HUMAN SECURITY AND CLIMATE CHANGE INDUCED DISASTER MANAGEMENT: BANGLADESH PERSPECTIVE

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Dedicated to My Daughter

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CERTIFICATE

This thesis titled *"Human Security and Climate Change Induced Disaster Management: Bangladesh Perspective"* is submitted to the Department of Peace and Conflict Studies under the Faculty of Social Science of University of Dhaka in partial fulfillment of the requirements for the Degree of Doctor of Philosophy (Ph.D).

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Supervisors' Note

Certified that this thesis titled *"Human Security and Climate Change Induced Disaster Management: Bangladesh Perspective"*, submitted by Khan Ferdousour Rahman of the Department of Peace and Conflict Studies of the University of Dhaka, has been completed under our direct supervision.

We have gone through the thesis carefully, in detail and have found that the thesis fulfills every requirement of an Ph.D degree. Therefore, we have approved the thesis for submission to the 'Committee of Higher Studies' of the Department of Peace and Conflict Studies of the University of Dhaka for taking necessary measure to organize his examination.

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ABSTRACT

'Human Security', a new buzz-word, is being heard increasingly these days, which is generally focused on people and not on states. On natural perspective, it encompasses a wide range of concerns and issues. The growing frequency of climate change induced disaster is a big concern of human security in the globe now. Bangladesh has a very unique approach to human security, as the country is a disaster prone; so disaster management here has a direct connotation to human security. The geophysical position along with high density of population and climate change makes Bangladesh prone to different types of disasters. So the importance of human security in disaster management cannot be over emphasized. Though the integration of human security with climate change induced disaster management is a must, but effective interaction among these two elements is yet to be observed so far. This proposal is aimed to critically examine the climate change induced disaster management challenges in Bangladesh and assesses the implications of those challenges for that country's economic, political and security environments. The broad objective of this study is to examine the relevance and significance of a human security framework in preparing for, reacting to, and understanding the impacts of climate change induced disasters involving the government institutions, NGOs and other agencies for response and recovery. However, one of the specific objectives will be to analyze the National Disaster Management Framework of the country with respect to human security aspects. This study used both qualitative and quantitative techniques with relying mainly on the critical analysis of both primary and secondary data. In addition, a small questionnaire survey using a semi-structured questionnaire among the people of disaster-prone area has been conducted based on purposive sampling. Multiple methodologies were used for obtaining qualitative data.

The primary data were gathered from the targeted respondents and for doing so different tools of participatory research were used in order to collect both qualitative and quantitative data. Information from secondary sources were mostly books, websites, grey literature, journal articles related to disaster management and media. It is recommended that examination of available secondary data was complete before collection of primary data. Therefore, the research was planned to proceed to primary data only when secondary data sources have been exhausted or yield marginal returns. The data collected from the population were analyzed both in the qualitative and quantitative manner. Analysis began immediately on collection of data and continued throughout the research process. The collected data were processed in a scientific manner, then analyzed and summarized according to content and context of the study. Various statistical tools were used to analyze the quantitative data and for the analysis of the qualitative data this research mostly relied on discourse analysis.

This thesis is the outcome of the research work, which I undertook as a part of Ph.D program at the Department of Peace and Conflict Studies of the University of Dhaka. The issues of human security for climate change induced disasters in Bangladesh have not yet been explored by academic research. I undertook this research with the objective of generating some basic data about human security perspective that I hoped would facilitate an informed debate in climate change induced disaster in Bangladesh. An attempt for this has been made to contain originality in terms of methodology, analysis

and theoretical inference of the study. 'Human Security', a new buzz-word, is being heard increasingly these days. It is generally focused on people and not on states. On natural perspective, it encompasses a wide range of concerns and issues. The growing frequency of any disaster, natural or manmade, is a big concern of human security in the globe now. Bangladesh has a very unique approach to human security, as it is a disaster prone country; so disaster management here has a direct connotation to human security. The geophysical position along with high density of population and climate change makes Bangladesh prone to different types of disasters. So, the importance of human security in disaster management cannot be over emphasized. Though the integration of human security with disaster management is a must, but effective interaction among these two elements is yet to be observed so far. Efforts are mainly concentrated on response and recovery measures of environmental disasters but least concentrated on long term adaptation strategy. Despite the complexity of risk assessment and human security, they must be assessed to improve knowledge about the risk and its potential human consequences in order to help society to better understand the risks which it faces. This thesis aimed to improve understanding of climate change induced disaster causative factors, risk profile of the affected community and human security issues in Bangladesh. In doing so a comprehensive analysis of risk profile of the affected community and human insecurity dimension related to it has been made through more of a qualitative study. The result indicates that people living especially in the coastal area of Bangladesh are highly exposed to climate change induced disaster. All physical, economic, social and vulnerability indicators chosen in the framework of this study show that they are highly vulnerable. The combination of any hazard event, the exposure and the vulnerabilities to disaster yield in high disaster risks such as deaths, injuries, diseases, building collapses, disruption of socioeconomic activities, environmental pollution, biodiversity losses etc. As such more theorization is required through generating critical scholarship on the issue. The study critically examined the disaster management challenges in Bangladesh and assesses the implications of those challenges for that country's economic, political and security environments. Based on these issues a conclusion has been drawn as disasters generate human insecurity.

Acronyms and Abbreviations

CBD	-	Convention on Biological Diversity
GHG	-	Green House Gases
GO	-	Government Organization
IPCC	-	Intergovernmental Panel on Climate Change
INGO	-	International Non-Government Organization
JAICA	-	Japan International Cooperative Agency
KII	-	Key Informant Interview
NGO	-	Non-Government Organization
SLR	-	Sea Level Rise
UNCCD	-	UN Convention to Combat Desertification
UNCED	-	UN Conference on Environment and Development
UNDP	-	United Nations Development Programme
UNFCCC	-	UN Framework Convention on Climate Change
UNISDR	-	UN Office of the for Disaster Risk Reduction
WCED	-	World Commission on Environment and Development

Central Concepts Used in the Research

1. Hazard

In natural phenomenon context, hazard is defined as "the probability of occurrence, within a specific period of time in a given area, of a potentially damaging natural phenomenon" (UNDRO, 1980:5). Likewise, Cardona (2003) views hazard as "the probability of occurrence of an event of certain intensity, in a specific site and during a determined period of exposure time." The concept has evolved and hazard is seen as partly socially induced. In this regard, Burton (1993 as quoted in Blanchard, 2005) postulates that natural and social systems interacts to produce a hazard and "hazards always result from interaction of physical and human systems." Kates (1996, as quoted in Rashed and Weeks, 2002) views hazards as a "dynamic phenomenon that involves people not only as victims but also as contributors and modifiers." In the same thought, Mitchell and Cutter (1997) postulate that "people contribute to exacerbate and modify hazards. Thus, hazards can vary by culture, gender, race, socioeconomic status and political structure as well."

