments in mitigation are much more cost-effective than expenditure on relief and rehabilitation, has motivated disaster risk-reduction strategy in India. (Government of India, 2004a) According to Kaur,

There has been a considerable improvement in the quality and outreach of disaster management in the past few decades. From rescue and relief in the earlier days, a visible transformation has occurred to disaster preparedness, mitigation, robust response reconstruction and sustainable development. (2006: 555)

Disaster risk reduction (disaster reduction) has been defined as the '

systematic development and application of policies, strategies and practices to minimise vulnerabilities, hazards and the unfolding of disaster impacts throughout a society, in the broad context of sustainable development. (Reducing Disaster Risk, UNDP, 2004 in ARC, 2006)

Disaster Risk Reduction is considered important in that it helps in reducing the exposure of society to the damaging effects of hazards and simultaneously use scarce resources for development needs of the poor and vulnerable. (Government of India–United Nations Development Programme, 2007) The DRR framework encompasses all phases of Disaster Management – prevention; mitigation and preparedness; relief and response; recovery; rehabilitation and reconstruction and associated activities; viewing disasters as an "opportunity for risk reduction and development". (Government of India–United Nations Development Programme, 2007: 8) Disaster reduction include such strategies as appraisal of likelihood and intensity of hazards and analysis of vulnerabilities of the community; building institutional capabilities

and community preparedness; encouraging a 'safety culture' in societies. (ARC, 2006)

The DRR framework is embedded in the belief that disaster and development are intrinsically linked and mutually reinforcing: development activities may reduce or increase the vulnerabilities of the communities. Development, therefore, has both positive and negative connotations. In its positive manifestation, development reduces vulnerability and promotes resilience of the communities to deal with future disaster risks. Similarly, development can increase vulnerability and negate the capacity and resilience of the communities to cope with risks and disasters. In order to promote sustainable development, disaster risk reduction measures need to be mainstreamed in development planning and implementation. According to Kumar,

> mainstreaming is the process of assessing the implications of disaster risk in any planned development action... enables the incorporation of risk reduction concerns and experiences as an integral dimension of the design implementation, monitoring and evaluation. When disaster risk considerations are not factored into development...countries invest in constructing risks and reconstructing risks which perpetuate the conditions for unsustainable human development. (2009: 25)

Disaster risk reduction, thus, encourages development that takes into account the risk and vulnerability factors in development planning; sustainable development can be achieved when vulnerability concerns are properly addressed. These entail enunciating policy towards risk management; undertaking adequate assessment of risk including hazard and vulnerability analysis; risk awareness and preparation of plans for risk mitigation; implementation of the plan; early warning systems; building community resilience; and research and use of knowledge. (ARC, 2006) The Hyogo Framework for Action (HFA) 2005-2015 outlines five priorities to put DRR into action: ensuring that disaster risk reduction is a national and a local priority with a strong institutional basis for implementation; identifying, assessing and monitoring disaster risks and enhance early warning; using knowledge, innovation and education to build a culture of safety and resilience at all levels; reduce the underlying risk factors; and, strengthening disaster preparedness for effective response at all levels. (Gupta, undated)

In India, the process of mainstreaming disaster management in development planning emerged with the Tenth Five Year Plan document (2002-2007). The Plan recognized disaster management as a development issue and for the first time in the history of Five Year Plans included a separate chapter on "Disaster Management: The Development Perspective". The Tenth Plan's premise is that while hazards, both natural or otherwise, are inevitable, the disasters that follow need not be so and the society can be prepared to cope with them effectively whenever they occur; sustainable development efforts require a

> multi-pronged strategy for total risk management, comprising prevention, preparedness, response and recovery on the one hand, and initiate development efforts aimed towards risk reduction and mitigation, on the other. (Government of India, 2004c: 13)

The Plan further observed that

> in order to move towards safer national development, development projects should be sensitive towards disaster mitigation... The design of development projects and the process of development should take the aspect of disaster reduction and mitigation within its ambit; otherwise, the development ceases to be sustainable and eventually causes more hardship and loss to the nation. (Government of India, 2004c: 18)

The Tenth Plan prescriptions on disaster management can be divided into three categories: (a) policy guidelines at the macro level that would inform and guide the preparation and implementation of development plans across sectors, (b) operational guidelines of integrating disaster management practices into development, and (c) specific developmental schemes for prevention and mitigation of disasters. (Government of India–United Nations Development Programme, 2007)

The process of mainstreaming disaster management in development planning was carried forward in the Eleventh Five Year Plan (2007-2012). (Menon, 2009) The Eleventh Five Year Plan document observed that

> the Tenth Plan has set into motion the process of shift in focus from response-centric disaster management covering rescue, relief, rehabilitation, and reconstruction laying greater emphasis on the other elements of disaster management cycle – prevention, mitigation, and preparedness – as a means to avert or soften the impact of future emergencies. The Eleventh Plan aims at consolidating the process by giving impetus to projects and programs that develop and nurture the culture of safety and the integration of disaster

prevention and mitigation into the development process. (Eleventh Five Year Plan in Menon, 2009: 12)

The National Policy on Disaster Management (2009) also seeks to mainstream disaster management in developmental plans by mandating NDMA to ensure mainstreaming of disaster risk reduction in the developmental agenda of all existing and new developmental programmes and projects and calling upon the Planning Commission to give due weightage to these factors while allocating resources. (Government of India, 2009a)

Community Based Disaster Management: Indian Scenario

Community is at the centre of any disaster management practice. Whether in the immediate aftermath of a disaster or a long term rehabilitation process, community is the basic unit of disaster management. A glance at various disaster management policy documents suggests that community participation in disaster management has been encouraged in India as well. The National Disaster Management Framework (2002-2003) encourages community based mitigation, preparedness and response plans by enhancing community capacity in multi-hazard prone regions, empowering and capacity building of vulnerable communities and groups including women. The National Policy framework sought to centre-stage the community through Community-based disaster management and capacity development. In the area of disaster risk reduction, the ARC Report recommends community participation in hazard and vulnerability analysis, formulating disaster management plans, building community resilience, and capacity building, among others. (2006) However, it should be emphasized that though CBDM in India has been widely recognised, it is not yet institutionalised. According to Gupta and Chavda,

> Community Based Disaster Management is sustainable only if it is institutionalised... The Disaster Management Act, 2005 does recognise in spirit the need for disaster management planning at national, state and local levels, however the process of implementing a framework whereby community efforts are recognised and incorporated in development and disaster management planning is yet to be put in place. (2009: 34)

Nevertheless, over the past few years, CBDM in India is gaining acceptance and significance in disaster management practices. In collaboration with international agencies, particularly United Nation, the government is engaging in promoting CBDM at the grassroots level. In the back drop of the Super Cyclone in Orissa (November 1999) and the devastating earthquake in Gujarat (January 2001), the UNDP and Government of India entered into a formidable partnership in the area of vulnerability reduction and disaster management with a focus on integrating community-based disaster preparedness and mitigation planning process into the development plans prepared by local government; and, to promote and augment local capacities and institutions. (Government of India–United Nations Development Programme, 2007) This effort culminated in a joint initiative – Disaster Risk Management Programme – under Government of India-UNDP Country Programme (2002-2007) with an emphasis on

> sustainable disaster risk reduction through capacity building at all levels using community based and gender sensitive approaches to institutionalize the disaster risk management system in India. (Government of India–United Nations Development Programme, 2007: 41)

> The broad Programme objectives are:

- Capacity building to institutionalise systems for DRM in the Government.

- Awareness generation and education programme in disaster reduction and recovery.

- Multi-hazard preparedness and mitigation plans for DRM at State, district, block, village and ward levels.

- Networking, knowledge on effective approaches, methods and tools for DRM, developing and promoting policy frameworks at State and National levels. (Government of India, 2004d)

Community Based Disaster Preparedness

Within CBDM framework, Community Based Disaster Preparedness (CBDP) constitutes most important means for disaster response, management and risk reduction. (Government of India–United Nations Development Programme, 2007) The basic aim of CBDP is to reduce the vulnerability of the concerned community and strengthen its existing capacity to cope with disasters; people's participation in disaster management facilitates coordinated action by the communities in mitigating disasters and also brings the community together to address the issue collectively. (Government of India, 2004d) The basic components of CBDP, under Disaster Risk Management Programme, include the following:

- Disaster Management Committee: Village Disaster Management Committee (VDMC) is responsible for initiating disaster preparedness activities and mobilising the community for the preparation of the CBDP plans; and consists local elected representatives, grass root level government functionaries, local Non-Government Organisations (NGOs)/Community Based Organizations (CBOs), members of youth groups such as Nehru Yuva Kendra, women groups and others.

- Review & Analysis of Past Disasters: Prioritizing disasters based on frequency and analysis of the estimated losses is an important activity as it forms the basis for preparedness and mitigation plans.

- Seasonality Calendar of Disasters: Communities develop the seasonality calendar based on the occurrence of past disaster events.

- Mapping Exercises: Mapping of risk, vulnerabilities and capacities of the Village is done by the community itself through Participatory Rural Appraisal (PRA) exercise. It ensures maximum community involvement across gender, caste and other divides; raises awareness among the community, thereby enhancing their participation in problem identification; the strategy is to use locally available resources rather than depending on the external agencies for

help and support. The types of maps used in mapping exercises include resource map, risk and vulnerability map, safe and alternate route map.

- Disaster Management Team (DMT): Village level DMTs perform coordinated response during crisis situations and have a sectoral focus such as, inter alia early warning, shelter management, evacuation & rescue, medical and first aid, counselling, damage assessment and relief and coordination. DMT members are provided specialised training and are linked to the existing service providers for continuous training and discharging of their responsibilities effectively.

- Mock Drill: Mock drill is performed to activate the DMTs and helps in improving the cohesiveness of the community during an emergency.

- Identification of Hazard Specific Mitigation Activities: For long term planning, a mitigation plan for each hazard is developed by the villagers; it helps in minimizing the loss, and prevents the impact of various natural disasters. The community mitigation plans are consolidated at Gram Panchayat (GP) level and become the part of the respective GP developmental plan. The mitigation plans is funded under the on-going development programmes in the district, for which the District Magistrate/Collector is the nodal officer.

- Community Contingency Fund (CCF): Each household in the village is motivated to contribute resources to grain bank for the village; nominal amount based on the affording capacity of the households is collected and kept as the Community Contingency Fund or village emergency fund. (Government of India–United Nations Development Programme, 2007; Government of India, 2004d)

The Community-Based Disaster Preparedness (CBDP) is based on and works through a participatory approach. The aim is to promote a sense of ownership and ensure reflection of local conditions and sensitiveness. To facilitate a Participatory Rural Appraisal (PRA) exercise, community based organizations and the NGOs working with communities are identified and involved in CDBP. The CBDP involves the following processes:

- Awareness Campaign: The CBDP focus on awareness campaign through various means like rallies, street plays, competitions in schools, wall paintings; key persons of a village such as the village head, health worker, school teachers, elected representatives and women are involved to motivate the villagers to carry forward the plans for a safer living.

- Training of Gram Panchayat/Block Members: The functionaries at gram panchayat and block levels play important roles in ensuring risk reduction as a part of the development programme; the district level master trainers are responsible to train the functionaries of GP and blocks before initiation of the activities at the village level.

- Identification of Village Volunteers and Training: In order to develop a cadre of trained human resources at community level to carry out all disaster management initiatives, training is imparted to volunteers who, after being trained support the community in developing village disaster management plan. The volunteers are from local youth clubs, women self help groups or from CBOs; selected by the representatives of local self-government, block functionaries and CBOs.

- Training of Panchayati Raj Institutions (PRIs) Members: The PRIs are vital players in the disaster reduction programme and helps to sustain the programme. To help PRIs' members play an effective role, they are giving orientation and training in disaster risk management initiatives and encouraged

to be involved in reducing the impact of the disaster. These PRIs would, in turn, help the trained volunteers and community with disaster preparedness and management.

- Sensitization Meeting at Village/ Community Level: Sensitising community about various hazards and measures required thereof is important in CBDP. The sensitisation meetings are organized with help of the representative of local self-government, trained volunteers, local NGOs etc.

- Specialized Training of Disaster Management Teams (DMTs): The DMTs comprise groups of women and men volunteers and are provided specialised training on such aspects of disaster management as search and rescue, first aid, trauma counselling and others. DMTs are linked with existing government service providers and training institutions for continuous training.

- Women's Participation in Community Based Disaster Preparedness: Participation of women in CBDP is very important as they are most vulnerable to disasters. The process of mainstreaming the gender concerns of women in disaster reduction has been promoted by fostering awareness about gender equity and equality; in preparing the preparedness and response plan, gender analysis in disaster management and risk reduction is given due significance. The capacities of women for effective response and sustainable recovery in disaster situations, is enhanced by ensuring their participation in training programmes and upgrading their skills. Women also constitute the members of shelter management, search & rescue and first aid and water and sanitation DMTs. CBDP, in short, ensures their presence and participation in disaster management by empowering them. (Government of India–United Nations Development Programme, 2007; Government of India, 2004d)

Role of Panchayati Raj Institutions in Disaster Risk Management Programme

Disaster Risk Management Programme also envisages a model concept to foster and augment the role of PRIs in disaster management. (Government of India–

United Nations Development Programme, 2007) The empowerment of PRIs through 73rd Constitutional Amendment Act (1992) has changed the Indian governance structure; however, in the area of disaster management, PRIs is still in its infancy. A need is, therefore, felt to institutionalise PRIs in the disaster management system of the country. The model concept is an effort in that direction. Under the model concept, the PRIs at different levels are encouraged to actively involve in disaster reduction process. At village level, the elected members help in forming and leading the Village disaster management Committee (VDMC) and Village Disaster Management Team (VDMT). The elected members along with the village volunteers participate in preparing the multi-hazard preparedness, management and mitigation plan. At the gram panchayat level, the Sarpanch or Pradhan and Samiti members form a part of the Gram panchayat Disaster Management Committee (GPDMC). The Pradhan as the chairperson of the GPDMC helps the Nodal officer (extension officer from block) and the Secretary of GP in preparing the Multi hazard Gram Panchayat Disaster Management Plan and assigning the roles and responsibilities to the various members of the GPDMC; Pradhan and the PS Member is also encouraged to assist in preparing the Gram Panchayat plan and approval of all plans in Gram Sabha; coordinating relief, rescue operation, shelter management, first aid and health, among others are the major activities envisaged for them in the event of disaster.

At the block level, the Chairperson/Sabhapati of Panchayat Samiti is envisioned to play a key role in forming the Block Disaster Management Committee [BDMC] and preparing the multi hazard preparedness and mitigation plan. As the chairperson of the BDMC, the Chairperson/Sabhapati along with Block Development Officer (BDO) helps in providing training at the Gram Panchayat level and carrying out the preparedness activities. Panchayat Samiti is responsible to approve the block disaster preparedness and mitigation plan and make it a regular programme of the block. At District/Zilla parishad level, the Zilla Parishad President / Sabhadhipati and other elected members of district form part of the District Disaster Management Committee (DDMC). Their tasks involve monitoring and coordinating the preparedness programme of the district; coordinate with the District Disaster Management Team (DDMT) for supporting the other DMTs in training activities. The Zilla Parishad President/Sabhadhipati as the chairperson of DDMC along with District

Magistrate as its convener is supposed to play a lead role in carrying out the preparedness and mitigation activities in the blocks.

The Programme initiated in 2002 under Government of India –UNDP Country Cooperation Framework was initially undertaken in 28 districts of Bihar, Gujarat and Orissa through community-based preparedness approaches; in its phase II, the programme was further extended to cover 148 additional most multi hazard prone districts spread across 14 selected states like Tamil Nadu, West Bengal, Maharashtra, Delhi, Uttar Pradesh, Uttaranchal, Assam, Meghalaya, Sikkim, Arunachal Pradesh, Manipur, Mizoram, Nagaland and Tripura. In its appraisal of the Programme, a compilation of best practices across the 17 states observes

> The institutionalization process of the DRM Programme has generated many new concepts, initiatives and innovative practices benefiting the community in adopting new approaches to DRM... are all useful milestones on the roadmap towards a safer, more prosperous India (Government of India- United Nations Development Programme, 2009b: ix).

The Disaster Risk Management Programme promoted by the Government of India in collaboration with UNDP is one of the initiatives towards institutionalising community participation in disaster management. Community Based Disaster Management is being actively undertaken and put into practice across India; beside government at various levels, NGOs, donor agencies, CBOs, along with the communities have embarked on the process of approaching disaster management from participatory perspective by centre staging the vulnerable communities who are at the worst risk of disaster. It has been possible on account of the realisation that community participation is essential to the sustainability of any disaster management measure.

CHAPTER IV

DISASTER MANAGEMENT IN DARJEELING MUNICIPAL AREA

The Himalayan range presents the biggest and tallest mountain structure on earth, covering an area of two thousand four hundred kilometres long and 150 to 400 km wide. (Sharma et al, 2000) The Himalaya extends 2,720 kilometers from the southern edge of Soviet Central Asia to the borders of Burma and Yunan Province in China (Karan and Iijima, 1985). In India, the Himalayan landscape covers 18% geographical area of the country and reservoir for 40% species of Indian subcontinent (Nautiyal and Kaechele, 2007) and has been its life line in the form of water resources: most of the major rivers that nourish and sustain agriculture and industry in the northern and eastern parts of India, originate in the Himalayas. The Indian Himalayas comprise the states of Jammu & Kashmir, Himachal Pradesh, Uttaranchal, Sikkim, Arunachal Pradesh and the northern part of West Bengal. (Pandit et al., 2007) The Himalayas have been subdivided into 3 main regions namely: Western Himalaya; Central Himalaya (eight hill districts of Uttar Pradesh state); and north eastern Himalaya (Assam, Meghalaya, Arunachal Pradesh., Sikkim, North Bengal, Manipur and Mizoram). (Ahmad, 1993) The Himalayas, known for their natural magnificence, abundant resources, perennial rivers and rare species of flora and fauna have also attracted attention because of their vulnerability to environmental hazards and disasters. The Himalayas are subject to a variety of hazardous processes; among other processes, earthquakes, landslides, snow avalanches, floods, debris flows, epidemics and fires, have caused death, damage and destruction. (Gardner and Dekens, 2007)

The degradation of mountain ecosystems is a global problem; the Himalayas constitute one of the most threatened ecosystems in the world. (Ahmad, 1993) It is believed that the mountain areas have become increasingly disaster-prone with a disproportionately higher number of disasters as compared with other environments. (Hewitt 1997 in Gardner and Dekens, 2007) Three factors are important in understanding hazards in mountain regions: the mountains are a geophysically and hydrologically active region and are biologically diverse; the co-existence of diverse

social systems of small, isolated settlements based on subsistence agriculture, animal husbandry and other allied activities alongside complex, diversified and linked population centres of permanent residents, economic migrants, amenity migrants, tourists and other transients; the linkages between mountains and other areas are defined, among others, by flows of air, water, materials, people, goods, services, information, money and authority. (Gardner and Dekens, 2007) The relativity and significance of each of these factors (the latter two being primarily human-controlled) in producing hazard and vulnerability is hard to establish, yet their interplay has unquestionably resulted in disasters.

The Himalayas mountain ranges are a geophysically active and unstable structure; highly susceptible to slope instability due to an immature and rugged topography, fragile rock conditions, high seismicity[7] resulting from proximity to the plate margins, and high rainfall. (Government of India, 2009c) These geological characteristics have made the Himalayan ranges highly vulnerable to large-scale tectonic movements, landslides, and to the processes of surface removal. (Tiwari, 2008) Beside these ingrained natural hazardous processes, the Himalayas have also been subject to human interventions; the livelihood and development activities across the Himalayas have ensconced and enlarged the risk and vulnerability of the region.