In sum, it follows that hazard is either natural or anthropogenic (human induced). In this respect, the UNISDR (2009) defines hazard as "a dangerous phenomenon, substance, human activity or condition that may cause loss of life, injury or other health impacts, property damage, loss of livelihood and services, social and economic disruption, or environmental damage," each hazard being characterized by its location, intensity, frequency and probability. In the scope of this research project, the hazard understanding refers to UNISDR (2009) definition which is well known and covers both natural and social constructed hazard.

2. Disaster

Any hazard becomes disaster if it induces a serious disruption of the functioning of a community or a society causing widespread human, material, economic or environmental losses which exceed the ability of the affected community or society to cope using its own resources.

Hazard is an inescapable part of life which is best viewed as a naturally occurring or human-induced process or event with a potential to create a loss. Each day we face some degree of personal risk to hazards, whether it is to road accident, to our possessions from theft or to any pollution. It is impossible to live in a total risk free environment. But when "an event, concentrated in time and space, in which a community experiences severe danger and disruption of its essential functions, and losses which often exceed the ability of the community to cope without external assistance" (Smith, 2001)...turns to a disaster.

Britton (1986) argued that "disasters can be more easily recognized than they can be defined". Disaster is a severe, relatively sudden and unexpected disruption of normal structural arrangements within a social system over which the system has no firm control (Barton, 1974). A disaster may also be viewed as "a significant departure from normal experience for a particular time and place" (Turner, 1978).

Disaster is also viewed as a mental construct imposed upon experience. This is because to understand disaster knowing the number of deaths, the value of property destroyed or the decrease in per capita income is not sufficient. The symbolic component requires knowledge of the sense of vulnerability, the adequacy of available explanation and the society's imagery of death and destruction (Barkun, 1977).

3.   Exposure

UNDP (2004) defines exposure as "elements at risk, an inventory of those people or artifacts that are exposed to a hazard," while European Environment Agency (2005) sees it as "the process of estimating or measuring the intensity, frequency, and duration of exposure to an agent. Ideally, it describes the sources, pathways, routes, magnitude, duration, and patterns of exposure; the characteristics of the population exposed, and the uncertainties in the assessment."

IPCC (2012) conceptualizes exposure as "the presence of human and ecosystem tangible assets, activities and services in areas affected by the hazard;" this conceptualization is in line with UNISDR (2009) definition in which exposure refers

to people, property, systems or other elements present in hazard zones that are thereby subject to potential losses." Most studies see eye in eye that exposure is the "fact to be exposed to a potential loss due to the hazard." This study follows the same idea and expresses exposure as elements at risk (people and assets) that can be damaged by the disaster event.

3.   Vulnerability

UNDRO (1980) defines vulnerability as "the degree of loss to a given element at risk or set of such elements resulting from the occurrence of a natural phenomenon of given magnitude and expressed on a scale from '0' (no damage) to '1' (total loss). Timmerman (1981, as cited in UNEP, 2002) refers vulnerability as "the degree to which a system reacts adversely to the occurrence of a hazardous event. The degree and quality of the adverse reaction are conditioned by the resilience of the system (a measure of its capacity to absorb and recover from the event).: Correira et al (1997) point out that "vulnerability expresses the severity of failure in terms of its consequences. The concern is not how long the failure lasts but how costly it is."

Moser (1996, as cited in UNEP, 2002) defines vulnerability as "the insecurity of the well-being of individuals, households, or communities in the face of a changing environment." IPCC (2012) identifies vulnerability as the propensity or predisposition to be adversely affected while UNISDR (2009) refers as "the characteristics of a community, system or asset that make it susceptible to the damaging effects of a hazard." As regard to the above definition, the term 'vulnerability' has no universal definition. This is due to the fact that scientists from different origins, educational backgrounds and different disciplines have developed their own definitions of what vulnerability means.

In this study, vulnerability is seen as physical, social, economic, environmental characteristics and conditions that make people or communities susceptible to the damaging effects of disaster. This definition goes hand in hand with the one proposed by UNISDR (2009) and fits best with human security assessment which is the main objective of the present research project.

4.   Disaster Risk

UNISDR (2009) views disaster risk as "the potential disaster losses, in lives, health status, livelihoods, assets and services, which could occur to a particular community or a society over some specified future time period." "Risk results from the future interplay of a hazard and the various components defining vulnerability" (Taubenbock et al, 2011). Because risks have different component, the variety of methods for assessing each component of risk, reflected on the risk assessment approach. A climate change risk assessment must consider at least three areas: the future pathway of global emissions; the direct risks arising from the climate's response to those emissions; and the risks arising from the interaction of climate change with complex human systems. Each of these areas contains large uncertainties (King et al., 2015).

Figure 1: Disaster Risk

Disaster (D)
A serious disruption of the functioning of a community or a society causing widespread human, material, economic or environmental losses which exceed the ability of the affected community or society to cope using its own resources

Hazard (H)
A potentially damaging physical event, phenomenon or human activity, which may cause the loss of life or injury, property damage, social and economic disruption or environmental degradation.

Vulnerability (V)
A set of conditions and processes resulting from physical, social, economical and environmental factors, which increase the susceptibility of a community to the impact of hazards.

Capacity (Mc)
Combination of all strengths and resources available within a community, society or organisation that can reduce the level of risk, or the effects of a disaster

$$D = \frac{H \times V}{M_c}$$

5.   Disaster Management

Disasters are not new in human civilization. They have adversely affected humans since the dawn of human existence. In response, individuals and societies have made many attempts to decrease their exposure to the consequences of these disasters, developing measures to address initial impact, as well as post-disaster response and recovery. Regardless of the approach adopted, all of these efforts have the same goal: Disaster Management.

Figure 2: Disaster Management
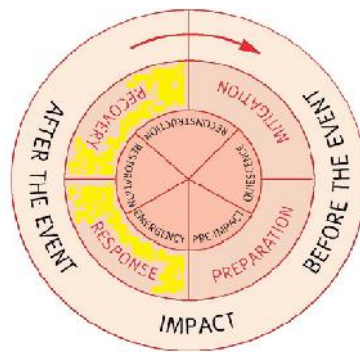
Source: Alexander, 2002

6.   The Limitations of Disaster Management

Due to resources being scarce and time limited, it is impossible to protect effectively against every threat, so targeting efforts toward what is more likely seems quite practical. Yet the problem does not always lie with the known risks, sometimes it lies with the unknown risks. That makes it difficult to accurately predict events in the medium and long term future, making the current disaster management approach problematic.

This problem is even further compounded by unknown which are events that may be impossible to predict or anticipate, yet never the less can have profound effects on society at large. Contemporary theorist, Nassim Nicholas Taleb currently makes those types of events the focus of his work, dubbing them "black swans." According to his theory, which draws upon Chaos theory and the work of mathematician Benoît Mandelbrot, the sheer amount of variables at work within complex and dynamic systems such as an entire society, make it virtually impossible to predict certain events that can have a revolutionary impact on the system as whole (Taleb, 2010).

7.   Security in the Context of Disaster
- Environmental degradation that makes communities more vulnerable to natural disasters is central to the concept of human security.
- Human security is about more than freedom from violence or the threat of violence. It refers to, among other things, peoples' health, economic opportunities, political rights, community identity, and resilience to shocks such as natural hazards.

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8.   Security-Vulnerability Linkages

Risk determines the extent to which a human security is potentially exposed to a natural hazard and vulnerability. For instance, between 1980 and 2000, Bangladesh and the United States were respectively affected by a tropical cyclone 3.4 times and 12.1 times every year. These resulted in respective death tools of 7,468 and 223 people on average per year in the two countries. Vulnerabilities arise as a result of political systems and unsustainable development practices tend to put people at risk.

9.   Human Security

Human security is to protect the vital core of all human lives in ways that enhance human freedom and human fulfillment. Human Security means protecting fundamental freedoms that are the essence of life. It means protecting people from critical (severe) and pervasive (widespread) threats and situations. It means using processes that build on peoples' strengths and aspirations. It means creating political, social, environmental, economic, military and cultural systems that together give people the building blocks of survival, livelihood and dignity. Human security is associated with broad three types of human vulnerabilities, like, chronic vulnerabilities arising from basic needs including food, shelter and health; contextual vulnerabilities arising from the socio-economic and political process and context of human life and vulnerabilities arising from extreme events, such as natural and human made hazards. Many of the natural disasters like flood and drought are directly related to the environmental degradation and climate change. These events affect the poor the most by affecting their lives, properties, and livelihoods.

Human Security is a fundamentally important concept. It looks at the root causes of the vulnerability of individuals and the connections with other social issues. Climate change, natural hazards and extreme weather events are not some distant future human security threat. The threat is very much existing and it's real. Indeed, in present days, more people are threatened by natural hazards and extreme weather than at any time in history. Last year, 134 million people suffered from natural disaster that cost thousands and thousands of lives, as well as $ 35 billion in damage. In fact number of people affected has roughly doubled in every ten years. Unless, efforts are taken to reduce human security vulnerability, impacts from natural disasters will not improve and safeguard of human lives and properties will not be ensured.

According to UNDP (1994), 'Human Security' means first, safety from such chronic threats as hunger, disease and repression; and second, protection from sudden and harmful disruptions in the patterns of daily life – whether in homes, in jobs, or in communities. It involves seven dimensions such as economic, security, food security, health security, environmental security, personal security, community security, and political security.

Principles of Human Security

- Human rights—Aid with Dignity;
- Economic—Direct and Indirect costs;
- Food—Safe food and water;
- Health—Stop epidemics and care;
- Environmental—reduce pressure on;
- Personal—prepare;
- Political—Commitment to people; and
- Community—People centric.

Human security shifts the traditional concept of security from interstate conflict and the absence of war to the security of the individual. In doing so, it recognizes that "the basic rights of people, not merely the absence of military conflict between states, are fundamental to world stability." Despite that clarity, concepts of human security vary greatly. Some authors advocate for a broad definition, including threats to livelihoods and food security, health, psychosocial well-being, enjoyment of civil and political rights and freedom from oppression, and personal safety, in addition to absence of conflict. While inclusive, this broad definition can be unwieldy and difficult to operationalize. King and Murray emphasize freedom from violence, advocating for a narrower definition that includes those factors which are "important enough for human beings to fight over or to put their lives or property at great risk," and identify five key indicators: poverty, health, education, political freedom, and democracy. However, as pointed out by Paris in 2001, narrower definitions risk excluding important threats to personal security that do not relate to these five indicators. Hastings developed a Human Security Index that attempts to move beyond UNDP's Human Development Index to include various national measures of stability and

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inequity in society (including gender, environment, health, a 'social fabric index', and measures of corruption). His approach, however, does not include a measure of violence against women, a measure he suggests is a 'women's health issue' as opposed to a human security issue. Authors have posited that a 'gender-blind' approach to human security will similarly miss important threats to individual and community security.

Multiple authors have explored the role of inequality and oppression in inter-state and intrastate violence. In general, studies have found that greater social disparities between segments of society are associated with greater levels of conflict. The role of gender inequity in conflict has also been previously explored. Melander found that states with higher rates of gender inequity, as measured by female participation in parliament and female to male higher education attainment ratio, have higher rates of intrastate conflict.

Assessing levels of human security remains challenging. Given the links described between human security indicators and a greater propensity to intra-state and interstate conflict, measurement of human security could be used both to herald potential deterioration within a conflict and to monitor progress of post-conflict state conditions. Leaning and Arie in 2001 developed a model designed for this purpose. Based on experiential knowledge and extensive qualitative review of human security as understood in African populations that have been insecure, the Leaning-Arie model argues that a population requires a 'core bundle of basic resources: material psychological and social' to ensure a minimum level of survival. "If minimum material inputs can be guaranteed and if efforts can be made to shore up basic social coping capacities, societies will be more stable and less prone to fragmentation, violence and atrocity." This model moves beyond measurement of basic material supports (food, water, shelter, income) to incorporate critical psychosocial components associated with individual security: namely, "a sense of home and safety, constructive family and social supports, and an acceptance of the past and positive grasp of the future." These three domains of home, community, and positive sense of future reflect the ways humans relate to themselves, each other, and the world: "humans are anchored and seek safety in a sense of home; they find meaning, identity,

and functional support in their relationships with family and community; and they build their lives through time, depending upon their sense of trust in the future and their sense of freedom from the past." The main strength of this model is its ability to detect threats to human security at a more granular level that may be used to predict community level violence—a key difference from other approaches that focus on aggregate national indicators. This model, however, does not explicitly incorporate gender sensitive measures.

10.   Protecting people

These are just some of the different ways that human security issues arise in the context of natural disasters. Japan has been a major proponent and supporter of the human security approach, and after 11 March 2011 it has now come to understand how these issues also appear at home. What the earthquake and tsunami illustrated was how such disasters can instantly plunge hundreds of thousands of people into situations of insecurity, and in the context of existing vulnerability, can further undermine their position.

Natural disasters have been becoming more regular, deadly and destructive, and now represent one of the most serious threats to human welfare. A central component of the human security approach is focusing on prevention, and this will be absolutely vital in protecting ourselves against future disasters.

11.   Mainstream 'Development' Discourse

Development discourse refers to the process of articulating knowledge and power through which particular concepts, theories, and practices for social change are created and reproduced. Historically, the approach to development in terms of discourse has evolved out of debates on modernization and dependency rooted in social evolutionism. Departing from the linear models of social progress, this approach to development seeks to articulate the processes and meanings of more nuanced social control and challenges. Epistemological premises are grounded in poststructuralist concepts asserting language and discourse of development as systematically organizing power through the subjectivity of social actors and their actions. Attention to development discourse emerged in the 1990s, building upon critical approaches to development communication studies.