The implications of the acceleration of human activity in mountains, whether positive or negative, are still to be fully explored (Slaymaker, 2010), though researches on the impacts of human activities in the Himalayas present a grim picture. (Karan and Iijima, 1985; Ahmad, 1993; Bandyopadhyay, 1995; Rawat, 1995; Messerli and Ives, 1997; Singh, 1998; Sharma et al., 2000; Bhadra and Khanal, 2002; Gardner and Dekens, 2007; Tiwari, 2008; Slaymaker, 2010) Under the influence of human activities, the Himalayan Mountain ecosystem is believed to produce critical situations at a faster rate than those prevalent in most other types of ecosystems. (Ahmad, 1993) The rapid growth of population[8] in the Himalayas has been a major concern because of a link between natural resources and population factors. (Sharma

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[7] Himalayas are categorised in IV and V seismic zones rated as highly prone to earthquakes (Government of India, 2009c).
[8] In the context of Himalayas, Ahmad observes that population increases have exceeded the carrying capacity of the available habitable land with the result that the forested upper slopes, which protect the lower slopes from excessive erosion, are being cleared for cultivation, fodder, firewood, grazing and timber posing serious environmental problems (1993).

et al., 2000) The growing population has not only meant that the scanty arable land in the Himalayas must support larger numbers of people (Karan and Iijima, 1985); it has also led to rapid land use changes – colossal felling of forests[9], degradation of land, and reduced ground water recharge; resulting in, among other things, environmental instability, decreased productivity of the rural ecosystem and adverse effects on the rural economy, society, livelihood and life quality of mountain communities. (Tiwari, 2008) These trends critically undermine the resilience of the communities, intensify their vulnerabilities and expose them to greater and graver hazards and crises situations.

The increase in population and changes in the type and intensity of land uses have changed the nature of mountain social-ecological systems[10] – low agricultural productivity, low incomes, low standards of living, lack of proper infrastructural facilities, degenerated natural resource base and ecology and serious environmental problems – exposing people and property to risks from natural hazards and hence increased vulnerability. (Gardner and Dekens, 2007; Ahmad, 1993) As the communities in the Himalayas face greater challenges of poverty, illiteracy, unemployment, low standards of life and degraded resources, along with a bleak and uncertain future, they have preferred to migrate from the mountains to other areas in search of better life. This migration has caused environmental modifications that affect long-term productivity (Karan and Iijima, 1985); increased labour shortages (Banskota 2000 in Bhadra and Khanal, 2002); and environmental degradation and environmental imbalances in the region. (Ahmad, 1993)

Rapid urbanization and the growing tourism industry in the Himalayas has also contributed to its environmental degradation; development activities such as the construction of dams, bridges, roads and other infrastructure have posed some serious challenges to the sustainability of the Himalayan eco-system. Not only have such activities resulted in the smothering and removal of vegetation cover, they have also increased the intensity of occurrence of rock falls, landslides and debris slumps.

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[9] As per the norms of the Planning Commission of India, a minimum of 60% of the geographical area should be under forests in mountain terrain (Tiwari, 2008).

[10] Gardner and Dekens defines social–ecological systems as "integrated systems of people, including their resource-use practices and technological and institutional arrangements, set within their natural environments"; maintaining that the resilience building and enhancement in social–ecological systems can ameliorate and mitigate the impacts of hazardous processes significantly (2007: 318).

(Singh, 1998) The environmental risks of unplanned development activities are increasing in the mountains (Bhadra and Khanal, 2002) with the result that *development* has often, if not always, been paradoxical. On the one hand, it has contributed to the modernisation process and mainstreaming of the isolated mountain areas to the overall development processes; and, on the other, it has disturbed the ecological balance that is so vital to the preservation of the fragile Himalayan environment. Further, large-scale global factors and trends such as climate change, economic, institutional and cultural globalization, technological change, war/conflict/terrorism and pandemics and epidemics have correspondingly led to changes at the sub-regional and local levels. (Gardner and Dekens, 2007)

Research Methodology

Critical Social Science Research

The study is based on the Critical Social Science Research paradigm, which is a qualitative research strategy to investigate social phenomena. (Mcnabb, 2005) Critical Social Science Research (CSS) emerged as a critique of quantitative, empiricist, and positivist conceptions of social theory and social research in 1960's. (Kellner, 1990) The origin of Critical theory is traced to the establishment of "Frankfurt School" in Germany in 1923. The Frankfurt school was devoted to interdisciplinary social research from a broadly Marxist point of view; however, against the mechanical and scientistic official 'orthodox' Marxism[11], it embraced a more humanistic Marx, concerned with alienation and domination, and the possibilities of emancipation. (Adams and Dyson, 2003) The critical theorist criticized the validity claims of the separate disciplines and attempted to create a new kind of social theory. (Kellner, 1990) In particular, they questioned the scientific and positivist philosophy's claim to a 'monopoly of knowledge' (Adams and Dyson, 2003) of social reality. The critical theorist argued that science and positivist philosophy tended to reduce everything in nature, including human beings, to objects governed by mathematical relationships; the conditions that, they believed, would

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[11] The official 'orthodox' Marxism was represented by the social democratic parties such as the German SPD and the Marxism-Leninism of the Soviets; the Critical theorist considered it too rigid, mechanical and scientistic, which reduced everything to "economic determinism" .(Adams and Dyson, 2003)

lead to the destruction of individuality and civilisation, and to the triumph of totalitarianism. (Adams and Dyson, 2003) The critical social scientists pointed out that the methods of 'positive' social sciences reflected the empiricist assumption that

> society is neutral datum for a systematic observation... which objectified the human subjects of an investigation by treating their behaviour as raw data which is external to the scientific enterprise. The positive research method reifies social processes by naturalizing social phenomena, addressing them as eternal to our understandings, and denying their socio-historical constructedness. (Comstock, n.d.: 371)

Further,

> The consequence is to reinforce the alienation of the subjects of social science research from their social, political, and economic institutions. (Comstock, n.d.: 371)

In other words, critical social science held that as scientific reasoning was only concerned with observed regularities, all science, including positivism, served only to reinforce the *status quo* and thereby hindered any discussion of how the world could be made better. (Adams and Dyson, 2003) Against these manifest fallacies of positive social science, critical theory seeks to provide an understanding of society that is grounded in the conception of society as a human construction with people as active subjects of that construction rather than as neutral and constant datum. The overarching feature of CSS research is its focus on human emancipation from reified social reality to the reconstruction of social structures; that rather than simply describing the '*objective*' reality of '*what exists*', directs attention to the "*possibilities* immanent in the historical development of social processes created by human understanding and action". (Comstock, n.d.: 371) In its philosophical reconstruction, CSS is identified as having four stages (Sayer, 1997):

i) identifying problems – unmet needs, sufferings, false beliefs;

ii) identifying the source or cause of those unmet needs, false beliefs, etc., such as a particular form of domination;

iii) passing a negative judgement on those sources of illusion and oppression;

iv) favouring actions which remove those sources.

The CSS rests on three principles of social investigation: explanatory, practical, and normative. (Bohman, 2005) It is explanatory as it seeks to explain what

is wrong with current social reality; practical as it attempts to identify the actors to change the social reality; and, normative as it provides norms for criticism and achievable practical goals for social transformation. (Bohman, 2005) Critical social scientists argue that explanations of social practices must be critical precisely in order to be explanatory, and that the necessity of critique gives social science a potentially emancipatory character. (Sayer, 1997) The critical science approach, thus, involves probing beneath the surface meanings of words and symbols to comprehend the root causes of problems instead of always treating the symptoms from a technical, quick-fix perspective. (McGregor, 2003) At the heart of the CSS rests a specific practical purpose: "to liberate human beings from the circumstances that enslave them". (Horkheimer, 1982[12]: 244 in Bohman, 2005) The CSS is emancipatory as it provides conditions for the emancipation of its "target groups by enabling them to see how to replace 'unwanted determinations' by 'wanted and needed determinations' ". (Bhaskar, 1986[13] in Sayer, 1997: 475) In CSS, the people are recognised as active agents of emancipation who can think about improving their living conditions rather than accepting and coping with their present conditions; that improvement is contingent upon people being conscious of social realities which exploit or dominant them and then demanding liberation from these forces. (McGregor, 2003) Comstock (n.d.) presents the critical research method in seven steps:

1) Identify movements or social groups whose interests are progressive: It involves identifying particular social groups that represent progressive tendencies currently obscured and dominated. The task of the investigator is to determine if the groups are both willing and able to participate in the investigation and put the findings into practice.

2) Develop an interpretive understanding of the intersubjective meanings, values, motives held by all groups of actors in the subjects' milieu: The CSS entails studying the subject's life world – constitutive meanings, social rules, values, and typical motives which govern action in their particular setting. This step is thus basically

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[12] Horkheimer, M. 1982: *Critical Theory*, New York: Seabury Press.
[13] Bhaskar, R. 1986: Scientific Realism and Human Emancipation. Verso, London.

hermeneutic: the investigator seeks, through dialogue with the participants, to construct a coherent account of the understanding they have of their world.

3) Study the historical development of the social conditions and the current social structures that constraint the participants' actions and shape their understandings: The task of investigator is to carry out empirical studies of social structures and processes of the subjects in order to elucidate the specific determinants of the subjects' beliefs and the existing constraints on social practices. The focus here is on presenting such empirical findings that show the historicity and constructedness of social conditions:

> Conditions must be shown, not to be the consequences of immutable laws, but to be structures and processes constructed by elites with specific interests and intentions. Only in this way can oppressed groups see social structures both as constraints and as processes subject to conscious direction. (Comstock, n.d. 382)

4) Construct a model of the determinate relations between social conditions, intersubjective interpretations of those conditions, and participants' actions: This phase entails describing the social processes and structures that gave rise to a particular understanding and that presently serve to reinforce or maintain meanings, values and motives. The aim is to show how the meanings are the product of specific historical conditions as well as how the social conditions have changed to render these meanings partially or wholly invalid.

5) Elucidate the fundamental contradictions which are developing as a result of current actions based on ideologically frozen understandings: The focus in on studying the historical consequences of actions in order to uncover the unanticipated and contradictory social conditions which result from ideologically determined actions. The search for fundamental contradictions follows "immanent analysis which sets the stage for the critique of the dominant ideology which prevents the subjects from recognising the possibilities immanent in the present.

6) Participate in a programme of education with the subjects that gives them new ways of seeing their situation: The purpose of this phase is to enlighten subjects so that "coming to see themselves and their social situations in new way. They themselve can decide to alter the conditions which they find repressive" (Fay in Comstock, n. d.:

385). The impetus to search for new understandings and new actions must come from the subjects themselves; the investigator's accounts help the subjects of how they can act to change the situations that put them in a dominated situation.

7) Participate in a theoretically grounded programme of action which will change social conditions and, in addition, will engender new less alienated understandings and needs: The purpose of CSS in its final phase is to initiate action by providing an adequate knowledge of the historical developments of social conditions and meaning and a vision of a desirable and possible future. This stage links the subjects' actions back to social conditions in order to reduce or eliminate the construction of contradictory social conditions. Further, instead of reformist approach to these conditions, the aim should be to construct new social conditions such as participation, love, creativity and collective control.

To summarize, the CSS is a reflective theory that provides people – as change agents – a knowledge that is enlightening and emancipatory. The CSS enables the humans in society to discover their own ways to change their world – that is, to become emancipated (Mcnabb, 2005).

This study, based on CSS, provides a critique of the prevailing disaster management system in Darjeeling municipal area and seeks to emancipate the people from the harmful and alienating social conditions that results in disasters (landslides). In order to do so, the study explores the phenomenon of disaster in the Darjeeling municipal area in terms of social, political and economic vulnerability. Instead of viewing disasters as 'acts of God' or 'nature's fury', this study situates disaster in the social system of human beings and considers disasters as 'socially constructed' phenomenon. To this effect, the study examines the history of Darjeeling Hills and tries to identify the factors that have led to the impoverishment and domination of the Gorkha community in Darjeeling Hills as a result of which they are more exposed and vulnerable to disasters, without much resilience or capacity to adapt to the risk and threat of landslides. For this purpose, the study adopts the Pressure and Release (PAR) model put forward by Blaikie et al, (1994) which considers vulnerability as a reflection of the unequal distribution of power, embedded in the social structures and processes such as economic structure, legal definitions of rights and other ideological

structures and processes. Hence, the historical analysis examines those processes that have rendered Gorkha community to *marginality* and hence vulnerable to landslides. Besides, the study contextualises vulnerability in the wider social and political domain that have influenced, shaped and produced landslides in Darjeeling Hills.

The goal of the CSS to emancipate the people from the detrimental conditions (Mcnabb, 2005) is highlighted in this study in the form of community participation in disaster management. Hence, a study of the Community Based Disaster Preparedness project of Anugyalaya, Darjeeling based Social Service Society is undertaken. The significance of CSS in this study is that most of the studies on landslides on Darjeeling hills have only considered the geological processes such as rainfall, tectonic movements, soil degradation and others (example, Froehlich et al, 1990; Froehlich and Starkel, 1993; Desai, n.d.), advancing scientific solutions (example, remote sensing, mapping and soil testing) to resolve the disasters caused by landslides. However, such a scientific and technical orientation overlooks the fact that disasters are equally the product of human interactions among themselves as much as the interaction of humans and physical-natural environment. In this sense, this research aims to contribute to the literature of disaster research by providing a sociologically oriented account of disasters that considers human beings and his environment as the prime focus of the study. Towards this end, this study makes a detailed study of the history of Darjeeling Hills from disaster management perspective; unravels the problems related to disaster management in Darjeeling; and, seeks to emancipate the people from the detrimental effects of landslides by providing direction to change the system towards better disaster preparedness in the form of Community Based Disaster Preparedness.

Case Study Approach

At the heart of this work lies a single case study of disaster management system in the Darjeeling municipal area. The case study approach entails "intensive studies of one or a few exemplary individuals, families...organizations, groups, or even entire communities". (Mcnabb, 2005: 358) The study is an intensive and detailed examination of the various aspects of disaster management system in the Darjeeling municipal area. This was done by collecting information on disaster management in

Darjeeling and examining them thoroughly as to understand the dynamics that influence the disaster management in Darjeeling Municipal Area.

Qualitative Research

The study adopts a qualitative approach to research. The rationale for undertaking qualitative research here is to provide an explanation of outcomes in individual cases (Mahoney and Goertz, 2006) in terms of disaster management in the Darjeeling Municipal Area. The fundamental objective of the research is "to identify the causes of these specific outcomes for each and every case that falls within the scope of the theory under investigation". (Mahoney and Goertz 2006: 230) The qualitative research is thus based on a "causes-of-effects" approach to explanation. (Mahoney and Goertz, 2006) Qualitative research studies involve "inductive, theory-generating, subjective, and non positivist processes". (Mcnabb, 2005: 341) Qualitative research generally involves interactive and participatory methods of data collection; strong emphasis is given to the need for the researcher to build rapport with the participants and involvement of the participant in the discussions. (Creswell, 2003)

Data Collection

The study employs Participatory Rural Appraisal (PRA) methods and techniques of data collection. (Mikkelsen 2005: 63) The participatory method provides a great deal of flexibility "to adjust the interview to make it more conversational, while still controlled and flexible". (Mcnabb, 2005: 169) This enabled me to approach the interview in a manner that revealed critical dimensions of disaster management, particularly the relief measures undertaken in the backdrop of 'Aila'. The primary sources of data collection in this research involves observation, participation and interviews. (Mcnabb, 2005) As I was present in the study area when cyclone 'Aila' struck, I volunteered in the rescue operation, which gave me the opportunity to get a first-hand insight into the processes of search and rescue operation (SAR), while simultaneously observing the behaviour of different individuals and groups involved in the SAR. I also visited few shelter points which helped me to build rapport with the victims, volunteers and emergency workers and thus broadened my understanding of the various issues involved in disaster

management. The secondary data related to reviewing various official documents, statistics, reports, books, journals, articles and other information sources (Mikkelsen 2005) on disaster management.

Semi-Structured Interviews

The collection of data by interviews may take several different forms. (Mcnabb, 2005) I deployed the open-ended, semi-structured interview, where some of the questions and topics were pre-determined, while other questions and additional information were formulated during the course of interview. (Mikkelsen, 2005) This pattern of interview allowed me to put critical questions that allowed for an insight into the lives of the victims of 'Aila'; the concerns and perceptions of respondents on disaster management; how helpful the relief measures were and also to identify the shortcomings that inhibited effective SAR operation and disaster recovery; and the role of different organisations in disaster management. For this purpose, the oral consent of the participants was obtained and the names and identities of those quoted in the study have been concealed to maintain privacy and anonymity. The semi-structured interviews were undertaken with individuals and groups. (Mikkelsen, 2005) The key informant interviewees included the victims of 'Aila' and other past disasters, emergency professionals who possessed special knowledge on disaster management (Civil Defence, Civil Works and Relief Department officials, NGOs workers), community leaders, social workers and ward councillors. The study also included focus group discussion with the communities affected by 'Aila' which provided additional information on the ideas, beliefs, concerns and knowledge about the disaster.

The questions were prepared for two categories: households and institutions[14] (government and NGOs). The interview questions were organised around different themes that would cater to the needs of the study. The interviewees could refrain from answering any question if they found it offended them, or if they were uneasy answering them, though as it happened all questions were answered. The interviews generally lasted around one hour, though focus group interviews took considerable time, around two and half hours. In order to facilitate a smooth interview, the

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[14] See annexure I and II for each set of interview questions.

interviewees could skip any question for time being and answer it later on; hence, though the questions were serially organised, they were modified according to the needs of the respondents. Besides, I also modified the questions without changing their basic content whenever I found that the questions were proving to be too complex and confusing to the respondents. The questions were mostly asked in the Nepali language (the dialect spoken in Darjeeling Hills) as the respondents could not understand the meaning and expression of questions which were set in English. I video-taped and recorded the interviews as writing down the responses/answers could have proved too time consuming. My association as a correspondent and journalist with DarjeelingTimes.com (a news portal and monthly magazine published from Darjeeling) proved to be of great help in this regard. Besides, informal meetings were also held with groups (Anugyalaya, DLR Prerna, Save the Hills) connected with disaster management in the Darjeeling Hills.

Non-participant observation

The study involved non-participant observation for understanding the disaster management system and scope for participation at various levels. Under non-participant observation the task of the researcher is to "watch and record the social behaviour of subjects". (Mcnabb, 2005: 107) The goal of non-participant observation is to generate an "unbiased record of the events, behaviour, etc" (Mcnabb, 2005: 108) which I feel is important as I am a native of Darjeeling; hence, generating unbiased account required me to undertake non-participant observation. Besides, the non-participant observation enabled me to understand the role of the ecological and cultural context of Darjeeling in disaster management.

Review of secondary data

The study collected data from numerous sources – government departments, NGOs, community representatives, social workers and others. Besides, the study also looked into data available in books, publications, reports as well as the data available with local NGOs such as Anugyalaya, Red Cross and DLR Prerna. The secondary data were obtained from various sources which were used for enhancing the understanding of the problems, rules and laws pertaining to disaster management and

also for triangulation and verification of the primary data collected. The literature search relied on electronic journals and descriptive articles about disaster management, community participation and policies of government.

The Study Area

Darjeeling, the northernmost district of West Bengal, is a part of the Hindu-Kush Himalayas[15] and the only hill district in the State. The topography of Darjeeling District is unique in its own way. Of the four sub-divisions, Darjeeling, Kurseong and Kalimpong are covered by hilly terrain and mountains, while Siliguri comprise of plain areas; in terms of topography, climate and population, the three Hills sub-division stands distinct vis-à-vis Siliguri. The Darjeeling – Himalayan ranges present a storehouse of biodiversity, where flora and fauna vary extensively with climatic variation from one region to another. (Das, 2009) Darjeeling, famous for its three Ts – tea, timber and tourism – is also equally, if not more, notorious for its disasters. The recent Aila cyclone[16] (2009) is a reminder that Darjeeling is not immune from disasters. To be sure, Darjeeling has a long history of disasters. The Ambootia landslide (1968), located on the picturesque tea garden clad hill slopes around the Kurseong town in Darjeeling is considered as the largest landslide in Asia (Government of India 2009c)   which has left a deep imprint of the disaster reality that haunts the aesthetic Darjeeling Hills. Landslides are the most common and severe disaster that has plagued the region.

Situating Crises and Disasters in the Darjeeling Hills: The Dynamics of Political, Economic and Social Vulnerability

The studies on the hazards and disasters on Darjeeling Hills have generally focussed on the geological processes such as rainfall, tectonic movements, soil degradation and others (example, Froehlich et al, 1990; Froehlich and Starkel, 1993; Sarkar and Kanungo, 2004) and have advanced scientific solutions such as remote

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[15] The Hindu Kush-Himalayan region consists of four distinct mountain systems: Hindu Kush Mountains in the west, the Karakoram in the north-west, the Himalayas in the east, and the Hengduan in the north-east (Bhadra and Khanal, 2002).