Development discourse studies tend to view dominant models of development as a highly contested domain in which dominant groups attempt to assert control over marginalized groups of people. The development discourse has attained a new momentum during last two decades where it no more depends on the government's direct participation, and demands the government to retreat from development activities. Thus it stresses more on free market and free trade so that private capital can operate without any intervention by the government. However, the development discourse has also been facing new challenges over time.

12.   Sustainable Development

The idea of sustainable development can be traced back through the 1980 World Conservation Strategy and the 1972 Stockholm Conference on the Human Environment to origins in the early days of the international conservation movement (Adams, 1990). The contemporary field of sustainable development that transformed previous environment and development debates, however, is barely old enough to vote, having taken most prominent form only in the 1987 Brundtland Commission report *Our Common Future*. The idea of sustainable development articulated in the report was given early support by the United Nations Conference on Environment and Development in Rio de Janeiro in 1992, was nurtured over the subsequent decade by thousands of 'Local Agenda 21' activities around the world, and celebrated its coming-of-age at the 2002 World Summit on Sustainable Development in Johannesburg.

The question of 'sustainable development' arises as the development creates lot of byproducts including 'underdevelopment'. In 1983, the WCED chaired by the former Prime Minister of Norway, Gro Harlem Brundtland, was established by the UN General Assembly as an independent group with the major objectives of re-examining critical environmental and developmental issues and formulating pragmatic proposals for dealing with them. The Commission published its Report in 1987 and was adopted in General Assembly in December 1987 by consensus. Brundtland Commission Report defines sustainable development as follows:

> *"A development that can guarantee at the same level of consumption in future as it is now."*

This should be done without destroying non-renewable resources and ensuring sustainability of non-renewable resources by two ways, i.e. either if the cost of technology goes down (substitution is important) or by increasing income to afford the need in future. The twin pillars of sustainable development are that it improves the quality of life and it conserves the Earth's vitality and diversity.

Map 1: Location of Bangladesh

Map 2: Map of Bangladesh (Disaster Prone Areas)
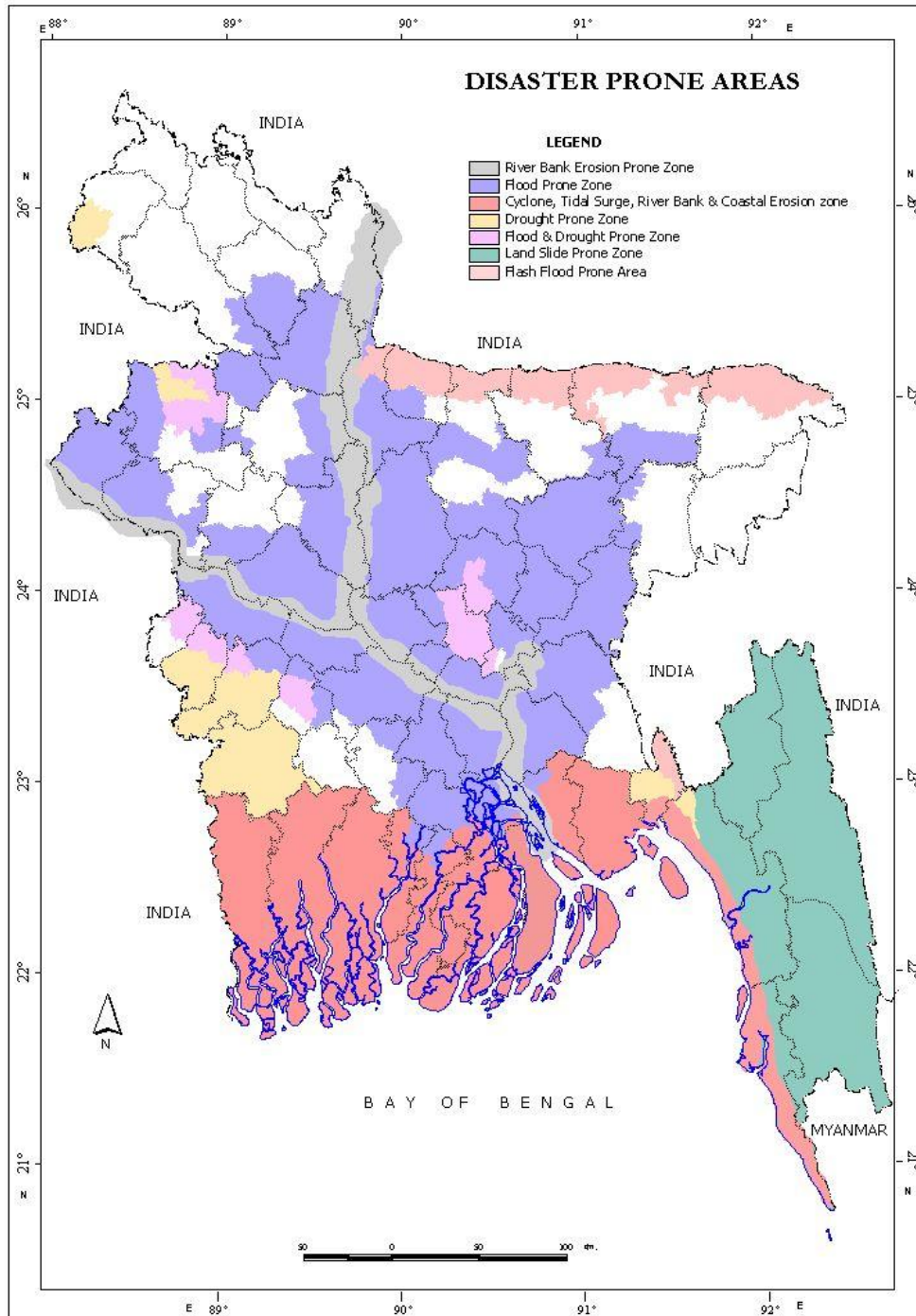
Table 1: Selected Descriptions of Human Security