[16] The cyclone claimed 27 lives, affecting 95,000 people in 425 villages and 84 wards in the Darjeeling District, with enormous loss of property and assets (District Magistrate Office, Darjeeling, 2009).
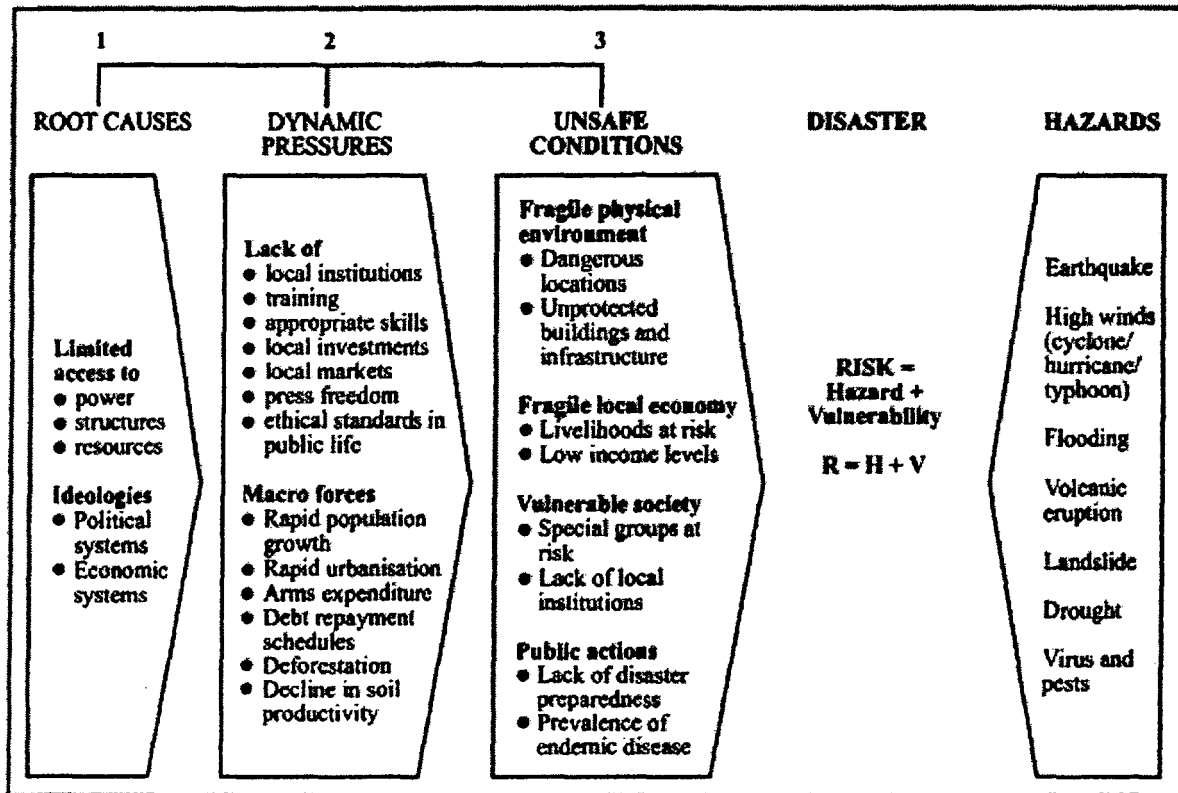
sensing, mapping and soil testing, among others, to ameliorate the conditions arising out of hazards and disasters. This has created a tendency to overlook the social conditions and processes that create and entrench crises, vulnerabilities and disasters. Disaster, however, is a complex phenomenon; a complex interplay of diverse factors, both natural and human, which may not be discernible in the disaster sites. The *reality* of disaster may rest and operate somewhere else in the daily social and political processes; disaster sites provide superficial facts of loss and damages, while its genesis could be traced in the broader political and economic realm of society. Disaster is as much a social construction as *nature's fury;* that disasters are equally the results of human interactions among themselves. The hazards caused by the natural processes and the vulnerability produced by the human actions – political, economic, social and cultural – together results in disasters. Nowhere is this more evident than in the Darjeeling Hills. The fragile eco-system that surrounds the Darjeeling Hills, coupled with a vulnerable society, has turned Darjeeling into a recurrent disaster site.

In situating crises and disasters in Darjeeling Hills, the study subscribes to the pressure and release (PAR) model (Figure 1) articulated in the work of Blaikie et al, (1994) which has influenced latter works on disaster research. (for example, Fara[17], 2001; Ariyabandu and Wickramasinghe, 2005) The PAR model conceptualises *risk* as a complex combination of *vulnerability* on the one hand and *hazard* on the other. Disasters occur when hazards interact with vulnerabilities. The *'root causes'* of vulnerability lie in social structures and processes such as: economic structure, legal definitions of rights, gender relations and other ideological structures and processes. These *'root causes'* are reflective of the unequal distribution of power where people who are *'marginal'*, economic or otherwise, are rendered (more) vulnerable. The *root causes* translate themselves into the *'dynamic pressures'* (insecure conditions) that create *'unsafe conditions'* whereby the *'marginalised'* sections of society are exposed to vulnerability and in the event of hazard become the victims of disaster. The impact

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[17] For an eloquent analyses of Namibian drought using PAR model, see: Fara, K (2001): "How Natural Are 'Natural Disasters'? Vulnerability to Drought of Communal Farmers in Southern Namibia". *Risk Management.* 3 (3): 47 – 63.

of disaster depends on the extent of vulnerability and the severity of hazard. The *'release'* dimension of the model implies that the reduction of disaster can be achieved when vulnerability is reduced. Given the aim of this section, the PAR in the context of Darjeeling Hills would only consider the *'pressure'* aspect and not the *'release'* dimension.

Figure 1 'Pressures' that result in disasters: the progression of vulnerability.

1	2	3		
ROOT CAUSES	**DYNAMIC PRESSURES**	**UNSAFE CONDITIONS**	**DISASTER**	**HAZARDS**
Limited access to • power • structures • resources **Ideologies** • Political systems • Economic systems	**Lack of** • local institutions • training • appropriate skills • local investments • local markets • press freedom • ethical standards in public life **Macro forces** • Rapid population growth • Rapid urbanisation • Arms expenditure • Debt repayment schedules • Deforestation • Decline in soil productivity	**Fragile physical environment** • Dangerous locations • Unprotected buildings and infrastructure **Fragile local economy** • Livelihoods at risk • Low income levels **Vulnerable society** • Special groups at risk • Lack of local institutions **Public actions** • Lack of disaster preparedness • Prevalence of endemic disease	**RISK = Hazard + Vulnerability** **R = H + V**	Earthquake High winds (cyclone/ hurricane/ typhoon) Flooding Volcanic eruption Landslide Drought Virus and pests

(Blaikie et al, 1994: 23)

Root Causes

An historical account of Darjeeling helps to identify the *root causes* of its vulnerability. Historically, communities in the Darjeeling Hills have had a *marginal* existence; because of their *marginality*, they have had limited access to resources – political, economic and social – which in turn has led to their further *marginalisation* with the result that the capacity and resilience of the social and political system to respond to and deal with crises and disasters has either remained undeveloped or is found lacking. The focus, therefore, would be on those social and political processes

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and dynamics that have rendered Darjeeling to a position of *marginality,* which has constructed, influenced, shaped and even produced many of its present day 'crises'. Further, the Darjeeling Hills have moved from one spectrum of political instability to another; each stage only enlarging its problems and deepening its instability and insecurity. These political conundrums have, on the one hand, counteracted the development and progress of the Hills society and, on the other, have rapidly undermined its resilience to adjust and adapt to the emerging risks and crises. Further, it has resulted in the lack of governance structures – or what Ganguly terms as *'malgovernance'* (2005) – that has failed to take cognizance of the economic, social and other problems. As a result, the Darjeeling Hills stand exposed to newer risks and crises of varying types and magnitude, with little, if any, disaster mitigating measures.

Darjeeling under British Colonialism

The history of Darjeeling is entwined with the British conquest of India. The British occupation of Darjeeling came in three phases from 1835 to 1865. (Dasgupta, 1999) During the first phase, through the Deed of Grant (1835), the Raja of Sikkim presented Darjeeling to the British East India Company; in turn, the Raja was granted the sum of £300 per annum. The areas covered in the Deed included south of the Great Rangit river, east of the Balasan, Kahel and Little Rangit rivers and west of the Rangnu and Mahananda rivers. The second phase was marked by a souring relationship between the British Government and Sikkim; culminating in war against Sikkim in 1850 which led to the annexation of Sikkim 'Morang' or 'Terai' at the foothills covering the Siliguri sub-division and also portion of the Sikkim hills which was bounded by the Rammam river on the north, by the Great Rangit and the Teesta rivers on the east, and by the Nepal frontier on the west. The third phase was marked by the British annexation of the Bhutan's Dooars area (Treaty of Sinchula, 1864). In accordance with the Treaty of Sinchula, the Bhutan Dooars with the passes leading into the hills and Kalimpong were ceded to the British.

The attraction of Darjeeling for the British was many-sided. First, the strategic location of Darjeeling, with Nepal on the west and Bhutan on the east, gave the British Government the power of effectively checking the union of these two states (Clarke, 1857) as well as safeguarding the northern border of India against China and Tibet, which guided British policy towards the neighbouring kingdoms of Sikkim, Bhutan and Nepal. (Dasgupta, 1999) Besides, Darjeeling served as a base for the defence of the trade route to Tibet through Kalimpong – Lhasa trade route from the

Gorkha rulers of Nepal, which was the shortest one from India to the heart of Tibet; the annexation of Darjeeling from Sikkim and the containment of Nepal, led to the proliferation of English trade with Sikkim, Nepal, and Tibet. (Dasgupta, 1999) Second, Darjeeling promised favourable conditions for tea cultivation, encouraging the British to introduce tea plantation there. Dr. Campbell, the first Superintendent of the Darjeeling district, is accredited with the successful introduction of tea cultivation in Darjeeling in 1841. Subsequently, in 1847, the British Government decided to set up tea nurseries in the region (Ravindran and Mathew, 2009), and tea cultivation on a commercial scale began from 1856 onwards which attracted British planters in considerable number to settle in Darjeeling. (Dasgupta, 1999) Third, the British were aware of the positive convalescent milieu provided by Darjeeling. In 1828, when Colonel Lloyd was deputed to settle the boundary dispute between the Nepal and Sikkim frontier, he along with Mr. J.W. Grant made an excursion into the Sikkim mountains and was attracted to the position of Darjeeling as possessing all the requisites for developing a sanatorium. Subsequently, it was brought to the notice of the then Governor General, Lord William Bentinck, in 1829 who zealously directed Major Herbert, Deputy-Surveyor General, accompanied by Mr. Grant to explore the Sikkim Hills. (Clarke, 1857) Based on their report (1830), the Court of Directors found it advisable and practicable for the Government to establish a sanatorium in Darjeeling. This affirmation of the natural tranquillity and beauty of Darjeeling Hills is reflected in the Darjeeling Guide published in 1848 (quoted in Clarke, 1857: 24)

> The general opinion of persons who have visited Simla and Darjeeling is in favour of the latter, as regards the natural advantages of scenery and magnificence of the forest. As to the prospect of the Snowy Range, there is no variation of opinion: Darjeeling is unrivalled in this particular... the more bare and precipitous character of the Simla mountains is surpassed in grandeur and beauty by those of Darjeeling.

With the arrival of British, Darjeeling which was scantly inhabited by few Lepchas underwent massive demographic transformation. Since the mid 19th century, there was rapid migration from Nepal to Darjeeling. The repressive monarchical regime of the high caste Hindu rulers led to considerable social and economic tensions within Nepal which forced Nepali communities like the Rai, Limbu, Gurung, Tamang and others to migrate somewhere else. Darjeeling provided a convenient and accessible place for settlement and promised a better existence to these communities.

This necessity of the Nepali communities fitted with the willingness of the British rulers and tea planters to encourage settlement of the Nepali migrants as

plantation workers in the tea gardens (a labour intensive industry) of Darjeeling Hills. The boom and success of the Darjeeling tea industry further encouraged the Nepali migrants to settle down and make Darjeeling their new home. Besides, the British policy of recruiting Nepalis in the Gorkha Battalions in the Indian army and police service, as well as their zeal to develop sanatorium and tourism in Darjeeling, encouraged the Nepali migrants to seek and obtain recruitment in these services in the Army centres at Darjeeling. (Dasgupta, 1999) As a result of these migrations, it is estimated that, by 1845, Darjeeling had attracted 10,000 settlers from Nepal, Sikkim, and Bhutan. (Besky, 2007)

The British establishment in Darjeeling meant immediate *relief* for the migrants from rural poverty and monarchical oppression in Nepal; the majority joined tea plantation[18], while the others worked as labourers, porters, woodcutters, builders, and servants for the expanding British hill station (Besky, 2007) However, the exploitative nature of the British policies outweighed the *illusion of relief*. It needs to be stressed that while the migrants engaged in tea plantation benefited from various social welfare measures like free housing, health care, food rations, nurseries, and plantation schools – things unknown to them under Nepal's oppressive monarchical regime – the plantation life introduced them to a different form of inequality (Besky, 2007) that continues to place them in a state of dependency even today. Under British, the labours engaged in tea plantation, in India, faced similar problems: low wages, indenture system, and lack of representation, among others.

The tea plantations in India, during the British period, possessed certain basic characteristics. First, the areas most suited for plantations were initially sparsely populated and faced shortage of labour in the formative years; as such, the plantations had to depend on migrant labour. (Bhowmik, 2002) Second, being a labour intensive industry, tea plantation required a stable labour force which resulted in a captive labour force. Third, tea was a colonial product and similar to other plantation produces such as rubber and cinchona, it was basically meant for export. These conditions resulted in low wages as the "management did not allow a labour market to

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[18] The labours, initially, were recruited by the Sardars and Gallawalas (labour recruiters) who used to visit Nepal and Sikkim enticing the people to work in tea gardens; this system of labour recruitment existed in the plantation till the enactment of Plantation Labour Act, 1951. (Sharma, 2000)

develop, as they feared that it would come in the way of keeping the wages low". (Thamarajakshi, 2002: 22) The necessity for stable labour supply in tea plantations not only meant the introduction of the indenture system[19]. (Bhowmik, 2002) but also implied that alternative opportunities of employment did not exist or remained backward. Furthermore, while the planters had their trade bodies to represent their interests, the workers were prevented from unionising themselves. (Thamarajakshi, 2002) Coercion, low wages and immigrant labour were thus the three inseparable components of the plantation system (Bhowmik, 1980; ibid, 2002).

In the context of Darjeeling hills, the workers in tea gardens were tied down in such a way that they became almost bonded labour (Sharma, 2000); a para military force known as North Bengal Mounted Rifles was also kept at the plantation to ensure that the labours did not flee the tea gardens (Sarkar and Lama, 1986 in Sharma, 2000) which was a common sight because of the exploitative colonial practices. Sarkar observes that the conditions of labour in the initial period was as deplorable as slavery, and there existed a *sub-culture of poverty* among the labours in tea gardens: low-wages, child labour, absence of savings, chronic shortage of cash, absence of food reserves in the home and borrowing from local money lenders. (1986)

From Colonialism to Internal Colonialism: The Struggle for Gorkhaland

As noted above, in accordance with the Treaty of Sinchula (1864), the Bhutanese area of Dooars and Kalimpong were ceded to the British following the defeat of the former. The sub-division of Kalimpong was first notified and put under the administrative supervision of Deputy Commissioner of Western Duars, which was subsequently transferred to Darjeeling District in 1866. (Rai, 2007a; Wangyal, 2008a) Initially, Darjeeling district was categorized and designated as a "Non-Regulation" District, which meant that any Act or Regulation passed in the Bengal Presidency did

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[19] Under the indenture system, the workers had to agree to serve on the plantation for a specified period of time and were free to return home after that period; however, for migrants, long periods of detachment and lack of employment opportunities back home, forced them to remain in the plantations for generations (Bhowmik, 2002).

not come into force in district unless they were specially extended to it. (Wangyal, 2008a) The factors that supported the inclusion of Darjeeling District under Non-Regulation system were: preservation of indigenous systems of land tenures; necessity of entrusting undivided responsibilities to the District Officer; and, formulation of simple laws in conformity with native institutions and simplicity of local people. (Gurung, 1996[20] in Rai, 2007a)

> Being inhabited by a comparatively backward and mostly ignorant tribal people, Darjeeling remained under Non-Regulation Areas and had from time immemorial enjoyed an indigenous system of land tenure which they could understand and which they did not like to part with. The appointment of the district officer in a Non-Regulation area with enough freedom to act in a given situation, as one visible authority, was guided by this consideration alone. Although such a policy was advocated for protection of simple tribal peoples, from the viewpoint of progress and advancement it was exclusive and detrimental. In terms of advancement Darjeeling was far ahead of districts under Regulation Laws with regard to basic civic amenities such as road improvements and maintenance, supply of drinking water, markets, health facilities and educational opportunities. Nonetheless, it was kept segregated from districts under Regulations in respect of its administration (Rai, 2007a: 88).

The Government of India Act (1919) brought the administration of Darjeeling district under the provisions of "Backward Tract" which placed its administration under the Governor in Council; subjected it to special law usually prescribing simple and elastic forms of judicial and administrative procedure (Rai, 2007a; Wangyal, 2008a). The Government of India Act (1935) declared Darjeeling district as "Partially Excluded Area" by which any Act either of the federal or the provincial legislature had to receive the assent of the Governor of the province before its extension to these areas. The 15th of August, 1947 saw India becoming a Sovereign, Socialist, Secular & Democratic Republic and Darjeeling was transferred to Bengal. (Benedikter, 2009)

The political agitations for a separate Gorkhaland state dates back to the early 1900s, when in 1907 the "leaders of the Hill people" submitted to the government a joint petition on behalf of the Bhutias, Lepchas, and Nepalis demanding a "separate administrative set-up" outside the influence of Bengal (Wangyal, 2008b) but within

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[20] Gurung, D.B. 1996: *Darjeeling District: Struggle for Administrative Status.* In: Pradhan, R. K. complied Continuous Political Struggle for a Separate Constitutional Status of Ceded Land of Darjeeling and Leasehold Land of Kalimpong. Mahakal Press and Publication. Darjeeling.

British India Empire. Since then, as many as 27 official demands for the formation of Gorkhaland have been made. (Wangyal, 2008b) These demands have followed different trajectories, albeit the overarching objective has been the creation of "Gorkhastan"[21] or Gorkhaland outside the ambit of Bengal state but within India. The factors that fostered the demand for Gorkhaland are numerous. The migration of Nepali workers to Darjeeling in search of better livelihoods forged a bond of unity, despite the fact that they shared no similarity in terms of heritage, religion, language and culture. The development of the Nepali language, in this regard, served as a foundation for the emergence of Gorkha ethnicity (Ghosh, 2009), forged a bond of cultural unity and deepened ethnic links among various groups. (Dasgupta, 1999) The Nepali language became a symbol of Nepali *jatiya*[22] consciousness that cut across different ethnic groups, including the Lepcha and Bhutias. (Pradhan, 2007a) As a result, a composite culture began to grow in the three hill sub-divisions from the beginning of the 20th century. (Dasgupta, 1999) This ethnic-identity of the Nepalis sought to express itself in two streams: the spread of Nepali language and literature and ethnic exclusiveness which was expressed through the demands for autonomy for Darjeeling. (Dasgupta, 1999) The most potent demand for autonomy took shape in 1980's under the Gorkha National Liberation Front (GNLF). In 1986, GNLF under Subash Ghising made

> the inhabitants of the hills aware of their deprivation and instill a sense of deep insecurity in them. He has also managed to convince them that the land belongs to them and that they were doing nothing more than rightfully claiming what is theirs. (Mookerjee, 1986: 7[23] quoted in Ganguly, 2005: 472)

The leaders of the Gorkhaland agitation provided various justifications for Gorkhaland, broadly classifiable in two categories: ethnic identity and under-development. The ethnic-identity argument was couched in the belief that Nepalis of Indian descent (Gorkha hereafter) shared no affinity – historically, culturally,

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[21] In 1947, the District Committee of the Communist Party of India (CPI) submitted a memorandum for the constitution of "Gorkhastan" out of Southern Sikkim, Darjeeling and Nepal (Benedikter, 2009); the terminology – Gorkhastan – was, however, mooted in 1945 All India Gorkha League mouthpiece, *Gorkha*. Chronologically, it was the Twelfth official demand for Gorkhaland (Wangyal, 2008b).
[22] *Jatiya* basically denotes 'community' in Nepali vernacular.
[23] "Most Nepalis Against Demand, Claims Minister," *The Telegraph*, 9 May 1986, p.4; "Immense Harm to Hill Areas: Basu," *The Statesman*, 13 May 1986, p.1; Mookerjee, "Bengal: The Search for a Third Partition," p.7.