Human Security in Major Reports of International Institutions	
Human Development Report United Nations Development Program 1994	The UNDP 1994 *Human Development Report* articulated a universal, preventive, "people-centred" approach to human security that focused on "freedom from fear and freedom from want." The Report defined human security as: 1) **Safety from chronic threats** such as hunger, disease and repression. 2) **Protection from sudden and hurtful disruptions** in the patterns of daily life – whether in jobs, in homes or in communities.[i]
Human Security Now 2003 Commission on Human Security	The Commission on Human Security clarified the concept of human security while retaining its people-centred focus, and it's concentration on threats from *both* poverty and violence. • The *Report* defined the objective of human security as "**to protect the vital core of all human lives in ways that enhance human freedoms and human fulfilment.**"[128] • Human security is realised by joint strategies of *protection* – crafting institutions that protect and advance human security – and *empowerment* – enabling people to act on their own behalf.
Millennium Report The United Nations Kofi A. Annan 2000	Human security in its broadest sense, embraces far more than the absence of violent conflict. It encompasses human rights, good governance, access to education and health care and ensuring that each individual has opportunities and choices to fulfil his or her own potential. Every step in this direction is also a step towards reducing poverty, achieving economic growth and preventing conflict. Freedom from want, freedom from fear and the freedom of future generations to inherit a healthy natural environment –these are the interrelated building blocks of human – and therefore national security.
Responsibility to Protect 2002 International Commission on Intervention and State Sovereignty	Human security means the security of people – their physical safety, their economic and social well-being, respect for their dignity and worth as human beings, and the protection of their human rights and fundamental freedoms.[ii]
World Development Report The World Bank 2000/2001	Today, security comprises two interrelated concepts: the state's role in protecting its borders from external threats and its role in ensuring 'human security' for its citizens under the broader umbrella of human rights – meaning that every person is entitled to be freedom of oppression, violence, hunger, poverty, and disease and to live in an clean and healthy environment.
Human Security in Nations and NGOs	
Canadian Department of Foreign Affairs	Human Security is a people-centred approach to foreign policy which recognizes that lasting stability cannot be achieved until people are protected from violent threats to their rights, safety or lives.
Global Environmental Change and Human Security Project	Human security is achieved when and where individuals and communities • Have the options necessary to end, mitigate, or adapt to threats to their human, environmental, and social rights; • Actively participate in attaining these options; and • Have the capacity and freedom to exercise these options.
Japanese Ministry of Foreign Affairs 1999	Human Security comprehensively covers all the menaces that threaten human survival, daily life and dignity… and strengthens efforts to confront these threats.
Human Security in Current Literature	
Lloyd Axworthy 1999.	Safety for people from both violent and non-violent threats.
Fen Hampson *et al. Madness in the Multitude* 2002	The concept of 'security' can be defined as the absence of threat to core human values, including the most basic human value, the physical safety of the individual." They identify core human values as physical security and the protection of basic liberties, economic needs and interests.[iii]
Jessica Mathews "Power Shift"	Human security "is creeping around the edges of official thinking, suggesting that security be viewed as emerging from the conditions of daily life – food, shelter, employment, health, public safety – rather than flowing downward from a country's foreign relations and military strength."[iv]
Rob McRae in *Human Security and the New Diplomacy* 2001.	The concept of human security is, in principle, quite broad. It takes the individual as the nexus of its concern, the life *as lived,* as the true lens through which we should view the political, economic and social environment. At its most basic level, human security means freedom from fear.
Caroline Thomas. *Global Governance, development and human security.* 2000.	Human security describes a condition of existence in which basic material needs are met and in which human dignity, including meaningful participation in the life of the community, can be met.[v]

Chapter I

INTRODUCTION

INTRODUCTION

"*Human security can no longer be understood in purely military terms. Rather, it must encompass economic development, social justice, environmental protection, democratization, disarmament, and respect for human rights and the rule of law.*"

Kofi Annan (2001)

1.1   Background

Human insecurity is an ancient phenomenon. Threats of famine, war, drought, flood, wild animals, plague, and enslavement appear in ancient writings across the world (Alkire, 2003). 'Human Security' is a fundamentally important concept, which looks at the root causes of the vulnerability of individuals and the connections with other social issues. Climate change, natural hazards and extreme weather events are not some distant future human security threat. The threat is very much in existance now and it is real. Indeed, in present days, in addition to natural hazards more people are threatened by climate change induced hazards and extreme weather than at any time in history. Last year, 134 million people suffered from natural disaster that cost thousands and thousands of lives, as well as $ 35 billion in damage. It is a fact that the number of people affected has roughly doubled every ten years. Unless, concerted efforts are taken to reduce this human security vulnerability, the impacts from climate change induced disasters will not improve and safeguard of the human lives and properties will not be ensured.

Human security is to protect the vital core of all human lives in ways that enhance human freedom and human fulfillment, which means protecting fundamental freedoms that are the essence of life. It shows protecting people from critical (severe) and pervasive (widespread) threats and situations, which means using processes that build on peoples strengths and aspirations. It also means creating political, social, environmental, economic, military and cultural systems that together give people the building blocks of survival, livelihood and dignity. Human security is associated with broad three types of human vulnerabilities, i.e. chronic vulnerabilities arising from basic needs including food, shelter and health; contextual vulnerabilities arising from the socio-economic and political process and context of human life and vulnerabilities arising from extreme events, such as natural and human made hazards.

Disasters are not new in human civilization. They have adversely affected humans since the dawn of human existence. In response, individuals and societies have made many attempts to decrease their exposure to the consequences of these disasters, developing measures to address initial impact, as well as post-disaster response and recovery. But climate change induced disaster is new to many of us. However, regardless of the approach adopted, all of these efforts have the same goal: *Disaster Management.*

Climate change is increasingly been called a 'human security' problem that poses serious global threats, and there has been speculation that climate change may increase the risk of violent conflict. Extreme weather phenomena such as floods, droughts, heat waves and cyclones, experienced in different parts of our globe, are among the far reaching consequences of climate change, giving us a bitter foretaste of what worse may come in the near future (Dokos et al, 2008:7). Bangladesh is regarded as one of the most vulnerable countries to the adverse impacts of climate change (Harmeling, 2011). Its vulnerability is partly due to the fact that this poverty-stricken country is highly populated with a heavy dependency on rural livelihoods (Agrawala et al., 2003). Such livelihoods are often vulnerable to slow-onset events such as sea-level rise (SLR) as well as sudden-onset events - flooding, cyclones, and storm surges. In the past, climatic stresses exerted a heavy toll on livelihoods in Bangladesh (Narayan et al., 2000) while future climatic stresses will have profound impacts on long-term migration and displacements in Bangladesh (Kniveton et al, 2013).

> "Climate change is an all encompassing threat, directly affecting the environment, the economy, health and safety. Many communities face multiple stresses with serious social, political and security implications, both domestically and abroad. Millions of people are uprooted or permanently on the move as a result. Many more millions will follow." (Annan, 2009:ii)

Weather is a complex phenomenon that is subject to much speculation and interpretation and what happens in the atmosphere is nowhere considered to be entirely predictable and comprehensible. Indigenous peoples' understandings of weather phenomena are often at variance with the conceptions and models of modern

Western meteorology that is based upon a combination of sophisticated mathematical models, highly specialized tools of observation, and the assumption that reality lends itself to the generalized abstraction that the notion of 'climate' constitute. The employment of such epistemological devices underlies much of the modern climate change discourse as well as national and international policies.

During the last decade the process of climate change has politically become an increasingly urgent issue, globally as well as locally. Reports from most climate experts argue that the warming process will lead to severe problems for many people in the near future. Disasters are inextricably linked to the human context.

The physical aspects of a hazard, and a group's relationship to them, determines a proportion of vulnerability - individuals or their properties are not classed as susceptible to a disaster if they are not exposed to a hazard, and vulnerability can be reduced by decreasing sensitivity. Even for individuals or families exposed equally to the same hazard, variances in sensitivity can alter the level of vulnerability. As such vulnerability can be expressed as the relationship between hazard, exposure and capacity: In this relationship vulnerability can be reduced either by limiting the hazard potential, decreasing exposure and/or capacity.

VULNERABILITY = (HAZARD x EXPOSURE)/CAPACITY

Figure 3: Disaster Cycle

The idea of 'human security' is one of the latest and long line of neologisms— including common security, global security, cooperative security, and comprehensive security—that encourage policymakers and scholars to think about international security as something more than the military defense of state interests and territory

(Paris, 2001). The definitions of human security are varied, most of the scholars emphasize on the welfare of general people. The UN Commission on Human Security defines it as to safeguard the vital of all human beings from critical pervasive threats, in a way that is consistent with long-term human fulfillment. What is our concern for human security? As a disaster prone country it is important to enhance the human security for climate change induced disaster by increasing the capacity and also adaptation strategy of the people's to reduce the vulnerabilities of the impacts of the events. For that it is needed to preparing the communities more resilient and reduce vulnerabilities to climate-related risks, through strengthening various measures like flood management system, early warning and evacuation system, sound building codes, environmental management of risk prone areas, education program and community-based risk management programs etc.

1.2   Problem Statement

Climate change has, by now, become a familiar household term among many people in Bangladesh as well as in many countries of the world (Haque, 2015). Changes in temperature in different seasons, as well as changes in rainfall during monsoon months are now synonymous with climate change for many people around the world. In general, climate change phenomenon is linked to rising temperature of the earth's surface. This issue was first reported by scientists, mainly Physicists, in the 1980s. Since that time, many researchers developed climate models to understand the reasons behind it. By the end of the 80s, they identified a clear culprit. It was use of fossil fuel, which contributed to rise in the deposit of CO_2 in the upper atmosphere causing a 'glass-like shell' around the earth. This acts as a shield and traps the radiated temperature from going out. Gradually it causes a rise in temperature. This result in changes in precipitation, melts the ices in the glaciers, and hence causes sea level rise, variation in global weather patterns and changes in the frequencies of extreme weather events. According to many scientists, it will cause flooding, prolonged inundation of flood plains, intrusion of saline water in coastal lands, and so on. It will disrupt the economic life of people and hence will shock the economy. Scientists have unambiguously recommended reduction of CO_2 or GHG (greenhouse gas) emissions before the situation gets out of hand and have suggested ensuring that the global temperature does not go above 2°C from its current historical level by

2100. Thus far, this is pure climate science. The underlying question is: what can be done to ensure human security on such situation?

The process of reducing emissions is known as mitigation - implying taking actions to reduce emission of CO_2 or other GHG emissions. This essentially means two things: a) reducing economic activities so that we use less energy or b) switching to cleaner energy to produce goods and services. There is another process which is called adaptation. It is strongly advocated by activists who work with the poor people throughout the world in order to reduce poverty. They realize that it is the poor people who are mostly dependent on nature or who cannot take sufficient preventive measures to control the environment surrounding them. So the poor are affected by any abrupt changes in the climate. They become victims of a perpetual cycle of poverty. They, therefore, need additional support. This is known as adaptation. To many, adaptation is for the present, whereas mitigation is for the future. The world cannot ignore either of them. Adaptation can insulate people against natural calamities and mitigation can protect humanity against probable catastrophic consequences. The journal Nature Climate Change has recently reported that if we continue emitting GHGs the way we are doing now, day time temperature in the Gulf region will rise between 74°C and 77°C by 2100. For us humans, rise of temperature beyond 52°C will be physically unbearable.

Classical State security has proven unsuccessful. Command and control schemes are not adapted. On the contrary, Human Security is an attempt to place the people at the center and provide flexible solutions, adapted to local realities. Efforts to advance human security, as with human development, will do better to frame their activities based on an interdependent, place based, and dynamic worldview analogous to that offered by sustainable development than by adopting a perspective that sees environment merely as a set of threats to human security. Disasters are concerning a community or society, usually affecting a certain amount of individuals whose life are partially or totally disrupted. These disasters are clearly linked with a mix of social risks, i.e. a situation of insecurity of the daily life including a state of misery, exclusion of services, goods, networks and rights. It is manifest in the lives of many people in informal settlements like slums. People are forced to live in the most dangerous areas in poorly built houses. Contributed by a total of 413 scientists from

58 countries around the world, a recent report published in the Bulletin of the American Meteorological Society (2015) shows all the major GHGs that fuel global warming hit record highs last year (2014), while the planet's surface temperature reached its hottest point in 135 years. Carbon dioxide, methane and nitrous oxide – the major GHGs released into Earth's atmosphere – once again all reached record high average atmospheric concentration for the year.

As it is increasingly recognized in the disaster research community, this situation of need and survival hinders the capacities to prevent and cope with hazards. This is exactly what the 'human security' concept is about: ensuring *freedom from want* and *freedom of fear*. At the local level, it is thus a mix of different types of causes, both ecological and social, which create the disasters.

Figure 4: Disaster Risks and Consequences
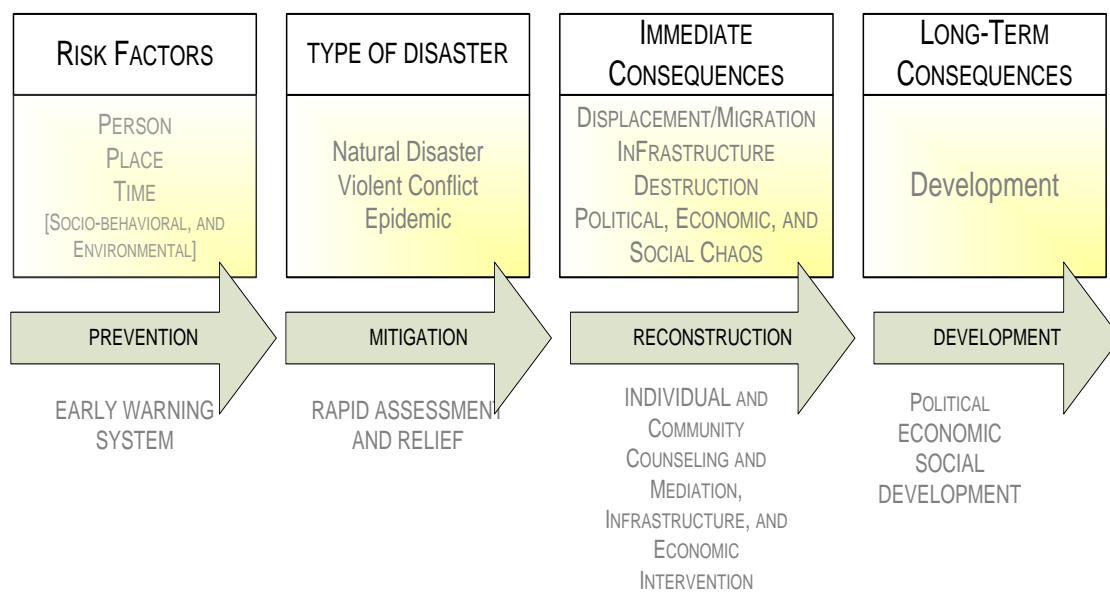
Disaster and emergency can strike anyone, at anytime and in anywhere (Hall, 2008). Disaster and Bangladesh are two closely similar words as the global media have already branded Bangladesh as a disaster-prone country. The geophysical position along high density of population and climate change makes the country prone to different types of disasters. She frequently experiences multiple natural hazards including floods, tropical cyclones, drought, salinity, arsenic contamination, chemical pollution, water-logging, river and coastal erosion, hailstorms, tornadoes, tidal surge, earthquake, landslides, fire, roadside accidents etc. While disaster is closely