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ethnically, socially, religiously and linguistically – with Bengal. Subash Ghising, the "uncrowned king of the hills", firmly believed that "ethnic problems of the Nepalis in Darjeeling would be solved only if a separate State of Gorkhaland could be established totally outside West Bengal". (Dasgupta, 1999: 64) Much of the ethnic-identity grievances of the Gorkhas were related to the issues of their nationality and citizenship, growing violence against the Gorkhas in the north-east India, and a sense of alienation vis-à-vis Bengal. The identity of the Gorkhas in terms of their nationality and citizenship has always remained a contested realm at various points of time that has made them vulnerable to dominant construction of their identity. (Subba, 2006) One of the most important manifestations of these dominant constructions of identity in India is related to viewing Gorkhas as 'migrants' or 'foreigners'.

Not only has this disturbed the Gorkha psyche who believes that they are as much Indian as any other Indian nationals like Biharis, Bengalis and Punjabis and hence have equal right to self determination and access to resource and development but has also instilled a sense of deprivation and fear of being *marginalised* in the society. In fact, when Morarji Desai, the then Prime Minister of India denounced the inclusion of Nepali language in the Eighth Schedule of the Constitution in 1979, on the ground that it was a 'foreign' language, the Gorkha psyche was deeply hurt and also

> alienated the sensitive minds of the Nepali educated middle class who began to move away from their moderate and legitimate demand so long articulated for the constitutional recognition of their language. (Dasgupta, 1999: 63)

The GNLF believed that the national status of Gorkhas was becoming ambivalent in the eyes of the state and society because of Indo-Nepal Friendship Treaty (1950) (Subba, 2006) that blurred the distinction between Gorkha (Indian-born) and Nepal-born Nepali-speakers, with even the former being considered as 'foreigner'. (Ghosh, 2009) The anxiety of GNLF over the Indo-Nepal Friendship Treaty (1950) was reflected in Ghising's observation

> You have Bengalis, Biharis, Punjabis, Tamils, Marathis, etc. But who are we – Nepali-speaking people who have been living in Darjeeling and surrounding areas since the 12th century. We are only 'reciprocal Nepalis' thanks to the

Indo-Nepal Treaty of 1950, I want abrogated (quoted in Inder Jit, 1986[24] in Ghosh, 2009: 10).

The expulsion of the Nepali-speaking population from Assam in the early 1980s and Nepali-speaking workers from the coal mines of the Jowai Hills in Meghalaya in 1986 respectively deepened anxiety and fear of the Gorkhas in Darjeeling regarding their status in India (Dasgupta, 1999; Ghosh, 2009). The feeling of uncertain and endangered future prompted the Gorkhas to demand Gorkhaland that they believed imparted an Indian identity to them as distinct from the Nepalis of Nepal (Ghosh, 2009). How the tagging of 'migrants' have played on the lives of Gorkhas and their marginalisation has been expressively put by Subba,

> Labelling them as 'migrants' was one of the most effective means of weakening their position in society, delegitimising their demands as a free people, and even justifying human rights violence perpetrated against them...the identity of a migrant community makes it socially and politically vulnerable, especially if that community is also a minority community. Such an identity virtually cripples the community and makes it difficult for it to make legitimate claims to state recognition or resources. Such an identity also makes it difficult for such a community to integrate itself with the local dominant community let alone engage with it on equal footing as free people of a sovereign, democratic, republic. (2006: 156)

If ethnic-identity assertion stimulated Gorkha consciousness, the backwardness and underdevelopment of its society crystallized the demand for Gorkhaland. In fact, the various demands for autonomy began crystallizing, since the colonial rule itself, largely because of the aggravation of the economic problems in the hill sub-divisions, decline in employment opportunities in the tea gardens, the rapid destruction of the rich forest resources, and the constriction of recruitment possibilities in the service sector (Dasgupta, 1999) which deeply worsened under the Bengal administration. The proponents of Gorkhaland believed that Darjeeling, under Bengal administration, had been turned into a periphery – and was subjected to internal colonialism - (Pradhan, 2007a) and that Bengal had deliberately kept Darjeeling isolated and neglected (Ganguly, 2005) which resulted in the underdevelopment of the region.

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[24] Inder Jit (1986): "Gorkhaland and Basic Issues", *Economic Times*, 15 July.

The Gorkha leaders resented the fact that West Bengal government extracted wealth from the region for the benefit of Bengalis but invested little in return (Lacina, 2009); that due to sheer numbers, the Bengalis effectively controlled the political, economic and social fabric of West Bengal, while the Gorkhas comprising a very small portion of the West Bengal population lacked voice and power (Kaushik, 2009) to effectively represent their aspirations and needs. The GNLF, further, pointed out that while crores of rupees meant for hill development went towards the development of Siliguri, only small sums were spent on Darjeeling, Kalimpong and Kurseong. (The Statesman, 1986[25] in Ganguly, 2005: 472) As a result, Darjeeling suffered from lack of development and faced massive infrastructural problems. Along with a strong sense of ethnic exclusiveness,

> the growing unemployment, inadequate infrastructure, educational facilities, medical care, increasing deforestation, lack of opportunities and most importantly the step motherly treatment by the Bengal Government towards the hill people were among the major causes which added an impetus to the Gorkhaland Movement. (Khawas, 2002: 10)

The tea industry, which along with tourism formed the backbone of the hill economy, was facing acute problems in the 1980s, including low productivity, labor unrest, marketing mismanagement and financial bankruptcy leading to the eventual closure of many tea estates. (Ganguly, 2005) The closure of tea estates rendered thousands of workers jobless, while the high cost of tea production led to shrinking markets and dwindling profit margins in the tea estates that were still active. The sense of deprivation was accentuated by the fact that most of the tea gardens were owned by "outsiders" who cared little about the welfare of the labourers but "extracted" highest return on their investments and rarely re-invested their share of profits in the tea estates. Consequently, the tea industry continued to suffer from lack of investment. Additionally, the tourism sector had steadily declined due to neglect and lack of proper development of Darjeeling, resulting in massive unemployment.

The unemployment problem was aggravated by nepotism in government jobs in the state of West Bengal; the GNLF claimed that government jobs created in the hill areas hardly went to the local populace "since the Bengali-dominated local

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[25] "Roots of Gorkha Agitation," *The Statesman*, 13 June 1986.

administration had no qualms in recruiting Bengali typists and clerks from the plains".
(Ganguly, 2005: 474) Ironically, Darjeeling Hills lacked higher educational facilities
in the form of a medical or engineering college or a university[26], which resulted in
low human resource to gainfully relate to the employment opportunities. As a result,
the Nepalis, particularly the youths were forced to migrate to plains in search of jobs,
where, they were again at a disadvantage position either for not knowing the Bengali
language or had to settle for humble profession like *chowkidars*[27]. Further, the people
of Darjeeling resented the fact that the Bengal Government, located faraway in
Kolkata, seemed removed from their immediate interests and was remote, opaque and
unaccountable to the local people of Darjeeling. (Ganguly, 2005)

The Darjeeling Gorkha Hill Council and Localized Autocracy

After a decade long struggle, the Government of India and the Government of
West Bengal entered into a tripartite agreement with the GNLF to establish an
autonomous Darjeeling Gorkha Hill Council (DGHC) in August 1988. The DGHC
Act of 1988 provided a separate institutional framework for three subdivisions of the
Darjeeling district – Darjeeling, Kurseong and Kalimpong. The DGHC comprised of
a General Council with a total of 42 members out of which 28 were to be elected and
the rest nominated by the state government. The General Council was responsible for
electing its Chairman and Vice Chairman. Besides, there was also an Executive
Council with Chairman and Vice Chairman of the General Council as the ex-officio
members of the Executive Council with the Chairman of the General Council
functioning as the Chief Executive Councillor. The Chief Executive Councillor was
entitled to nominate five members to the Executive Council out of the elected
members of the General Council, while the West Bengal state government could
nominate two members to the Executive Council out of the nominated members of the
General Council. The Chairman of the General Council cum Chief Executive
Councillor had the ex-officio status and privileges of a minister in the council of
ministers in the state government. (Ganguly, 2005)

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[26] The North Bengal University located in the Siliguri sub-division is viewed as catering the needs of
the plains-Bengali people. Till date Darjeeling does not have an institution of higher learning; though
repeated appeals have been made in this regard by various bodies like All Gorkha Student's Union.
[27] In the Indian films and television serials, Gorkhas are often portrayed as '*chowkidars*' (pronounced
as 'Gurkha' or 'Bahadur') which is a classic example of the derogatory stereotyping of the Gorkha
identity in India.

The DGHC exercised general powers of supervision over *panchayat samities*, *gram panchayats* and municipalities falling within the areas of the Council's jurisdiction. The DGHC executive powers extended over matters such as: the allotment, occupation, or use, or setting apart, of land other than any land which is a reserved forest for the purpose of agriculture or grazing, or for residential or other non-agricultural purposes; management of any forest, not being a reserved forest; the use of any canal or watercourse for the purpose of agriculture; agriculture; public health and sanitation, hospital and dispensaries; tourism; vocational training; public works - development and planning; construction and maintenance of all roads except National and State highways; transport and development of transport and others.

Despite the fact that DGHC was provided authority over large spectrum of issues, it was, however, not granted the legislative powers that other "Autonomous District Councils" under the 6th Schedule enjoyed. (Benedikter, 2009) Even in the matter of finance, DGHC had limited powers to generate its own resources and remained dependent on the Union and the State governments for funds; the two most lucrative sources of revenue in Darjeeling Hills – tea and timber – remained outside the domain of the DGHC. (Benedikter, 2009) Nevertheless, it was hoped that the granting of DGHC would satisfy the ethnic-identity quest of Gorkhas and instigate development of Darjeeling Hills. Darjeeling, however, was soon pushed to, what Lacina terms as, *localised autocracy* under DGHC and Subash Ghising. (2009) In fact, with Ghising as the DGHC chief, the state government found in him a stable conduit. (Ghosh, 2009) Chakrabarty observes

> The DGHC became a den of corruption and nepotism and has indeed served the creamy layer in the hills. Under Subash Ghising an atmosphere spread as a mix of disappointment and fear. (2005: 188 quoted[28] in Benedikter, 2009)

Under Ghising and DGHC, Darjeeling Hills moved to another stage of political crisis, the one that was marked by unaccountability, corruption and a dictatorial style of functioning. These factors not only inhibited economic development but also greatly undermined the democratic rights of the locales, thereby marginalising them further in terms of access to power, governance structure and

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[28] Chakrabarty, S. C. 2005: Silence under Freedom: the strange story of democracy in the Darjeeling Hills, in: R. Samaddar (ed.), The Politics of Autonomy, New Delhi 2005: 188.

resources. At the grassroots level, the DGHC could not really unfold as an agent of economic development as there was a permanent lack of co-ordination with the local administration. Further, the DGHC, under the command of Ghising followed a top-down approach of administration where participatory planning and democratic accountability were completely neglected. (Benedikter, 2009) The Executive Council of the DGHC did not meet for years, and no budget was prepared or passed by the Council. Executive Councillors were accountable only to the Chairman and not to the Council, transforming the government in a feudal style arrangement. The state government also did not block Ghising's massive diversion of the council's resources into patronage networks. For instance, the last external audit of the DGHC was performed in 1992—a means of oversight that neither the state nor the center has chosen to revive. (Lacina, 2009) Darjeeling, under Ghising and DGHC, was marked by the postponement of elections, absence of auditing and lack of public accountability which created a sense of alienation amongst the GNLF leaders and the masses. (Meena and Bhattacharjee, 2008) Both the state and the center, however, remained passive to GNLF's use of violence and corruption to consolidate its power within Darjeeling politics. (Lacina, 2009)
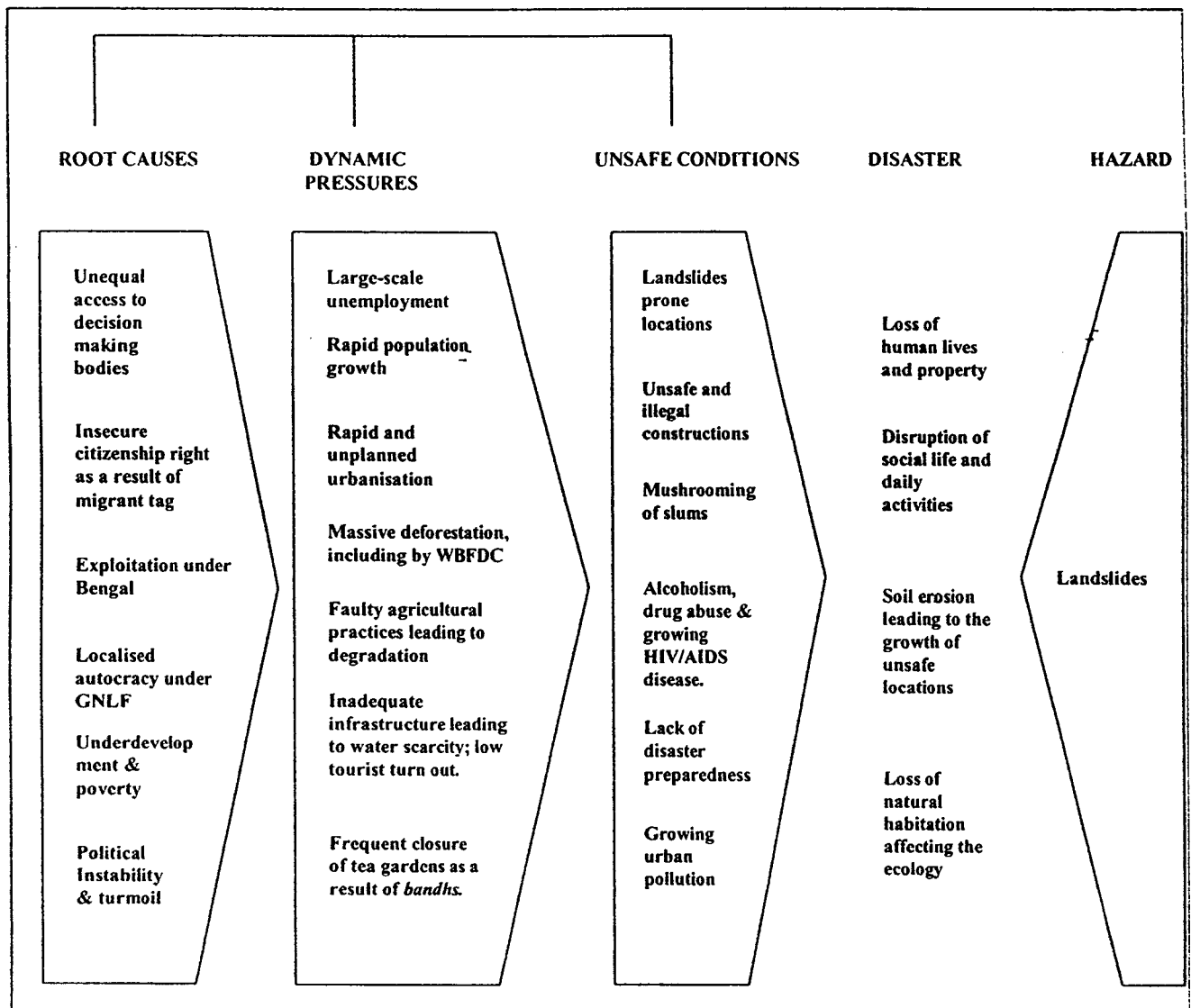
> From a theoretical perspective, autonomy has to bring democracy closer to the grassroots, not create spaces for local fiefdoms. A genuine autonomy needs to set a clear framework of democratic self-rule with a scope of powers appropriate for its goals and aspirations. The elected bodies, the autonomous council and the executive (government) must be fully responsible to the electorate. From the very beginning West Bengal did not take care to meet such requirements. (Benedikter, 2009: 106)

While the democratic rights of the people were suppressed, DGHC performed badly on the development front as well. The DGHC lacked long-term economic planning while the local communities became passive recipients of development aid, if at all. (Lacina, 2009) The three major mainstays of the economy of Darjeeling – tea, timber, and tourism – remained neglected, aggravating the underdevelopment of Darjeeling. A large number of tea gardens and estates had shut down; amongst the 60-odd tea gardens that were still open, around 20 were found to be extremely vulnerable and likely to shut down. (Ganguly, 2005) Tourism, the life-line of the Darjeeling Hills economy, continued to suffer from the inadequate infrastructural facilities, underinvestment in promoting tourism-related activities and competition from other tourist destinations like Sikkim and north-east states of India. In its span of 20 years,

no major heavy industries were set up in the Darjeeling hills, while small scale industries suffered due to the apathy of DGHC. As a result, a large majority of the Gorkha population of Darjeeling continued to remain embedded in endemic poverty, being either unemployed or doing menial, low-paying jobs. (Ganguly, 2005) The major problems relating to drinking water, land distribution, health and sanitation, roads, hospitals schools and colleges were further aggravated, entrenching the crises of Darjeeling Hills. Along with rampant corruption, failure of governance and the increasing isolation of Ghising, the hill people's confidence in the DGHC was gradually undermined. (Ghosh, 2009)

The failure of the DGHC to solve Darjeeling's developmental problems can be attributed to three factors. (Ganguly, 2005) First, the DGHC constitutionally enjoyed the same political status as *zilla parishads* or district councils. Similar to these bodies, DGHC functioned as an executive body and had neither legislative nor taxation powers, which handicapped it from the very beginning and made it completely dependent on the good wishes of the West Bengal government that provided funds. Second, the colonial attitude of the Bengali-dominated West Bengal government towards the Gorkhas meant that DGHC functioned as a subordinate body and could not really cater to needs of the communities in the Darjeeling which also explains the fact that DGHC often had to beg and plead with the state government for funds "while lavish amounts continued to be made available for the development of Siliguri, where mostly Bengali is spoken". (Ganguly, 2005: 497) Third, the way the DGHC functioned under Ghising and the GNLF undermined the body's democratic credentials. These factors cumulatively contributed to the underperformance of DGHC and put at risk the communities which had already been subjected to colonial subjugation under the British and inter-colonialism of Bengal.

Figure 2. Pressures in the context of Darjeeling Hills producing vulnerability to landslides (Adapted from Blaikie et al, 1994)

ROOT CAUSES	DYNAMIC PRESSURES	UNSAFE CONDITIONS	DISASTER	HAZARD
Unequal access to decision making bodies Insecure citizenship right as a result of migrant tag Exploitation under Bengal Localised autocracy under GNLF Underdevelopment & poverty Political Instability & turmoil	Large-scale unemployment Rapid population growth Rapid and unplanned urbanisation Massive deforestation, including by WBFDC Faulty agricultural practices leading to degradation Inadequate infrastructure leading to water scarcity; low tourist turn out. Frequent closure of tea gardens as a result of *bandhs.*	Landslides prone locations Unsafe and illegal constructions Mushrooming of slums Alcoholism, drug abuse & growing HIV/AIDS disease. Lack of disaster preparedness Growing urban pollution	Loss of human lives and property Disruption of social life and daily activities Soil erosion leading to the growth of unsafe locations Loss of natural habitation affecting the ecology	Landslides

Dynamic processes

The advent of tea industry under British colonial regime drastically altered land use practices. The introduction of tea along with the development of Darjeeling as administrative unit and urban centre, induced by growing tourism, attracted settlements of the people, particularly Nepalese and Oraons but also Marwaris, Biharis and Bengalis. (Pradhan, 2007b; Booth, 2009) The growth of the tea industry in the second half of the 19th century was followed by the emergence of ancillary economic activities which created demand for more immigrants who took to agriculture, manufacturing, construction, mining, trading and various service

activities. (Dasgupta, 1999) As a result, Darjeeling, once "an inaccessible tract of forest, with a very scanty population" underwent a massive demographic influx (Table 1).

Table 1. Darjeeling District Population. (Khawas, 2002)

Year	Population
1872	94712
1881	155179
1901	265780
1941	376369
1981	1024269
1991	1299919
2001	1605900

The growth of the tea industry and human settlements had a detrimental effect on the natural vegetation as the forest that once marked Darjeeling Hills began to progressively decline. While the expansion of tea-cultivation inevitably meant large-scale clearing of forest areas (Pradhan, 2007b), the increase of human settlement with predominant agricultural activities have put immense pressure on the land and natural resources. (Chakrabarti, 2007) Faulty agricultural practices, overgrazing of the hill slopes, cutting and lopping of natural forests for fuel, fodder and timber for building houses and agricultural implements have contributed to degradation of Darjeeling Hills. (Khawas, 2002) Further, the commercial deforestation by the West Bengal government's forest department, rapidly growing population, high unemployment, rural need for fuel and fodder, and deep rooted poverty among the local people who depend on the forests for fuel, fodder, and timber for survival needs (Ganguly, 2005; Chakrabarti, 2007) have resulted in constant destruction of forest cover in Darjeeling. As a result, the forest cover which constituted about 45% of the total area of

Darjeeling in 1951 had fallen to 23% in 1986. (Ganguly, 2005) This has resulted in the disturbance of the ecologically sensitive region of Darjeeling Himalaya and has caused enormous problems such as soil erosion, heavy landslides, and drinking water scarcity.

The tourist industry, which has been a real economic boost for the local people of the Darjeeling Hills area, has also been a matter of concern from the sustainability perspective. The growth in tourism sector has put heavy burden on the carrying capacity of the ecologically fragile Darjeeling Hills. Further, being seasonal in nature, the community's infrastructure is often overloaded during peak season time, instigating unanticipated water crisis, inadequate drainage and sanitation system, improper healthcare, communication and transportation system. The excessive demand for basic amenities has not only resulted in deterioration in the physical environment but also deprived the locales of basic needs such as water. The unplanned urbanisation, as a result of increase in tourism activities, has caused severe environmental hazards, including soil erosion, landslides and river siltation. Further, too much reliance on tourism as a source of livelihood has inhibited the growth of other industries; during *bandhs* and strikes which are not uncommon in Darjeeling, the people's livelihood is put at risk with no alternative livelihood to support them.

The politically insecure environment of Darjeeling has heightened the threat to the livelihood of people. It has been estimated that during GNLF led Gorkhaland movement in 1980's, 72 tea gardens in the hills sub-division which supported a population of 3, 00, 000 became ominous with several tea gardens declaring lockout for indefinite period (Dasgupta, 1999). The frequent *bandhs* and strikes even today[29], along with looming threat of political crisis have caused disruption of daily activities of the locales. This has also resulted in the migration of the locales to the metropolis and other countries in search of jobs.

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[29] Since 2007, the GNLF has been ousted both from the politics of Darjeeling Hills and DGHC. The Gorkha Janamukti Morcha (GJM) led a popular uprising against GNLF and has re-started Gorkhaland agitation; the indefinite strike threats by GJM as well as the anti-Gorkhaland forces in Siliguri like Bangla O Bangla Bachao Samity and Amar Bengali continues to seriously cripple social life in the area.

Unsafe conditions

The pressures created by these *root causes* and *dynamic processes* (insecure conditions) have resulted in *unsafe conditions* for the people of Darjeeling. The growth in population has resulted in a construction boom over the years, often illegal and unauthorized; these constructions are often located at 'unsafe' and landside prone area which has exposed the people to landslides. The population growth and grinding poverty have also led to the mushrooming of slums which are particularly prone to landslides, besides contributing to the rapidly growing problem of urban pollution such as solid wastes. Further, population growth along with lack of educational institutions has led to unskilled labour market. The *root causes* of its *marginality* and growing frustration due to underdevelopment and poverty has also led to alcoholism, drug abuse and other anti-social behaviours which have continued to grow over the years, along with a steady rise in HIV/AIDS infection rates. (Ganguly, 2005) The apathy on the part of local administration and the state and Union governments, as found in the field work (section below), have led to an absence of response by the governance structures to crises and landslides. These factors suggest that the people in the Darjeeling Hills continue to live under unsafe conditions, which is aggravated by the interplay of root causes and dynamic processes.

Disaster management in Darjeeling municipality

Darjeeling Municipality does not have a single department/organisation solely responsible for dealing disasters (Darjeeling Municipality, n.d.1). The West Bengal State Disaster Management Policy enjoins the local authorities, including municipalities, to function under the overall supervision and direction of the State Relief Commissioner or the District Magistrates in respect of disaster management (Government of West Bengal, n.d.). Hence, the District Magistrate's Office (DMO) and Darjeeling Municipality work in collaboration and co-ordinate various activities relating to disaster management planning and implementation in the Darjeeling Municipal Area. However, recognising the increasing trend and severity of disasters in the municipal area, the Darjeeling Municipality has formed a Disaster Management Committee consisting of a Chairman, Vice-Chairman, elected councillors, executive officers and other municipal officials. This Committee acts as the nodal agency

responsible for strengthening the organisational structures of disaster management and reorienting existing organisational and administrative structures (Darjeeling Municipality, n.d.1). The task of the Committee is to "bring together in an integrated organisational structure the resources of the many agencies and individuals who can take appropriate and timely action" (Darjeeling Municipality, n.d.1). Besides, ward-wise disaster management teams, comprising of ten members and headed by each ward councillor, are constituted to supervise disaster preparedness and capacity building in wards. Furthermore, the Darjeeling Municipality has also set up a duty control room to monitor emergency situations that may arise due to natural calamities.

Risk Reduction Measures in Darjeeling Municipal Area

Disaster risk reduction forms an inevitable part of a risk reduction strategy. The Yokohama Strategy (1994) and subsequent Hyogo Framework for Action (HFA) 2005-2015 as also Disaster Management Act (2005) and ARC (2006) have increasingly established the significance of risk reduction. Correspondingly, the Darjeeling municipality has also adopted a series of measures to reduce risk in the areas under its jurisdiction. These measures can be broadly classified as follows:

Building bye-laws

Constructing disaster-resistant houses can withstand the onslaught of disaster to a great extent; the designated locations for construction can minimise the damage occurring out of disaster. In the context of a geologically unstable, rapidly urbanising and densely inhabited area such as the Darjeeling municipality, the necessity of constructing disaster resistant infrastructure assumes greater significance[30]. The construction of houses and other buildings is regulated through the mechanism of building bye laws (ARC, 2006). The West Bengal Municipal Building Rules (1996) provides a comprehensive regulatory framework for the construction of buildings in

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[30] As late as in September 1897, the Committee appointed to inspect and report on the conditions of buildings, roads, and drains in Darjeeling attributed the causes of landslips to "defective drainage of sites, excessive lead of drains, imperfect or badly-constructed revetments...defective supervision of building sites [and] quarrying in unsafe locations"; subsequently, based on Committees recommendations, the Bengal Act I was passed in 1900 which provided, among other provisions, a complete set of building regulations such as the powers to regulate the excavation and preparation of building sites, and to prohibit building on any site considered to be insecure (O'Malley, 1907: 107).

municipal areas in the State; for Hill Municipalities, including Darjeeling, the Building Rules contain certain specific provision. (Datta 2004) Most relevant among these provisions, from a disaster risk reduction perspective, are the following:

a) that the land is capable of being well drained by means of drainage facilities leading to the existing public drainage channel or natural *jhora*;

b) the site of construction is secured from danger from hillside slips;

c) the site is likely to sustain the construction of a building thereon;

d) the owner of the building is required to take measures to prevent any risk of damage and/or landslide that may be caused by construction of buildings;

e) that the land for the building site is not located on the permanent shadow of ridges which is inadequately sunlit so as to make it unfit for human habitation;

f) that the land is not located in the central business area or in a sinking zone or areas of distress with cracks caused by subsidence and/or slides.

Disaster Management Plan[31]

Disaster Management Plans are important components of a preparedness for disaster management. In view of the frequent disasters in areas under its jurisdiction, the Darjeeling Municipality has prepared a Disaster Management Plan that seeks to mitigate and lessen the impacts of disaster. The Plan, consistent with the disaster management paradigm shift, aims at promoting a "culture of preparedness" through proactive disaster management measures of "planning, preparedness and prevention". The Plan provides a framework of institutional arrangement; the goals and visions; lists out the vulnerable areas in the municipality area; the measures required for prevention and mitigation of disasters; the capacity building and preparedness measures involved; the allocations of responsibilities among the different

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[31] Darjeeling Municipality, n.d. 1: Disaster Management Plan.

municipality departments; and the emergency response mechanisms such as alert system, communication systems, supply services, dissemination of information, among others. The Plan is based on a multi-hazard approach and sets out its vision to create a

> disaster resilient Darjeeling with total risk reduction as the main monitoring parameter in all developmental investments and initiatives to ensure sustainable development.

The Plan also seeks to initiate coordinated efforts to have an effective disaster management strategy for the municipal area, which will minimise the impact of future disasters; to have quick, efficient and coordinated response and recovery plans in place from the municipality to the State level (wards being the unit of planning) with a mechanism that will ensure increasing community participation in all disaster preparedness activities. In a nutshell, the various goals of the Plan documents are:

a) To improve the capacity of each ward to mitigate the effects of natural disaster, in the assessment of disaster damage potential and in the establishment of early warning systems and disaster resistant capabilities.

b) to devise appropriate guidelines and strategies for applying existing scientific and technical knowledge.

c) to foster scientific and engineering endeavours aimed at addressing critical gaps in knowledge.

d) to disseminate existing and new technical information.

e) to develop measures for assessment, prediction, prevention and mitigation of natural disaster through programmes of technical assistance and technology transfer, education and training and to evaluate the effectiveness of programmes.

Draft Development Plan[32]

The Draft Development Plan is a useful instrument for integrated planning and balanced development. The municipalities and municipal corporations under the West Bengal Municipal Act (1993) are required to prepare Draft Development Plans (DDP) in every five year term, which acts as the guiding plan for the overall development of the municipalities. The Plan seeks to formulate strategies for healthy urban living, giving special emphasis on the weaker and excluded sections of the population, enhance the participation of the community in planning and maintaining urban services, conservation of an ecologically fragile environment, strengthen the internal municipal structure, improve financial capability and encourage interaction between the Urban Local Bodies and its citizens. The DDP addresses a range of municipal functions to be executed by the respective municipality; it covers various issues – basic infrastructure services, land use, environment, health, primary education, organizational capacity and requirements, and, capital investments – which is capable of collectively addressing the risk reduction concerns in a comprehensive manner.

The various sub-components of the Draft Development Plan (DDP) – and in particular the Land use Development Plan, Slum Infrastructure Improvement Plan, Intra-Municipal Infrastructure Improvement Plan and Environment Management Plan – provide a realistic approach towards integrating the disaster management with development planning. These Plans are designed to initiate sustainable socio-economic and infrastructural development along with provisions for social infrastructure such as safe and adequate drinking water supply, good roads, improved drainage network, sanitation and proper solid management, among others, which can, in fact, create a disaster resilient society. A holistic approach focused on long-term solutions to eradicate poverty and improve the condition of the vulnerable groups, DDP is based on the participation of NGOs and people where citizens will play a key role in the development of the comprehensive plan, and that there will be varied opportunities for them to participate throughout the planning process.

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[32] Darjeeling Municipality, n.d. 2: Draft Development Plan.

Capacity building is an important aspect of disaster preparedness. In the context of the Darjeeling Municipal area, the Municipality, NGOs, *samaj*[33], Civil Defence Department and other groups have taken measures to enhance and augment the community capacity for better disaster preparedness. These groups, however, do not function in isolation; rather they have sought to complement their efforts through cooperation and linkages. The Municipality, in cooperation with the Civil Defence Department and NGOs specialising in disaster management such as Red Cross and Anugyalaya and *samaj*, has initiated measures for capacity building that include sensitising the community about the disaster, training for rescue and relief and fostering community awareness through seminars and workshops.

The sensitization and training process starts at the ward level where the *samaj* unequivocally plays the most important role. As each ward is composed of few *samaj* (four to five), the representatives and community leaders of *samaj* are encouraged to participate in the workshop on disaster preparedness. The workshop includes emergency professional, civil defence personnel, representatives of NGOs (Anugalaya and Red Cross), *samaj* and ward councillors. The participants (representatives and community leaders of *samaj*) are sensitised about the issues concerning disaster such as local environment and hazards, the vulnerable areas in each wards, the designated shelter points and the role that *samaj* could play in disaster mitigation and preparedness in their respective wards. The participants are encouraged to form a relief committee and a first-aid team in each ward; the relief committee is encouraged undertake the study of their village identifying vulnerable areas, unsafe buildings and slums (if any) and to built an emergency store room for storing first-aid materials and disaster combating equipments like spade, rope, search light, raincoat and tarpaulin.

The workshop is aimed at enabling the *samaj* and community-based organizations to incorporate the planning process specifically for disaster preparedness and also to induce a behavioural change in members of the community and their response to disaster, from being individualistic and reactionary to becoming

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[33] *Samaj* is a self-organized grass-root level social institution that marks the social life in Darjeeling. The structure and other features of *samaj* are discussed in subsequent pages.

proactive and responsible members of the *samaj*. Besides, the participants are also sensitised to the necessity and significance of effective communication, coordination and linkages of *samaj* with government, NGOs and other communities in disaster preparedness. The Civil Defence Department also holds different kinds of training related to disasters, including landslides and organizes training programme for Task Force, NGOs, school students and locals. The volunteers are provided with disaster-combating equipments for undertaking rescue works. There are 95 trained Civil Defence volunteers in Darjeeling Sadar whose service are utilised in the rescue of victims, clearing of roads, *jhoras* and other restorative works following disaster (District Magistrate Office, 2009).

Discussion

The above review of the risk reduction measures reveals that the Darjeeling Municipality possess the requisite regulatory mechanisms for risk reduction in the fragile social-ecological environment of Darjeeling. The risk reduction measures – particularly the building bye-laws, DDP and capacity building of the community – can stimulate the process of sound disaster preparedness. These measures, however, have proved ineffective, as the Darjeeling municipal area continues to be vulnerable to landslides of more intensity and greater damages. The problems that counteract risk reduction measures in the Darjeeling municipal area are manifold and operate through a variety of factors – land use pattern, environment management and governance, among others. Taken together, these factors challenge any risk reduction measures. These factors are not independent but functions and influence one another such that any effort for risk reduction entails dealing with the entire set of issues across these factors; any piecemeal effort/reform will invariably prove inadequate for risk reduction.

Land use practices constitute one of the most important factors determining the vulnerability of in the Darjeeling Hills to landslides. As noted in the literature (eg, Gardner and Dekens, 2007; Ahmad, 1993), the change in the type and intensity of land use in mountain systems changes the nature of social-ecological systems, which in turn, increases the risks of natural hazards. The major concern in respect of land use in the Darjeeling Municipal Area is related to high density of population (Table

2). The town which was built for a population of 10,000 people and 2,000 houses in 1935 (Pradhan, 2008), has grown tremendously with over 12,000 houses and 110,000 population in 2001. (Census, 2001) Additionally, it is estimated that a floating population of around 3,50,000 tourists is temporarily added every year during the peak season in Darjeeling, which far exceeds the carrying capacity of the town . The growth of population not only increases exposure or vulnerability (Gardner and Dekens, 2007) with people haphazardly settling in every bit of land available in the Darjeeling Municipal Area (Basu: n.d.), but it has also created extensive infrastructural and environmental problems, and has deepened the crisis in terms of basic provisions like drinking water and health facilities. (Pradhan, 2008)

Table 2. Population changes in the Darjeeling municipal area (Census, 2001 in Pradhan, 2008: 4)

Population in Thousands				Decadal change in population growth (In %)		
1971	1981	1991	2001	1971-81	1981-91	1991-01
42,873	56,875	71,469	107,191	32.60	26.30	44.70

As a result of growing population, the land use pattern in the Darjeeling Municipal Area has altered quite significantly. The fact that of the 7.43 Sq. Km Municipal Area, 95.13% is built up with the vacant area constituting only 4.17% (Darjeeling Municipality, n.d.2) suggests that the Darjeeling Municipal area has witnessed a substantial change in the type and intensity of land use (Table 3).

Table 3. Distribution of Land Use in Darjeeling Municipal Area. (Darjeeling Municipality, n.d.2)

Urban Land Use	1991 (In %)	2001 (In %)	2008 (In %)
Residential	51.00 %	62.00 %	66.83 %
Industrial	3.72 %	4.50 %	4.00 %
Commercial	9.00 %	13.00 %	14.17 %
Recreational	0.50 %	0.50 %	0.50 %
Transportation	6.00 %	6.20 %	6.20 %
Institutional	3.00 %	3.00 %	3.00 %
Mixed Built Up	1.50 %	2.77 %	1.13 %
Vacant	25.28 %	8.00 %	4.17 %

The increase of residential land use from 51% in 1991 to 66.83% in 2008 and the subsequent decrease in the vacant area (non-urban uses) from 25.28% in 1991 to 4.17% in 2008 indicates a decline of nearly 83.50% in the total vacant land in a span of 17 years. The residential areas are characterized by high density of population, high-rise structures and slums leading to increase in construction on vulnerable slopes that are, at the least, potential death traps; there is no control of building height, and irrespective of the slope and soil condition people have built high-rise of poor building quality and unhygienic living conditions. (Saha, 2006) The expansion of settlements with multi storied buildings without proper planning has, incongruously, occurred along the roads and on the steeper slope which increases the load on the fragile environmental zone resulting in frequent landslide hazards in Darjeeling Area. (Darjeeling Municipality, n.d.2) Further the drainage system, which serves as the outlet for rain water, in most of the sinking zones as also in other areas, is often not maintained or badly constructed with the effect that it either gets clogged or damaged during monsoons giving way to erosion of soil and consequently landslide. Moreover, it has been noted that roads in Darjeeling Municipal Areas have never been examined in relation to its carrying capacity; the construction of new road along with the increased vehicular movements have increased landslide occurrences especially on the roads. (Darjeeling Municipality, n.d.2)

The problem gets aggravated by the fact that Darjeeling is experiencing a high rate of urbanisation; the urban population grew from 33,605 to 1, 44, 693 during the last 58 years contributing population density of 19,474 per sq. km. (Darjeeling Municipality, n.d.2) In Darjeeling as elsewhere in India, migration has played an important role in the accelerated urban growth. The economic and livelihood opportunities provided by the tourism sector have led to huge migration to Darjeeling town. The physical infrastructure in terms of housing, drinking water supply, and drainage, however, has proved inadequate to accommodate the immigrants. (Darjeeling Municipality, n.d.2) The excessive demand for basic amenities has not only resulted in deterioration in the physical environment but has also resulted in the mushrooming of slums and squatter settlements in Darjeeling Municipal Area. In the Socio-Economic Survey conducted by Darjeeling Municipality, 22% of the total 12519 household were identified as slum. (Darjeeling Municipality, n.d.2)

These factors together have contributed to discrepancy in the land use pattern vis-à-vis Urban Development Plan Formulation and Implementation guideline (UDPFI) (Table 4).

Table 4. Land Use Category Wise Gap. (Darjeeling Municipality, n.d.2)

Land Use Category	Recommended developed area in % (UDPFI Guideline)	Present % of developed area
Residential	45 – 50	66.83
Commercial	4 – 5	14.17
Industrial	5 – 7	4.00
Public & Semi Public	12 – 15	3.10
Recreational	16 – 20	0.50
Transport & Communication	6 – 8	6.20
Ecological	8 – 10	5.20

As per the UDPFI guidelines, the residential area in Darjeeling Municipality has already exceeded the standard recommended and the present trend of growing population indicates that residential land use will accelerate. It also needs to be noted that the commercial use of land has almost exceeded four times the recommended standard, and though the industrial land use pattern complies with the prescribed standard, the Public and Semi Public, Recreational and Ecological use lies below this. The growth of residential and commercial land use has not only meant that there is limited scope for extension of agricultural land to cope with the increasing pressure of population, it has also put tremendous pressure on forested and other restricted areas which is gradually increasing (Table 5). The uncontrolled destruction of forest areas, along with unscientific use of slopes especially in construction works, coupled with geological, rainfall and slope characteristics have changed the scenario completely. Darjeeling, one of the most densely populated tourist centers in comparable environment, now exists on the verge of an environmental catastrophe. (Basu: n.d.)

Table 5. Decrease in Forest Coverage and Increase in Built up Areas in Darjeeling Town (1800-2001). (Desai, n.d.)