associated with hazard, it indicates "a serious disruption of the functioning of a community or a society causing widespread human, material, economic or environmental losses which exceed the ability of the affected community or society to cope using its own resources" (Alam, 2006:5).

Disaster management policies must incorporate programs to protect the most vulnerable segments of society—the poor, marginalized, women, children, disabled, and elderly. In Bangladesh, severe human sufferings and insecurity incidences are taking place due to frequent natural disasters like floods, cyclones, draught, tidal surges, tornadoes, river erosion, fire, infrastructure collapse, water logging, high arsenic contents of ground water, water and soil salinity and earthquakes. Climate change adds new dimension to human security, risk and vulnerability. Although the magnitude of these changes may appear to be small, they could substantially increase the frequency and intensity of existing climate events. As a result disaster of any form may occur at any time at any location causing heavy loss of lives, properties, and other related materials.

There is a lack of clear understanding about the elements of human insecurity that are manifest in Bangladesh. Chronic misgovernance and total administrative apathy for the developmental needs of marginalized communities have also resulted in pockets of acute human security deficit. Despite having many challenges, e.g. poverty, illiteracy, corruption, over population, climate change effect, disaster risk etc, the state of human security of Bangladesh largely depends on how well the country assesses its strengths and weaknesses and strategizes to address these challenges.

Unsafe building practices in rapidly growing urban settlements constitute one of Bangladesh's greatest challenges for disaster management. A major earthquake in Bangladesh's any densely and heavily populated city in seismic zones would be catastrophic in terms of fatalities. Climate change has also far-reaching implications for managing disaster risk in Bangladesh, as the frequency and intensity of flash floods, landslides, droughts, cyclones, and storm-surges are expected to increase in upcoming decades.

Bangladesh has already under taken various initiative like framing disasters reduction policies and tools that are used when required. The government is working in line

with Hyogo Framework for Action (2005), which provides a common and comprehensive roadmap for taking action today, to be better prepared for natural hazards and to reduce the risks of disasters tomorrow (including climate change induced). However, to enhance the human security, a multi-stake holder strategy and policies for risk reduction should be adopted. These policies and practices are not necessarily expensive and they are also cost effective - not only do they save lives; they also save livelihoods and assets. The National Framework being adapted in line with Hyogo Framework will enable the people of the country to respond and adapt more effectively to the short term and the long term threats to human security.

1.3 The Concept of Political Economy vs. Political Ecology of Disasters

The Concept of 'Political Economy' in Development

The concept of 'political economy' used to be discussed much early in social philosophy. Political economy is often characterized as studying how different types of values are produced, distributed, exchanged and consumed; how power is produced, distributed, exchanged, and used; and finally, how these aspects are related. The concept is originally influenced by Marxist thought on economics, which studied the manner in which the economic base of society determines the super-structure, and consequently influences the cultural and political spaces within society; labor and the international division of labor, ownership, modes of production; and the importance of class structures and struggles. However, political economy of policy making extends well beyond the realm of research.

Conceptually, the approach of political economy is economic and thereby the upper structure of the society (e.g. ideology, language) many times controls the basic structure or economy. But capitalism is not only economic system rather it is more political, which was perfectly identified by Karl Marx. Pre-Karl Marx classical economists such as Smith, Ricardo, Mill initiated discussion on the issue. Afterwards Karl Marx challenged their opinion in the context of historical materialism. He criticized the 'progressive theory' of Hegel and put his logic that class struggle should be explained in the light of hostile relations among labor and capital. Afterwards in 1970s, the Neo-Marxists explained the Marxist concept of political economy in the light of global exchange relations. At the beginning of the decade the concept took a

new dimension, when few economists like Raul Prebisch challenged the development theories of 1950s and 1960s. Then the Neo-Marxist intellectuals introduced the concept of political economy for analyzing development and underdevelopment. Accordingly, the 'third world' societies are operated inside the capitalist monopoly that hinders development. With this, the development and underdevelopment are realized through historical perspective.

The basis of analysis of political economy of Marx is class relations. On the other hand, this basis of the Neo-Marxists is exchange relations. In both the cases, there exist the explanations for exploitation of class and surplus, which only highlight the capitalist tendency. On contrary, at the beginning of 1980s, the anthropologists started analyzing capitalism through explaining political economy in cultural and ideological perspective (Akhter, 2011). In classical political economy, capital and labor is the central issue of physiocrat economists. The concept of political economy occupied an important place in analyzing the classical economy by Adam Smith. He wanted to understand political economy basing on land, labor, entrepreneurship and organization (Smith, 2003). In anthropological perspective, on the other hand, explanation of capitalism only through labor and capital is not enough; it is important to explain how a specific culture is suppressed by capitalism. The anthropological approach of political economy coordinates the history of any particular community through traditional fieldwork. This approach aims to explain capitalism through symbol, culture and rituals. Through the influence of political sociology, anthropology expands in various genre of political economy (Ortner, 1984). Unfortunately the political economy of Bangladesh, by and large, is hostile to the interest of the poor. It has been a class divided society comprising of elites who accumulate most of the resources of the country with very little distribution to the poor.

Political economy theory places an emphasis on the interrelationships between socio-political and economic forces in society and recognizes the effects of accounting reports on the distribution of income, power and wealth (Cooper and Sherer, 1984). From political economy theory perspective, accounting systems, of which CSR is

part, act to 'create, distribute and mystify power relations' (Buhr, 1998:165). As Tinker (1980) has argued that:

> "Political economy relies on the social relations of production: an analysis of the division of power between interest groups in the society and the institutional processes through which interests may be advanced" (p. 148).

The Political Economy of Disasters

Any disaster occurs in a political space. They are not driven by politics, nor are they immune from politics. Incentives faced by human actors can affect the prevention, mitigation, and damage of natural disasters, even if they cannot affect the likelihood of rainfall in a specific area or seismic activity along a particular fault line. Although events beyond our control may trigger a disaster, the level of government preparedness and response greatly determines the extent of suffering incurred by the affected population. Throughout history, societies have had to decide whom to 'sacrifice' and whom to help in times of disaster. Political economy deals with how elite groups attempt to maintain power through the use of particular economic, political, and ideological instruments and how both ruling elites and common people endeavor to create meaningful traditions while enduring hardship. It also demonstrates how vulnerability is economically constructed.