Year	Forest Area (In %)	Built up Area (In %)
1800	95	0.0
1850	87	3.0
1901	65	7.5
1951	40	39.0
1991	15	52.0
2001	10	65.0

Governance and Disaster Management

Public Participation in Disaster Management

The study found a manifest lack of public participation in decision making processes with regard to disaster management planning and implementation. This is evident from the fact that only a minority of residents is aware of the disaster management issues with only a handful participating in the sensitization, training programmes and other capacity building measures; the large majority are either unaware or have never participated in disaster management programmes. It was found that low levels of participation resulted from many factors. First, the respondents do not consider disaster management as a critical governance issue; disaster management, at best, is an 'offhand' affair which assumes significance only in the immediate backdrop of some disaster when individuals and community suffers loss and damages, and is quickly forgotten as soon as 'normalcy' is restored. The respondent quoted below reflects this perception of disaster management, which was generally shared by other respondents as well:

> I don't know much about disaster management, though I have heard of disasters like Tsunami and Aila. Frankly, for me, there are other more pressing issues that need attention, for example the water crisis which affects almost every one. I don't think disaster management is so critical to our well being.

Another respondent, associated with a local NGO, articulated the lack of concern for disaster management among the residents:

> The people are not much concerned about disaster management even when Darjeeling is such a hazard prone zone. We do not have much understanding about disaster management here and it is only when disaster strikes that people talk of it, but it is soon forgotten until the next disaster...The people are too engrossed in other issues to care for something like disaster preparedness. In fact, when people do not care for their immediate surroundings, then expecting them to participate in disaster management would be a little far fetched.

This respondent also mentioned social fragmentation, disintegration of societal values and alienation from decision making processes as resulting in an uncaring attitude towards disaster management. However, there appears to be a relationship between the degree to which communities accept disaster management planning and

the degree to which they experience disasters: the greater the exposure to disasters, the greater the interest in disaster management (Drabek, 1986[34] in Pearce, 2003: 212). The interest in disaster management was found to be greater among those affected by the disaster events and the recent cyclone 'Aila' than those who have not had any disaster experience or suffered any loss. The majority of the latter consider problems like water crisis, sanitation, unemployment, corruption, and regional politics as more important concerns than disaster preparedness. The Coordinator of Anugyalaya, which is actively engaged in CBDP described this difference in the outlook:

> The individuals who have undergone personal trauma and stress are more willing to participate in disaster management activities. In fact, we found that in the areas affected by Aila, people are very enthusiastic about disaster preparedness measures and actively participate in the capacity building programmes that we hold. It seems disaster has changed their outlook towards disaster management.

Second, the public institutions concerned with disaster management themselves lack the will to encourage the participation of citizens in disaster planning and implementation. The NGO respondents complained about the lack of citizens' participation in the overall planning process, including disaster management, owing to overtly bureaucratic functioning of the public officials where the disaster management is still a technocrat's domain; and, hence it has been conducted for, rather than with, the community (Laughy, 1991[35] in Pearce, 2003). The participation, therefore, is limited only to the acceptance of outcomes of various disaster management plans, rather than extending across the entire decision making process. Even though the Darjeeling District Crisis Management Committee holds periodic meetings involving various stakeholders to discuss and design disaster management strategies, it was found that not all stakeholders participate. In fact, the respondents except for a few community representatives and NGOs, expressed their lack of awareness of such meetings, and have neither participated in any programme on disaster preparedness or been consulted or engaged in disaster management planning. Further, the participant (community representatives and NGO) respondents view these meetings as a 'ritualistic function' – 'to show that government is concerned about the people' –

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[34] Drabek, T. E. (1986): *Human System Responses to Disaster: An Inventory of Sociological Findings.* Springer-Verlag. New York.
[35] Laughy, L. (1991): *A Planner's Handbook for Emergency Preparedness*, Centre for Human Settlements. University of British Columbia. Vancouver, BC.

where their concerns and needs are hardly taken into consideration. While the training programmes of Civil Defence were considered as effective and useful in disaster preparedness, the participants believe that the government's disaster preparedness programmes have too few disaster management professionals, and inadequate guidelines and materials. The public officials, for their part, blame the elected representatives and residents, who they say do not show much concern about training and disaster preparedness programmes even when invited. The senior Civil Defence official described this lack of concern for disaster management programmes:

> They (people) believe it is only our (government's) responsibility to remain prepared for any disaster events as if they do not have any responsibility towards their community...We hold training, at least, once every year and encourage participation of the people, especially the youths. However, very few turn up and those who turn up go missing when we invite them next time. Even the representatives of the people are indifferent to our training programmes and very few participate.

This lack of participation has led to an increasing sense of alienation and frustration among the community leaders and NGOs who feel that the community is being excluded from decision-making processes in disaster management planning. Besides, the community representatives attending the training programme and volunteers of the Civil Defence are basically drawn from the male members of the community which restricts the participation of the women and the inclusion of gender concerns in disaster management. In fact, only two women respondents, who were community representatives in the training programme, confirmed their participation in disaster preparedness programmes.

Third, participation is restrained by the fact that disaster management is still to emerge as an integral part of governance within public institutions in Darjeeling Municipal Area. At the district level, it is the concern of the Relief and Civil Defence Department with other line departments playing supportive role, while at the Municipality level, the Engineering Department shares a major part of the responsibility; disaster management is yet to have a separate and distinct identity of its own. In other words, disaster management suffers from something like an 'identity crisis'. Besides, the low level of participation is also the result of the low priority accorded to disaster management in development policies. DDP, though it contains

the CBDP Programme in its Environmental Management sub-component, is yet to become operative, and hence it is difficult to determine the level of response and participation that it will generate. However, NGO respondents generally felt that government was not doing enough for disaster management; the government's effort to bring disaster preparedness measures closer to the people, they believe, could generate support from the residents. Few respondents, including public officials, believe that the Municipality does not have sufficient funds for disaster management; the State Government is viewed as being too 'avaricious' on this front not only in respect of disaster management but also in other domains of policy implementation. The account of one respondent, an ex-councillor himself, is a typical version of this:

> The authorities, both local and state government, are indifferent to disaster management. Disaster management is a capital intensive activity requiring huge investment for its sustainability. But our Municipality is too 'poor' to take up such high cost activity...Of course, the Municipality sends its fund proposal to the State (government) but the latter hardly moves. It is always like that.

Yet another respondent, a senior NGO and social worker, considers that the State government is ignorant of the needs of the Darjeeling Hills, even with respect to disaster management planning:

> The government lacks knowledge about our needs. Even the planning for disaster preparedness is done by those who does not have an iota of knowledge about Darjeeling...I remember that government sent boats during 1968 landslides in Darjeeling. Boats! That is the level of awareness that government has regarding the disaster relief needs of the people here. They simply draw plans from somewhere and thrust it upon us.

This belief was shared by the public official respondents as well as those who believe that major decisions concerning disaster management are the sole prerogative of the State government, with no involvement of the local authorities.

Samaj

Another significant dimension of participation that emerged during the course of study is the role of community based organisations, particularly *samaj* in the disaster preparedness measures. The *samaj* is a self-organized grass-root level social institution (Pradhan, 2008) with a participatory basis where members discuss, debate

and try to arrive at certain solution on various matters. The membership of a *samaj* is open to any individual on the payment of a nominal membership and annual fees. However, it is generally the people living in an area who are its members and the functionaries appointed to manage the affairs of *samaj* are chosen from amongst the members. As a convention, it is generally the elder members who are appointed to the post of president, vice-president, general-secretary and treasurer. The role and geographic area covered by the *samaj* vary from one place to another; some *samaj* may provide assistance in birth and death issues while others may even organize scholarships for meritorious students; the area covered by a *samaj* can vary from one village to a cluster of villages. (Pradhan, 2008)

The *samaj* holds annual meeting where the annual expenditure statement and the activities of the *samaj* is presented, along with future proposals. The members can raise issues that are of common interest or which have collective connotation. Generally, the functions of the *samaj* extend from assistance in social ceremonies such as birth and death to various other social welfare activities like sanitation, tree plantation, water supply and others. The *samaj* also acts as a conflict resolution forum among the members and seeks to amicably settle the issues brought to its notice. In the context of disaster management, the *samaj* acts as relief provider, a forum for sensitising people on disaster preparedness; and, training the locals on disaster rescue activities through the assistance of Civil Defence and NGOs. The study found that *samaj* acts as a catalyst in promoting disaster preparedness; its role in the rescue and recovery activities is one of its most noteworthy contributions in disaster management which has been discussed below.

The *samaj* in collaboration with Civil Defence is involved in providing training to the local people and is one of the first to respond when disasters occur. Ironically, most of the *samaj* lacks the capacity – funds, emergency professionals, disaster combating equipments and materials, and contingency plans – to proactively engage itself in the disaster preparedness on a long term basis. Further, the absence of support from government undoubtedly inhibits the *samaj's* role in disaster management. Respondents from among the community representatives believe that while the training programmes are useful and effective for better disaster preparedness, they are not able to follow it up regularly in their areas due to lack of

funds. The respondent, who regularly participates in disaster preparedness programmes, voiced his concern:

> I represent my *samaj* in these programmes and get to know what needs to be done for better disaster preparedness; however, we do not have specific provisions for disaster management in our *samaj* like disaster fund and organising them is not an easy task as other activities take bulk of our finance...We send a list of items (to the Relief Department) for procuring disaster combating equipments and also requested for arranging some funds to set up store room for this equipments but so far we have not heard or received any assistance from them.

The lack of sustained support from government makes it hard for *samaj* to put disaster preparedness measures into action, while it deprives the government of employing the constructive power of *samaj* in disaster management.

Disaster Rescue, Relief and Rehabilitation in the back drop of Aila

Unlike risk reduction measures, which take effect over the long term, rescue and relief efforts following a disaster demands swift action in order to save lives and property. The account below illustrates the rescue, relief and rehabilitation efforts in the backdrop of 'Aila'; the role of different organisation in these efforts; and, the experience of disaster victims living in shelter camps. The incessant rainfall caused by cyclone 'Aila' on 25th and 26th May 2009 caused enormous hardship for the people in the State of West Bengal. In Darjeeling district alone, a total of 95,000 were affected in 425 villages and 84 wards, while 27 human lives were lost. (District Magistrate Office, 2009) In Darjeeling Municipality, a total of 148 houses were fully damaged and 514 houses were partially damaged and 4 persons died.

Search and Rescue Operations

In the immediate aftermath of 'Aila', chaos and confusion became characteristic of the behaviour of the victims as is commonly found when disaster strikes. A housewife in Frymal Village (Ward No. 28) which was severely hit by landslide narrated her experience:

> It was raining heavily that day (25th May 2009). I was at home along with my childrens and father-in-law. I had warned my children from venturing out due

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to rain while my father-in-law was watching television...Suddenly I saw the water seeping through kitchen wall and ran to get polythene to cover the portion. After a while the entire house started shaking and before I could realise what was happening I saw my father-in-law lying on the floor, his body compressed by the wall...I did not know what to do: to reach out to rescue father-in-law or the children who were in another room?...By grace of God, our next door neighbour came, rescued the children, while I helped father-in-law to come out of house.

In the same village, the members of a family emerged from their house and on seeing that their neighbours' house had collapsed due to mudslide, ran to locate their neighbours who were buried under the debris and rescued them. In the event of disaster, it is generally the neighbours who are among the first to reach and rescue the victims. The neighbours, in most areas/wards but particularly in Frymal and Haridas Hatta, not only gave first-aid care but also sheltered the victims until some shelter camps were set up for them. However, in dispersed settlement areas such as Aloobari (Ward No 13), the victims had to help themselves until the resident of adjoining villages did arrive to assist them.

Beside the neighbours, the *samaj* of the area also helped in the rescue operation. The *samaj*, in all the wards, were the most active organisation in the search and rescue operations. It needs to be noted that as most of the victims were the members of the samaj of their village/area, it became the responsibility of the *samaj* to help the victims during emergency situations. Furthermore, in the affected areas where the *samaj* of the area lacked the capacity to effectively undertake rescue activities, the *samaj* of the nearby villages assisted the injured and victims. For example, the *Gram Bikash Samity*, one of the *samaj* in Ward No. 1, participated and assisted in rescue activities in Aloobari (in the same ward), Permanent Busty and 14th Mile (adjoining villages but under *gram panchayat* area). The Secretary of the *Samity* recalled the activities carried out by his *samaj* in the rescue operation:

> Our *samaj* did plenty of work in rescuing the injured in nearby villages of Aloobari, 14th Mile and Permanent Busty where Aila had struck hard. We immediately despatched our volunteers to these villages and helped in rescuing the victims. We collected and despatched necessary stuffs like tarpaulin, biscuits, first aid and other necessary items to help the victims.

Other than *samaj*, the government's rescue team – National Disaster Response Force, Civil Defence and Fire Brigade – supported the SAR operation. The capacity

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of government agencies, in particular the NDRF, with trained personnel, as well as modern rescue technology and logistics, indeed proved helpful in SAR operations in the affected areas. However, in Haridas Hatta (Ward No 23) which was one of the worst hit areas within the Darjeeling municipal area with four deaths, the respondents appeared to be overly dissatisfied over the government's casual – 'lukewarm' – pace of SAR. The residents of this village complained about the delayed response of the government in time of emergency which otherwise they believe was 'helpful and satisfactory'. A resident who volunteered in SAR recounts the delayed response of the government:

> We immediately telephoned the concerned authorities (Civil Defence and Relief Department, District Office) about the mudslide which entrapped our neighbour... The NDRF and civil defence volunteers however came much later and by the time they arrived the entire house had been washed away in the rain...even after several days of search and rescue activities we failed to trace the body of our neighbour.

The above observation on the laxity and inability of the government to take timely and swift action following 'Aila' was also endorsed by the respondents of other villages/wards surveyed in the study. The fact that NDRF and the Fire Brigade are stationed at places which could easily access the affected areas (since most of these areas are well connected by road) only makes more glaring the governments delayed response in SAR in the aftermath of 'Aila'. In case of Civil Defence, the problem observed was not an unusual one. It required communicating with the volunteers, as Civil Defence trains and maintains a crop of volunteers from amongst the citizens themselves who reside in different wards/areas, the volunteers are often 'late' to reach the disaster spot. Further, as the volunteers are mostly males, who are often away at their workplace, the Civil Defence lacked on-hand volunteers who could immediately be pressed into SAR.

The other volunteers were drawn from the Red Cross, specially trained for SAR operations by Civil Defence and Anugyalaya (NGOs), the National Service Scheme (NSS) and Sai Samity. It is worth noting that although SAR, in the backdrop of Aila, generated overwhelming support from different quarters and witnessed a tremendous inflow of volunteers, it also produced difficulties which were similar across the different areas/wards. As the effectiveness of SAR depended, as noted

above, on the promptness of action, it was found that various organisations had a tendency to function according to their own impulses without a coordinating mechanism. In the absence of any coordinating system to monitor the overall progress of SAR in each affected area, organisations and volunteers with specific skills could not be allotted appropriate roles in the constantly changing but stressful disaster environment. Furthermore, the absence of a coordinating mechanism either resulted in the lack or an over-concentration of resources in a specified task or area, that is the organisations had the tendency to deploy more volunteers and relief provisions in the worst affected area, neglecting other areas. The Co-ordinator of Anugalaya, who volunteered in Haridas Hatta, observed:

> SAR is a specialised task as it is about saving lives and providing immediate relief to the victims and injured. A volunteer should know what he has to do and what is expected of him in SAR operation, which was completely missing.

The lack of a coordination system at the municipal level further accentuated the problem at the ward level in certain areas. For example, while Haridas Hatta and Frymal, where the intensity of damages were higher than others, received fair attention and SAR support, others such as Aloobari and Raj Hatta, remained largely neglected; the SAR in the two villages were mostly carried out by the neighbours and *samaj*. The incapacity of *samaj* and neighbours in terms of disaster combating equipments and trained personnel also reduced the pace and effectiveness of SAR.

Rehabilitation Efforts

The shelter camps were set up in local schools, hospitals and community halls where the majority of displaced/victims were sheltered until it was safe for them to return to their permanent residence or alternatively, their (damaged) houses were rebuilt/restored; others found refuge with relatives and friends. Accordingly, the duration of stay in camps varied: the majority of whose houses were completely damaged continue to inhabit the camps, while others returned home as soon as the risk of 'Aila' was 'averted'. Although these camps are notified and selected beforehand in each ward by the Municipality and District Magistrate Office through Relief Department, a few others were not planned for in advance and had to be spontaneously identified and communicated to the displaced, which only served to

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increase their problems after the 'shock' of 'Aila'. Despite the fact that these camps are located at a normal distance from the affected area, the 'unanticipated' large number of displaced and injured meant relocating them to new camps which were often far away. The resident of Aloobari who lived in a shelter camp a primary school at Jorebunglow described his 'ordeal':

> At the very least, it was a nightmare. We had to walk uphill with our belongings and since it was still raining, it took a great deal longer than usual to hike up and to do that with the feeling that your belongings and house are gutted and gone forever is awful.

As in the case of SAR, the provisions required in the shelter camps came from various sources; relief provisions included rice, wheat, dal, biscuits, blankets, tarpaulins and other provisions which were supplied and contributed by the Relief Department (through Sub-Divisional Officer within Municipality area), NGOs like Anugyalaya, Hayden Hall, Rotary Club and *samaj* and other community organisations. The assistance of NGOs contributed greatly to disaster relief and rehabilitation efforts. The Relief Department, however, stands out as the major relief provider as it gives subsidised rations to the displaced for the entire duration of their stay in relief camps. This is in contrast to the relief from other sources which are basically one time. However, conspicuous by its absence in the provision of 'relief' was any counselling to the victims; both the government and NGOs were found lacking in this aspect of relief.

Life in the shelter camp meant a new but a taxing life; it implied disruption of the 'normal' daily routine of people. Most of the camps, though concrete buildings, lack water provision, kitchen and other utilities; the families are either allotted a single room or have to put up together in a common hall which is overcrowded leading to increased distress and trauma. It should be stressed that while shelter camps were challenging for most, it was the women who experienced the most bitter side of camp life: the gendered division of labour became more entrenched in shelter camps as women, who went about their daily family chores under the constrained conditions of camp life, were disproportionately responsible for children and the elderly. The woman quoted below, who resides at R. N. S. Hostel, a shelter camp set up for the displaced families of Frymal village, explained the onerous life in camp:

I get up as early as four in the morning... fetch water, cook food and prepare my children for school which is quite a distance from here (camp)...My husband leaves early for his job and get back home only in the evening. I am left responsible for almost everything related to my family... I feel life has been torn apart as I don't find any recreation here.

The post–Aila rehabilitation effort also included monetary compensation; an *ex-gratia* grant of two lakh rupees was paid for each death to the next-of-kin(s) of the deceased; twenty five thousand and five thousand rupees were paid respectively to the residents whose houses were fully or partially damaged (District Magistrate Office, 2009). These grants were made under "Relief on-account of Natural Calamities" (District Magistrate Office, 2009). The rehabilitation grant also covered a self employment scheme for differently abled persons of ten thousand rupees each. The victim residents interviewed were generally dissatisfied with these rehabilitation grants; they felt that the government could have done much more than just paying these amounts which were 'too little'. However, the victims of Frymal Village living in a shelter camp were overwhelmed by the response of their *samaj* in rehabilitation process; besides, helping them in SAR and finding a shelter house for them, the *samaj* has taken onto itself the task of constructing new housing units for the victims. One respondent described the assistance they received from the *samaj*:

Our *samaj* proved most effective not only in rescuing us which they did zealously but also in rehabilitating us. The public officials visited us in the shelter camp, made available necessary provisions but with that they vanished. The *samaj*, on the other hand, have been with us right from the day Aila struck...now they are constructing new houses for us.

The treasurer of this *samaj* explained its role in the rehabilitation process:

We believe in communal interdependence where everybody is dependent on one another for their needs. 'Aila' has further strengthened that sense of interdependence. Our *samaj* has resolved to properly rehabilitate its members affected by 'Aila'. We approached the Relief Department for speedy release of the funds that were due to the victims. Once that was done, the amounts received by victim members along with the donations from the other members of *samaj* were collected. The collected amount, though not much, is used in constructing new housing units, much stronger and more disaster resilient.

This *samaj* also stressed the need for proper drainage system in the village, the absence of which they believe caused massive damage by 'Aila' and have already started planning and estimating the required cost for the same.

Community Based Disaster Preparedness

The Community Based Disaster Preparedness (CBDP) Project is one of the many developmental projects promoted by Anugyalaya Darjeeling Diocese Social Service Society (DDSSS) in various areas of Darjeeling Hills. The CBDP Project took shape in the year 2004 when a pilot initiative of community mobilisation and planning was undertaken for disaster preparedness in the Kalimpong and Algarah Block of Kalimpong Sub-Division of Darjeeling District. For the first time, the community undertook a comprehensive analysis-of their situation and planned for themselves based on their analysis; the community participated in the community mapping and planning through Participatory Learning and Action (PLA). The outcome was community planning for disaster preparedness, formation of rescue and relief teams and plans in communities and more importantly, enhanced community understanding and response to disaster from reactionary to a proactive one. Over the years, the CBDP Project has been extended to other areas in the Mirik and Kurseong sub-division.

The goal of the Project is to "reduce the impact of disaster through a collective effort towards safe, secure and dignified society". The objective is to enhance the capacity of communities to cope with disaster with specific reference to landslides and to enable the Communities to take a proactive stand on their own by undertaking disaster preparedness and mitigation actions. Anugyalaya DDSSS intervention is built on the experiences and resources of the community and the community based organisations which seeks to strengthen and promote peoples organisations specifically on community based disaster preparedness.

Community Based Disaster Preparedness Phases

To accomplish the objective of Community Based Disaster Preparedness (CBDP), a phased process was developed which has been discussed below:

1. *Linkage meeting with government and other social institutions*

The first process involved in the CBDP is the linkage meeting with the government departments and other social institutions such as *samaj*, self-help groups, local non-governmental organizations (NGOs) and community-based organizations (CBOs). The linkage meeting with government is held with key government personnel such as Block Development Officer, Block Relief Officer, Gram Pradhan, Executive Assistant and Secretary of Panchayat while the social institutions are represented by community representatives, social workers, members of local NGOs and others. The meeting generally focuses on identifying vulnerable areas, its disaster history, relief measures undertaken in the event of disaster and its present situation in terms of vulnerability and resilience.

The linkage meetings with the government and social institutions helps in appraising the feasibility of CBDP programme; drawing suitable CBDP programme that would be area specific and cater to the needs of the community which is important for the long term sustainability of the programme; and, obtaining basic data on vulnerable areas such as its demographic profile, number of families living below poverty line, basic amenities of education, health and hygiene, among others. It is important to note that as government and social institutions form an inevitable part of the governance structure, their linkage helps in steering the CBDP programme to a right direction.

2. *Orientation*

The second process revolves around the orientation of the community to disaster preparedness and mitigation measures. The primary goal of the orientation was to involve the community in the CBDP programme and build their understanding about different aspects of the programme. It was believed that since this disaster management strategy was directly related to community, their understanding and participation in the programme was the first basic requirement, which at the same time also determined the success or otherwise of the programme. This is done by the

selection of community animators[36] who are entrusted with the responsibility of mobilizing the community through door to door visits, meetings with the *samaj* and dissemination of information. The community animators, besides being the key link vis-à-vis the community, also ensure that the community is sensitized about their environment; different hazards that the community is exposed to; the remedy thereof in the form of CBDP; and, the significance of participation and collective effort in disaster mitigation and preparedness. The sensitization process is aimed at encouraging behavioural change in the individual and the community about the need for better disaster preparedness. As community animators are chosen from among the community members themselves, it enables them to build necessary rapport with the community on disaster mitigation measures within the required time framework.

The orientation process also seeks to involve the *samaj,* CBOs, and SHGs in the disaster planning process which ensures broader community participation and acceptance of the outcome and processes of the programme. The CBDP enables the *samaj and Community Based Development Organizations* to incorporate the planning process specifically for disaster preparedness; the enabling process also integrates behavioural change process towards disaster – from the individualistic reactionary member of the *samaj* to proactive responsible members of the *samaj*. This part of the programme also reaches out to other community groups like the Self Help Groups, Farmers Collectives and individual leaders of the community like the PRI leaders, Teachers, ICDS, Para Medics and other social mobilizes.

3. *Involving the community*

The orientation was followed by the participation of the community in drawing CBDP planning and implementation strategy; the community assumes the central role in preparing and executing disaster mitigation measures. Since community participation can only come through instilling a sense of ownership, it was deemed important that the community be at the forefront in all the processes

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[36] Community animators are required to possess certain minimum basic requirement; among others, most of them are high school pass out with a sense of awareness about their community, its needs and environment along with a strong sense of community service.

henceforth. With this vision, the process focuses and embarks on the Appreciative Participatory Planning and Action (APPA). APPA is a unique blend of Participatory Learning and Actions (PLA) and Participatory Rural Appraisal (PRA) and forms an innovative approach to planning and management that centres on community participation, combining the framework of appreciative enquiry and the tools of PLA. As a methodology, APPA's objective is to find and emphasize the strengths of community participation in development activities as a means to empower the communities, organizations and groups to plan and manage development and conservation.

With specific reference to community-based disaster preparedness, the methodology adopted is participatory planning and learning processes that build upon the community experience and resources through community mapping and planning. The basic objective of this process is to find out the core problem of the community through a participatory process which follows a definite chronology. First, the participants discuss past disaster events, its intensity in terms of magnitude and damage, individual experience and the disaster preparedness measures of that time. Sharing of information enables the participants to gather knowledge about the hazards and vulnerabilities facing the community, the lacunae of previous disaster preparedness measures, besides helping to build holistic disaster mitigation and preparedness mechanism for future. Furthermore, the participants come to recognize that disasters have a collective connotation which can only be addressed through the collective effort of the community. Second, the hazards and vulnerabilities of the area are identified, assessed and put on the map by the participants with the help of expertise from the government departments and NGO. For this purpose, the field survey of the area is conducted taking into consideration the seasonality of potential disaster occurrences which helps in taking pre-emptive disaster mitigation measures as also in updating the preparedness level; thereafter the potential risk areas and vulnerable locations are put on map with the help of a van diagram. It was deemed important to locate the risk areas and vulnerable locations as it helped the participants to concentrate on these areas; determine various shelter points where the people, in the event of landslide, could take temporary but safe shelter; and, also facilitated in drawing resource maps to discover various available local resources during the landslide.

4. _Capacity Building_

Once the participants had defined the community's response strategies, the focus is on the capacity building of the community. The capacity building involves building the community's resilience to disaster through sensitization, training and improving livelihood activities. The awareness and sensitization activities are focused on bringing about a behavioral and attitudinal change towards disasters and fostering awareness about the integration of disaster management in the overall planning process of the community. The sensitization process covers issues like drainage management, soil and water management, afforestation and others that aim at strengthening the mitigation processes of the community.

The training process involves developing a corps of trained human resources at the community level to perform a coordinated response during crisis situations. Accordingly, the training process involves forming various task forces that are specifically trained for search and rescue operations, shelter management, medical and first aid, sanitation and drinking water provisions, damage assessment and relief and coordination. The purpose of the training is to provide basic skills to the task force, enabling it to respond to the community's immediate needs in the aftermath of a major disaster, when emergency services of government, NGOs and other groups are not immediately available. One noteworthy feature of the training process is the participation of women in different capacities which also ensures the mainstreaming of the gender concerns of women in the disaster relief and recovery phase. The training also involves the creation of a Community Contingency Fund which is meant for the immediate relief of the community. The capacity building is sought to be augmented by improving and encouraging sustainable agricultural practices that will ensure better livelihood and disaster mitigation measures.

5. _Follow up & support visit on community actions_

In order to ensure that the CBDP is strengthened, the core and regional staffs along with the community animators and the community, monitors and reviews the

CBDP activities; the problems and prospects in its implementation; and what can be done to improve and sustain the CBDP practices. As an outcome of the internal self-evaluation and external evaluation the focus of the CBDP in this phase is on increasing individual and family preparedness, increasing internalization of community preparedness, mapping and focusing on landslide prone areas, upscaling the process in the areas that have already been covered, increasing the transfer of skills and knowledge of the task forces in the larger community and enhancing linkages, among others. Besides, the best practices identified in the CBDP are documented and developed in the form of information, education and communication materials which are disseminated through Village Resource Centers in the form of booklets, pictures, posters, banners and other sources of communication.

Conclusion

The prevailing disaster management system suggests that the Darjeeling municipality is still to develop a sound disaster mitigation and response system. Despite the fact that a number of disaster mitigation and preparedness measures exists – building bye-laws, disaster management plans, capacity building – these has not bettered the prospects of Darjeeling municipal area in terms of sound disaster management system. The land-use pattern marked by heavy construction, rapid urbanisation, population growth and deforestation, among others has counteracted the disaster preparedness measures. These factors have not only put pressure on the ecologically fragile environment but have also resulted in water scarcity, inadequate drainage and sanitation system, along with massive infrastructural shortages. In fact, 'development' in Darjeeling has evidently undermined the disaster resilience and capability of the community, while the landslides continue to render people more vulnerable. This is also indicative of the fact that the government has failed to ensure the 'safety' of the communities; the integration of disaster management in development and planning to promote sustainable development is manifestly absent in Darjeeling municipal area. The incapacity of the government to build a robust disaster management system has only enlarged the risks and vulnerability of the people to landslides.

There is also a manifest linkage between governance and disaster management. In the context of Darjeeling municipal area, the lack of participation in the disaster management system is a two way process: the apathy of the government to promote disaster management as a critical governance issue has resulted in indifferent public response to disaster management programmes as a result of which the government, including Darjeeling municipality, lacks the institutional capacity to build requisite disaster management mechanisms. However, the communities through organisations like *samaj* have responded to disasters, besides adopting disaster mitigation measures like capacity building and afforestations. The presence of *samaj*, as the grassroots level organisation, in the social life has made it an integral part of disaster management system in Darjeeling municipal area.

However, the lack of resources to build and enhance disaster preparedness has inhibited the capacity of *samaj* to address the concerns of disaster management. Ironically, no support is forthcoming for *samaj* from the government. The lack of participation, however, is not manifested in the absence or lack of participation in the rescue, relief and rehabilitation process following the cyclone 'Aila'. A plethora of organisations – governmental, non-governmental organisations, *samaj* and other community based organisations – formed a part of the response team to rescue the affected people, provide relief and also rehabilitate them. These organisations, however, lack the coordination to synchronise and channel their resources which inhibits the effectiveness of rescue operations. Despite the fact that government is primarily responsible for the rehabilitation of the affected people, the effort of the government in this regard is basically a short- term one, with no plan to properly rehabilitate the affected people. As a result, the people in certain wards/areas have increasingly turned towards the *samaj* which has, indeed, taken the task of rebuilding lives by ensuring that the affected people are settled in safe habitation areas.

In view of the above, the Community Based Disaster Preparedness (CBDP) project of Anugyalaya can prove to be a watershed event in the disaster management scenario in Darjeeling. The fact that CBDP project is aimed at building community capacity and resilience to disasters (landslides) by promoting sustainable livelihoods suggests that the community may become self-reliant in terms of disaster preparedness, without much support from the government. The involvement of the

community in drawing up, planning and implementing disaster preparedness measures brings the people to the centre stage of disaster management and also instils a sense of ownership, encouraging further participation. In this sense, CBDP can act as a model to fill up the deficit of participation in Darjeeling municipal area.

CHAPTER V

CONCLUSION

The basic purpose of this study was to examine and analyse the disaster management system in Darjeeling municipality area. Within this context, the objectives of the study were the following: to describe, examine and assess the current disaster management system and practices in the Darjeeling municipal area; to identify the factors that influence disaster management in the Darjeeling municipal area; and, to examine the elements and prospects of participatory governance in disaster management.

The study was based on the framework of Critical Social Science paradigm (CSS) and sought to provide a critique of the prevailing disaster management system in Darjeeling municipal area. As an approach, CSS goes beyond the conventional-scientific approach of social investigation where only the *superficial* or *objective reality* of the social phenomenon are studied. CSS sheds light on those aspects of social phenomenon which are not discernible through the scientific-technical approach and thereby helps to comprehend the problem in a multi dimensional manner. As the 'unrepresented' and 'dominated' social groups form the focus of the study under CSS, it possess a radical ability to redesign the human society by providing an alternative perspective of the social reality (based on *reality*) vis-à-vis the dominant scientific paradigm. Further, CSS also guides the society to emancipation by empowering the communities with the knowledge to change their existence.

The value of CSS in this study is that it helped in determining the root causes of the vulnerability in Darjeeling Hills which is often overlooked by the scientific disciplines such as geography and engineering sciences. As such, the CSS enabled me to build and develop a more holistic view on disaster, grounding it in the human society. Hence, this study provides an alternative and sociologically grounded perspective on disasters (landslides) in Darjeeling Hills. Further, how the vulnerabilities are constructed in the broader social and political structures and gets

manifested in the daily lives of the communities has been the contribution of CSS in this study.

The Darjeeling municipality is a hazard-prone area, being situated in the high seismic zone of tectonically unstable mountain region of the Eastern Himalayas. The human interaction with this fragile environment has, over time, turned the area into a recurrent disaster site. Land use pattern, growth of population, urbanisation, among other factors, have contributed to its vulnerability to landslides. Given further that the social context of this vulnerability is a deeply entrenched unequal distribution of power – social, political and economic – the communities in Darjeeling are constantly at risk and crises that define and mark their social life. The analysis of the historical processes (Chapter 4) that shaped the course of Darjeeling – under the administration of the British Empire, the Government of West Bengal in independent India and Darjeeling Gorkha Hill Council – suggest the fact that Darjeeling has remained deprived of access to resources, governance structures and power, over the years. These deprivations have not only inhibited the development process, rather it has persistently placed the communities in a vulnerable position vis-à-vis landslides. Of course, one may plausibly argue that landslides in Darjeeling Hills are basically caused by the geological factors – high rainfall, high seismicity and unstable rugged mountain terrains. However, these are only the triggering agents; the human constructions of disasters in Darjeeling Hills are embedded in the deep-rooted unequal social and political structures. To overlook these structures would only bring in technocratic-scientific solutions that are detached from the (social and political) context.

Despite the fact that much of what Darjeeling has achieved – in terms of tea, which continue to be the backbone of its economy, along with tourism – is basically a British creation, the British were primarily *colonisers* who were interested in extracting the resources of Darjeeling – tea, timber and cinchona – that resulted in the exploitation of the people. The British colonial rule, as such, was responsible for a systematic impoverishment of the people in Darjeeling. Further, even as the British built administrative structures for the governance of Darjeeling, they failed to develop any democratic institutions that would address the needs and aspirations of the people. The people enjoyed limited franchise and rights and basically remained colonial

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subject under the British. The continuous plea by NEBULA – the acronym used to symbolise Nepali, Bhutia and Lepcha unity – for a greater share of the Darjeeling people in the governance and administration was either denied or half heartedly met. As a result, the people remained *marginalised* not only in terms of their rights and other privileges but also equally in the matter of access to resources and development. It is during this phase that the vulnerability in its different manifestations – social, political and economic, originated, placing Darjeeling Hills in a deep-unending process of impoverishment and dependency.

The transfer of administration of Darjeeling to the state of West Bengal only served to *marginalise* Darjeeling further. Economically, Darjeeling was deprived of development and became an 'internal colony' of the Bengal administration which extracted enormous resource again in the form of tea and timber and but re-invested very little. Further, the domination of the Gorkha minority by the majority Bengalis, along with growing violence against the former, has created a deep fear and a sense of alienation. Labelling the Gorkhas as 'foreigners', a tendency still prevalent in mainstream Indian society, has made them more vulnerable and defenceless to develop social and political structures that would initiate the process of development in a meaningful manner. Under DGHC and Ghising, Darjeeling suffered a *'crisis of democracy'* which reinforced the underdevelopment of the area.

Therefore, underdevelopment and poverty in the context of a *marginalised* society constitute the basic causes of vulnerability in Darjeeling. Since British days, Darjeeling was marked by underdevelopment and poverty which not only put people at risk but also deprived them of the resilience and capability to adapt to any hazards, including landslides. Ironically, the various phases of political development were not accompanied by economic development. On the contrary, the development of Darjeeling was seriously jeopardised by each stage of political development. As a result, Darjeeling stand exposed to risk and crises without the capability to either mitigate or respond to hazards.

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Key Findings: Summary and Brief Discussion

Institutional framework

The local authorities, including the municipalities, function under the overall guidance of the District Magistrates or the State Relief Commissioner. Hence, Darjeeling Municipality does not have a single department/organisation that is solely responsible for dealing with disasters. The District Magistrate's Office (DMO) and Darjeeling Municipality work in collaboration and co-ordinate various activities relating to disaster management planning and implementation in the Darjeeling municipal area. There exists, however, a Darjeeling Municipality Disaster Management Committee that acts as the nodal agency responsible for strengthening the organisational structures of disaster management and reorienting the existing organisational and administrative structures. Besides, a ward-wise disaster management team (DMT) comprising of ten members headed by each ward councillor is constituted to supervise disaster preparedness and capacity building in the wards.

In terms of institutions, Darjeeling municipal area seems to possess robust disaster management system. In particular, the coordination between DMO and Darjeeling municipality ensures apposite allocation and channel of resources towards disaster preparedness. As DMO is mandated to supervise the activities of local authorities, including the municipalities, it can stimulate the efforts of municipality by providing access to those resources, which the municipality may not enjoy. For instance, in the matter of training, the Civil Defence of DMO can help the municipality to form well-trained and well-equipped cell of volunteers. However, this necessitates a regular communication between the DMO and Darjeeling municipality which is manifestly absent.

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The major risk reduction measures (discussed in Chapter 4) adopted in the Darjeeling municipal are Building bye-laws, Disaster Management Plan, Draft Development Plan and Capacity Building. In the context of the geologically unstable, rapidly urbanising and densely inhabited area of Darjeeling municipality, building bye-laws, as provided in West Bengal Municipal Building Rules (1996), can ensure the construction of disaster resistant houses at designated locations that are safe and can minimise the damages in the event of disasters. A Disaster Management Plan has also been formulated that aims at promoting a "culture of preparedness" through proactive disaster management measures of "planning, preparedness and prevention". The Plan, based on a multi-hazard approach, is aimed at creating "disaster resilient Darjeeling" with total risk reduction as the main monitoring parameter in all developmental investments and initiatives to ensure sustainable development.

The Draft Development Plan (DDP) is another important mechanism for integrating disaster management into planning and development process. The DDP addresses issues concerning basic infrastructure services, land use, environment, health, primary education, organizational capacity and requirements, and, capital investments that can collectively ensure reduction of risks and vulnerability in a holistic manner. The capacity building of the community is the collaborative effort of the Darjeeling municipality, Civil Defence Department, various non-governmental organisations, *samaj*, and other groups that is aimed at enhancing and augmenting the community capacity for better disaster preparedness. The capacity building measures include sensitising the community about the disaster, training for rescue and relief and fostering community awareness through seminars and workshops. These measures suggest that the Darjeeling municipality possesses the requisite regulatory mechanisms for risk reduction. However, Darjeeling municipal area continues to suffer from the landslides. The important factors identified (Chapter 4) which influence and challenge the risk reduction measures are: land use pattern, rapid population growth, urbanisation, environment management and governance.

The study found that the land use pattern has altered significantly with only 4.17% constituting vacant land; the other urban land use, inter alia, involved residential, industrial, commercial and transportation. The residential areas are marked by poor quality high-rise structures with no control in respect of building heights and unhygienic living conditions; most of these settlements have occurred along the roads and on the steeper slope, triggering frequent landslides. Such a change in respect of land use is related to a high density of population. The growth of population has, on the one hand, increased the exposure and vulnerability with people settling in hazard prone areas and, on the other, has created extensive infrastructural and environmental problems. Further, it was found that Darjeeling is experiencing a high rate of urbanisation which puts tremendous pressure on physical infrastructure and environment. These factors have also contributed to a discrepancy in the land use pattern vis-à-vis the Urban Development Plan Formulation and Implementation guidelines with residential land use (66.83 %) far exceeding the standard recommended (45-50 %). Furthermore, the growth of residential and commercial land use has also put tremendous pressure on forested and other restricted areas which is on the rise.

These factors have not only aggravated the occurrence of landslides in Darjeeling municipal area but have also resulted in water-crisis and infrastructural shortages that seems to have worsened over the years. In fact, *development* in the context of Darjeeling municipal area has pushed the people further towards crises and disasters. What is invariably missing is the concept of planned development or what McEntire describes as '*invulnerable development*': "the development pursued in such a manner as to address vulnerabilities" (McEntire et al., 2002: 272). The absence of planned development has not only undermined the capacity and resilience of the community but has also exasperated the capacity of the fragile natural environment. Furthermore, this also suggests that one of the manifest reasons for mounting loss and damages in the event of landslides is that the municipality lacks the institutional capacity and political will to effectively address risk reduction issues. The non-implementation of building-bye laws and other provisions to ensure the safety of Darjeeling point to the fact that the disaster management is conspicuous by its absence from the policy priorities of the municipality.

This has, in turn, affected the level of participation: the people are either unaware about the need and significance of disaster preparedness, or do not show much interest in programmes on disaster management. As a result, only a microscopic group tends to participate in these programmes; lack of participation becomes a vexatious problem that inhibits the disaster preparedness of the area. Further, the top-down approach to disaster management has impeded the process of participation. What further compounds the problem is that the ward councillors entrusted with the responsibility of forming ward-wise disaster management team (DMT) do not care to form the team; the result is that in most wards DMT is non-existent. Besides, the lack of funds, to procure necessary disaster-combating equipment and other provisions like first-aid, has rendered DMT dysfunctional in the wards where it exists. In fact, it is only fair to say that what really restrains the capability of the Darjeeling municipality in relation to disaster management is the *fund*; as noted in Chapter 4, disaster management is a capital intensive activity and the sustainability of any programme, both structural (like building disaster resilient constructions) and non-structural (example, afforestation) require enormous capital. However, the manifest absence of adequate capital has severely limited the risk reduction measures.

The non-governmental organisations, *samaj*, community based organisations and others form an integral part of the disaster management system. The joint effort of these organisations, including the government in capacity building measures suggests that collaboration among them do exists. However, the continued collaboration is manifestly absent, largely because the capacity building programmes are often irregularly held (once a year) but also because it is marked by limited participation. Hence, there is a strong need to strengthen the existing linkages among these organisations by ensuring that the non-governmental organisations, *samaj*, community based organisations are entrusted with definite responsibility; holding regular capacity building programmes (at least three times a year); revising and renewing the organisational structure of these organisations to keep pace with the emerging issues on crises and disasters. The *samaj*, as a participatory-grassroot level organisation, has played a catalytic role in promoting disaster preparedness by sensitising people about disaster preparedness, training the local people in disaster rescue activities and also acting as one of the major and most effective relief providers. Therefore, this role of the *samaj* must be enhanced by assisting the *samaj* through financial incentives,

modern technology and knowledge on disaster management and encouraging its participation in formulating disaster management plans.

The study also examined the disaster rescue, relief and rehabilitation in the backdrop of Aila (2009). The main findings in relation to search and rescue activities (SAR) were the following: 1) the neighbours, *samaj*, National Disaster Response Force (NDRF), Civil Defence and Fire Brigade, non-governmental organisations, National Service Scheme and Sai Samity are involved in various SAR activities, with *samaj* emerging as one of the important rescue groups. The problem identified with governmental agencies, including NDRF, was basically one of delayed response, despite the fact that critical and major SAR was carried on by it. 2) due to absence of coordination among these groups, the organisations and volunteers could not be allotted appropriate roles, thereby reducing the pace of SAR, while the lack or over-concentration of resources in specified tasks or areas was also observed. 3) lack of coordination system at the municipal level resulted in unequal distribution of resource, including trained man-power aggravating the problems in a few areas. Even as the response activities are marked by the participation of varied organisations, there is a need to build a robust disaster response mechanism with a proper coordination system. In view of the manifest lack of coordination among these organisations, much of the rescue and relief related activities are greatly restricted. The challenges of synchronising the actions of various groups constituted one of the major problems in the relief phase of Aila; to remedy this problem the help and assistance of the disaster management professionals should be sought and utilised.

The relief and rehabilitation work included setting up of shelter camps, providing provisions such as rice, wheat, biscuits, blankets, tarpaulins and others. However, 'relief' was marked by the absence of any counselling to the victims both on the part of the government and NGOs. Further, the shelter camps were overcrowded resulting in increased distress and trauma for the victims and injured; the women were invariably exposed to the bitter side of camp life indicating the manifestation of gendered division of labour that entrenched their constraints in shelter camps. The post-Aila rehabilitation effort included monetary compensation and a self-employment scheme for differently-abled persons. However, the victims were found to be dissatisfied with these rehabilitation grants. The rehabilitation effort

of the government suggests the lack of a long term plan; in fact, there is no plan to ensure that the livelihood of the affected community is re-established. In such a scenario, the problems of the affected community get worsened, thereby making people more vulnerable to the future risks and disasters. The *samaj,* as it is present in their daily social life, can play an important role in the rehabilitation process. The need is, therefore, to bring *samaj* at the centre-stage by providing it the resources that would ensure a speedy rehabilitation of the affected community through safe and sustainable livelihood.

In order to highlight the significance and scope of community participation in disaster management in Darjeeling, community based disaster preparedness (CBDP) project promoted by Anugyalaya, Darjeeling Diocese Social Service Society (DDSSS) was studied. The CBDP followed phased processes: 1) Linkage meetings with government and other social institutions; 2) Orientation; 3) Community participation in drawing CBDP planning and implementation strategy based on Appreciative Participatory Planning and Action (APPA); 4) Capacity Building; and, 5) Follow up & support visit on community actions. The CBDP has enhanced the capacities of the communities to cope with disaster by undertaking disaster preparedness and mitigation actions that centres on community participation. The CBDP can, of course, act as a catalyst in emancipating the people from the phenomenon of landslides by building a safe community based on sustainable livelihood.

Landslides are the part and parcel of social life in the Darjeeling Hills that not only counteract the developmental process but also disrupt the basic social functions. The inadequate institutional capacity of Darjeeling municipality, lack of participation and the ever growing population and related problems, have sharpened the intensity and magnitude of damages in the Darjeeling municipal area. Ironically, Darjeeling does not figure much on the development agenda of West Bengal; the lack of investment in generating sustainable livelihood opportunities deprive the communities of the ability to mitigate and respond to landslides in a sustainable manner. This of course highlights the fact that disasters are but human creations, the *reality* that the communities in Darjeeling have learned to live with.

Recommendations for developing sustainable disaster management system

A sound disaster management system is necessary for the sustainable development of societies. Disasters are, indeed, part and parcel of human civilization. However, experiences show that human ingenuity and skill can prevent and minimise the damages occurring out of disasters. In order to develop a robust disaster management system, the following measures should be adopted. These measures are divided into two phases: 1) Short term plans which involve the risk reduction, response and recovery phases of disaster management and, 2) Long term mitigation plans. The various activities in these phases are, however, cross-cutting in nature and hence need to be integrated as well as flexible, such that no straitjacketing approach can be used.

Risk Reduction

Effective Implementation of Building Bye-Laws and Regulations

One of the most important ways of reducing risk is the effective implementation of building bye-laws and building codes. As most of the buildings are constructed in contravention of these laws, every effort should be made to ensure that they are duly respected and complied with. This could be done by a thorough and periodic inspections of the proposed constructions, the site and the quality and materials of construction; the people should be sensitised about the importance of disaster resistant constructions and simplified safety guidelines should be made available and widely disseminated; defaulters should be given exemplary punishment so that others refrain themselves from contravening these laws and regulations.

Early Warning Systems

Alerting the community of any impending hazard can ensure preventive measures and minimise loss and damages thereupon. In this regard, the DMO and municipality should ensure that information is rapidly disseminated to the people at risk in a

manner that is understood by them. As any intermittent communication channel may prove detrimental to the flow of information, it becomes necessary to build multiple communication networks so that even if one node of information flow is broken, the information can still be widely disseminated. To facilitate this process, the community leaders and representatives, NGOs and the community at large should be proactively involved; the use of mobile phones and other modern technologies can be of great help in this regard.

Assessment of Risk-Hazard and Vulnerability Analysis

A comprehensive Risk-Hazard and Vulnerability analysis (RHV) can negate and minimise the threat and impact of any impending hazard agent. In view of the high seismicity of Darjeeling, HRV should be carried out in a meticulous manner. This involves understanding the various aspects of landslides of the area as well as assessing the vulnerability of the community to such hazards. Vulnerability analysis should take into account the different social, cultural, economic and political aspects of the life of the communities, including the vulnerability of different sections of society. As HRV analysis is a multi-disciplinary task, the inputs of different specialized organizations and experts should be actively sought and incorporated. Further, the community as the repository of traditional knowledge and skills should be consulted and encouraged to participate in all the phases of HRV analysis. This could also sensitise the communities about the landslides and their positions vis-à-vis landslides, fostering community participation. For the long term sustainability of disaster management plan, the HRV analyses should be made an integral part of this, and should moreover be periodically conducted.

Disaster Management Plan

As both the DMO and municipality already possess disaster management plans which are quite comprehensive, there is no need for a separate disaster management plan. However, every effort should be made to synchronise the plan of

actions; the municipality should regularly update the DMO about its activities in Darjeeling municipal area so that the lacunae (if any) could be addressed by DMO. Further, the NGOs, *samaj* and other players should be consulted

Capacity building

The basic aim of a capacity building programme should be to build and augment the community's resilience. The fact that communities are necessarily the first to respond to disasters makes their role most important in disaster preparedness. Further, the community also possesses the knowledge and skills of countering hazards which can be effectively used in risk reduction. The community's resilience could be achieved through:

1) *Generating Awareness about Risk*

The first step towards awareness generation should be comprehensive orientation and sensitization programmes highlighting issues and concerns in disaster management for the ward councillors, community representatives and other social workers. As most of them are in direct contact with the people, sensitising them to disaster management would create a ground for wider and more meaningful participation. The communities should be sensitised to the many aspects of disaster risk reduction; the need and urgency to embark on risk reduction and its prospects; local environment and hazards; the vulnerable areas, unsafe buildings, and designated shelter points; and, the importance of community participation in disaster mitigation and preparedness.

The goal of the sensitization programmes should be to bring about attitudinal and behavioural change in the communities with regard to disaster management so that it becomes an integral part and parcel of social life. The details relating to past accidents and disasters and the lessons learnt, should be documented and kept in the public domain; simplified handbooks, checklists and manuals should be widely distributed to the community. The role of media in sensitizing people is a powerful tool and should be effectively used. As it is beyond the scope of either the District Magistrate's Office or municipality to mainstream disaster management awareness in

education syllabi, the schools, colleges and voluntary organisations such as *Marwari Yuva Morcha* should be encouraged to participate in seminars and workshops on disaster management.

2) *Training*

As Civil Defence is responsible for imparting training and maintaining a corps of volunteers, the objective of Civil Defence should be to include at least 25 % of the population in each ward within the fold of its volunteers. As the number of persons suggested for imparting training is quite large, *samaj* should be encouraged to take up this responsibility. The Civil Defence can impart training to the youths and community representatives of each *samaj* in phases, who in turn can train other members of the *samaj*. In view of the highly specialised nature of SAR, the samaj could form disaster management teams, each of which should include within its fold various other sub-groups such as a rescue team, first-aid team and hygiene and sanitation team. A disaster management fund for each *samaj* could also be established to overcome resource deficiency, especially when the assistance of other players are not readily available. The role of the ward-councillors should also be clearly defined and he/she should act as a coordinator of the ward in such training programmes. As Ward Committees provided in the West Bengal Municipal Act (1993) are still non-existent, these should be activated immediately and entrusted with the responsibility to supervise and co-ordinate the efforts of *samaj* in the ward. Besides, the Ward Committee should include those sections of society who can positively contribute to the capacity building of the community.

Non-governmental organisations such as Anugyalaya should be encouraged to guide the training process with their expert knowledge and skills. The training programmes should include state-of-the-art measures of SAR operation; the individual members should be assigned specific roles and given the necessary skills to discharge their respective responsibilities. As most of the *samaj* lacks disaster combating equipments, such provisions should be made adequately available to *samaj*. A thorough assessment of the needs of each *samaj* should be made. Further, every effort should be made to enlist and train women as volunteers so that not only they are able to rescue themselves and their families but in the event of any shortage

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of volunteers, their service could be effectively pressed into SAR activities. Besides, the efforts of community based organisations such as *Sai Samity* and other groups should be coordinated with *samaj's* training activities.

Relief and Rehabilitation

Emergency Response Plan

In order to expedite the response mechanism to any disaster, it is necessary to have an Emergency Response Plan. The ERP should define and assign roles and responsibilities to different players so that essential services and resources may be immediately sent out without any delay. The ERP should lay down simplified procedures for decisions relating to evacuation, procurement of essentials, deployment of resources and other related activities. Further, the ERP should establish a framework to coordinate the responses of different players like *samaj*, non-governmental organisations, voluntary and other groups so that the resources available with them could be used in the best possible manner. In drawing ERP, these players should be actively consulted and their feedback should be incorporated to the greatest extent. The needs and concerns of the women, children, elderly and other vulnerable groups should be taken into account. In order to ensure that ERP does not lose its strength and sustainability, the plan should be revised on an annual basis backed by the best practices of previous response capability building efforts.

Coordination

Effective coordination is essential for rescue/relief operations and to ensure the proper receipt and provision of relief. It has often been observed, as in the case of relief following Aila, that disaster relief provisions tends to get either over-concentrated (in particular disaster torn area) or under-supplied with the effect that certain sections of the community are left with little or no resources. The major task, therefore, is to ensure that the resources are deployed in a manner that they reach all affected sections in an equitable manner. This calls for an effective coordination mechanism that should involve government as well as other players. In order to avoid a mismatch between demand and supply, a speedy but thorough assessment of the

needs of affected sections should be undertaken and communicated to all the players. Besides, effective coordination would also facilitate in mobilization of local resources and efforts. To ensure that relief materials are distributed in an unbiased and non-partisan manner, transparency should be maintained in both the procurement and distribution of relief materials; the community should be encouraged to keep a watch over these activities and wherever possible vigilance committees should be constituted.

The provision of relief primarily includes food, clothing and shelter while aspects of trauma care and counselling are either ignored or overlooked. Therefore, trauma care and counselling should receive as much priority as other items of relief. One way of doing this could be to enlist the help of trauma practitioners and set up trauma counselling centres with the help of both government and private hospitals.

Recovery

The recovery phase following landslides should aim at building a safer society that is based on sustainable livelihoods. For this purpose, a recovery strategy should be evolved in consultation with the affected people and concerned agencies and organisations. The recovery process should go beyond restoring 'normalcy' to address those issues that cause landslides. The focus, therefore, should be on addressing the vulnerabilities of the affected communities rather than mitigating the causes of the landslides per se. The recovery strategy should include all aspects of rehabilitation – social, economic and psychological – so that community resilience could be built and enhanced. The first step towards sustainable recovery should be a detailed assessment of the damage by multidisciplinary teams in a participatory manner. In this regard, the participation of the affected section should not only be encouraged but made a pre-requisite so that their concerns are taken into consideration.

The efforts of NGOs and other groups should be coordinated with government activities so that the resources are optimally used. As recovery is expectedly a long term process, the *samaj* could carry out the implementation of the rehabilitation efforts and may also act as a vigilance committee to ensure transparency and accountability; the *samaj* may also act as grievance redressal cell to look into the

complaints and grievances (if any) of the individual/community. The recovery phase also opens 'window of opportunities' to build disaster resilient community. Therefore, risk reduction aspects should be incorporated and made an integral part of the recovery plans. For instance, the new constructions could be made disaster resistant by subscribing to the standards prescribed in the building-bye laws. Another option could be to relocate the affected community from landslides prone areas to safer areas based on HRV analyses. To ensure the continuity of the disaster management cycle – mitigation, response and recovery, it is important to conduct a detailed evaluation of all aspects of disaster management. This should bring out the strengths and weaknesses of the disaster management machinery and also provide the basis for future improvements.

Long Term Mitigation Plan

The long term mitigation plan should include those areas that have a bearing on risk reduction. For this purpose, both DMO and municipality could focus on land use pattern, water and drainage system, solid waste management, environment management, infrastructures and other developmental activities. Risk reduction in development and planning should be promoted and made an integral part of the long term mitigation plan. Besides, improved livelihood practices, afforestation and relocation of habitations may be undertaken to ensure the sustainability of disaster management. These activities being capital intensive, the assistance of both the Union and State government should be sought. In order to encourage community participation, community based disaster management (CBDM) should be introduced with the help of *samaj*, NGOs, particularly Anugyalaya which has been working on CBDP, Sai samity and others. The help of experts in preparing and executing CBDM, wherever necessary, should be taken; lessons should also be drawn from the best practices in CBDM programmes.

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ANNEXURE I: HOUSE HOLD INTERVIEW SCHEDULE

1) What is your perception of disaster?
2) Are you aware that Darjeeling is a landslide prone area? What reasons do you ascribe to its fragility?
3) What is your perception about the disaster management situation in Darjeeling vis-à-vis other problems and issues like law and order, drinking water, health facilities, drainage facilities etc.
4) How were you affected by cyclone 'Aila' – financially, infrastructure, psychologically, etc.
    a) Which agencies came to your relief? In what ways did they help you?
    b) What were the basic provisions in relief package of government/NGOs/others?
    c) How speedy and effective was the disaster response and relief measures of governmental agency/NGOs/others?
    d) What benefits and aid did you receive from the government/ NGOs/others?
    e) Which agency has been more effective in delivering a sound disaster management response – civil society (*samaj*, NGOs and others) or government agency?
    f) Are you satisfied with the rehabilitation package provided by the government?
    g) How do you see the role of NGO's and community based organisations like *samaj* in the rehabilitation process?
5) What is the role of government, including local municipality in disaster management?
6) Do you think the municipality has been successful in dealing/managing disaster or crises situation? If yes, how?
7) Do you see any change in the government's response to disaster management over the years?
8) Are you involved in any disaster management plan or system? If yes, can you briefly describe it?
9) Were you ever invited by any government department to discuss or deliberate disaster management situation in Darjeeling?
10) Have you ever participated in disaster management programme/seminar of the government/NGOs/others? If yes, how effective are these programmes/seminars in sensitising and strengthening the capacity of the community in relation to disaster preparedness?
11) Do you have any disaster management team in your ward/locality? What roles does it play?
12) Are you satisfied with the current process of decision making relating to disaster management? What changes do you suggest to make the current decision making process better?
13) What do you think about the process that is being followed by the Govt offices? Top-down bottoms up etc.
14) What do you think ails the present disaster management system in Darjeeling municipality area?
15) What are the ways through which disaster management can be made more responsive to the need of the people?

16) How can government and informal sector be involved? Which individuals/ groups/ organizations can be the key in achieving government/informal sector involvement/support?

17) What can be done to initiate better disaster management system? What role do you see for yourself to do the same? What role do you see for other stakeholders to complement your effort?

ANNEXURE II: INSTITUTION SURVEY LIST

1) What is your opinion about the prevailing disaster management scenario in Darjeeling?

2) What are the factors that contribute to the fragility of Darjeeling Hills in terms of landslides?

3) What is the existing system of disaster management in Darjeeling municipal area?

4) What is the role of local municipality in disaster management?
   a) What are the existing mechanisms of risk reduction?
   b) How are the development plans and the disaster management plans being integrated?
   c) How often are the disaster management plans updated? Is there any periodical mock rehearsal?
   d) How are the NGOs and the community made partners for disaster management in the formal set up?

5) What is the role of District Magistrate's Office in disaster management?

6) What is the role of NGOs/community based organisations in disaster management?

7) Do you see any change in the government's response to disaster management over the years?

8) Do you think the local municipality has been successful in managing disaster or crises situations?

9) What do you think ails the prevailing disaster management system?

10) How can involving the community in disaster management planning and implementation help in mitigating disaster?

11) In what way should the community be involved in preparing the disaster management plan?

12) Are existing policies adequate to promote sustainable disaster management system? What do you suggest to put in place a robust disaster management system?

13) What are the ways through which disaster management can be made more responsive to the need of the people?

14) What can be done to initiate better disaster management system?

15) What, in your opinion can be done to bring closer the knowledge institutions, disaster management agencies and community-based organizations?

16) What role can the people/ local disaster management experts/community/non-governmental organization/development agencies/government play in promoting sustainable disaster management?

17) How can private sector be involved in building sustainable disaster management system? What possible roles can they play in this regard?

18) How can government and informal sector be involved in disaster management? Which individuals/ groups/organizations can be the key in achieving government/informal sector involvement/support?

19) How do we promote exchange between formal and informal disaster management sectors for effective and sustainable disaster management system?

20) Who are the main players who can contribute to the process of sustainable disaster management? How to bring them to a common platform? What are possible road maps in this regard?

21) What should be the areas of priorities in terms of disaster management?