Understanding the political economy of climate change is vital to tackling it. Analyzing the issues of climate change from a political economy perspective helps to explain the complex interactions between different stakeholders in respond to climate change impacts and provides broader opportunities to achieve better implementation of climate change policies. There lies an urgent need to study the deeply rooted, domestic socio-political constraints to change; the capacity or lack of capacity of societies and governments to absorb resources; the impact of incomplete nation-building and state-building processes; the collective-action problems that make communities resistant to development; and the links between underdevelopment, state fragility and climate change.

The Concept of 'Political Ecology' of Disasters

Political ecology is the study of the relationships between political, economic and social factors with environmental issues and changes. Political ecology differs from apolitical ecological studies by politicizing environmental issues and phenomena. The academic discipline offers wide-ranging studies integrating ecological social sciences with political economy (Peet and Watts 1996:6) in topics such as degradation and marginalization, environmental conflict, conservation and control, and environmental identities and social movements (Robbins, 2004:14).

The term 'political ecology' was first coined by Frank Thone in an article published in 1935 ("Nature Rambling: We Fight for Grass," *The Science Newsletter* 27, 717, January, 5:14). It has been widely used since then in the context of human geography and human ecology, but with no systematic definition. Anthropologist Eric R. Wolf gave it a second life in 1972 in an article entitled "Ownership and Political Ecology," in which he discusses how local rules of ownership and inheritance "mediate between the pressures emanating from the larger society and the exigencies of the local ecosystem" (Wolf, 1972:202). Other origins include other early works of Wolf as well as John W. Cole at the University of Massachusetts, Hans Magnus Enzensberger and others in the 1970s and 1980s.

The origins of the field in the 1970s and 1980s were a result of the development of development geography and cultural ecology (Bryant, 1998:80). Historically, political ecology has focused on phenomena in and affecting the developing world; since the field's inception, "research has sought primarily to understand the political dynamics surrounding material and discursive struggles over the environment in the third world" (Bryant, 1998:89).

Scholars in political ecology are drawn from a variety of academic disciplines, including geography, anthropology, development studies, political science, sociology, forestry, and environmental history. Originating in the 18th century with philosophers such as Adam Smith, Karl Marx, and Thomas Malthus, political economy attempted to explain the relationships between economic production and political processes (Ritzer 2008:28; Perry 2003:123). It tended toward overly structuralist explanations, focusing on the role individual economic relationships in the maintenance of social

order (Wolf, 1997:7-9). Within anthropology, Eric Wolf pushed political economy towards a neo-Marxist framework which began addressing the role of local cultures as a part of the world capitalist system as opposed to earlier political economists and anthropologists who viewed those cultures as "'primitive isolates'" (Wolf, 1997:13). This approach to ethnography, however, still lacked an attention to environmental effects on political and economic processes and is still sometimes criticized for looking to structural explanations for cultural phenomena (Perry, 2003:123).

Conversely, Julian Steward and Roy Rappaport's theories of cultural ecology are sometimes credited with shifting the functionalist-oriented anthropology of the 1950s and 1960s toward a more scientific anthropology, incorporating ecology and environment into ethnographic study (Perry, 2003:154-157). Yet, these theories were later found to be lacking by many anthropologists as they were criticized for "separating economic from other aspects of life, even in the process of showing the ways in which they interact with one another" (Perry, 2003:157). In other words, cultural ecology was good at exploring function in the nature-culture dichotomy, but the conclusions drawn from that theoretical position tended to ignore the impact of environment on political and economic factors.

Recognizing these flaws in political economy and cultural ecology, geographers and anthropologists (Wolf 1972; Blaikie 1985, Greenberg and Park 1994; Hershkovitz 1993) worked with the strengths of both to form the basis of political ecology. This approach focuses on issues of power, recognizing the importance of explaining environmental impacts on cultural processes without separating out political and economic contexts. These approaches tended to emphasize local, minority, and indigenous knowledge while moving away from privileging a Western nature-culture dichotomy.

The application of political ecology in the work of anthropologists and geographers differs depending on what the scholar is seeking to emphasize. While any approach will take both the political/economic and the ecological into account, some approaches will place more emphasis on the political while others will place more emphasis on the ecological. Some, such as geographer Michael Watts, focus on

political impacts on access to environmental resources. This approach tends to see environmental harm as both a cause and an effect of 'social marginalization' (Paulson 2003:205).

Others, such as Andrew Vayda and Bradley Walters (1999), criticize political ecologists for pre-supposing "the importance … of certain kinds of political factors in the explanation of environmental changes." Vayda and Walter's response to overly political approaches in political ecology is to encourage what they call "event ecology" (Vayda and Walters, 1999:169), focusing on human responses to environmental events with an eye on political reactions to the events instead of presupposing the impact of political processes on environmental events.

As with any theoretical approach in the social sciences, political ecology has its strengths and weaknesses. At its core, political ecology makes great strides in attempting to contextualize political and ecological explanations of human behavior. But as Walker (2006) points out, it has failed to offer "compelling counter-narratives" to "widely influential and popular yet deeply flawed and unapologetic neo-Malthusian rants such as Robert Kaplan's (1994) 'The coming anarchy' and Jared Diamond's (2005) Collapse". Another problem is the neo-Marxist nature of political ecology in a world where policy decisions are dominated by a global capitalist system (Walker, 2006:388-389). Ultimately, applying political ecology to policy decisions – especially in the US and Western Europe – will remain problematic as long as there is a resistance to Marxist and neo-Marxist theory. Founded in 2010 in Brasil and Canada, the Socio Ecolo Evolutionists are influenced by Thoreau, Reclus or Gandhi. They struggle in a local-global perspective to defend the diversity of ways of life, the choice and a global Pact for collective survey.

Political ecology examines the political dynamics surrounding material and discursive struggles over the environment in the third world. The role of unequal power relations in constituting a politicized environment is a central theme. Particular attention is given to the ways in which conflict over access to environmental resources is linked to systems of political and economic control first elaborated during the colonial era. Studies emphasize the increased marginality and vulnerability of the poor as an

outcome of such conflict. The impact of perceptions and discourses on the specification of environmental problems and interventions is also explored leading on to debates about the relative merits of indigenous and western scientific knowledge. Future research needs also to address issues linked to changing air and water quality, urban processes, organizational attributes and the human body.

Political ecology is the study of the relationships between political, economic and social factors with environmental issues and changes. Political ecology differs from apolitical ecological studies by politicizing environmental issues and phenomena. Political ecology emerged during the 1970s as a method of fusing cultural ecology – anthropologists' empirical studies of local environmental practice – with cross-scale analysis of the political economy (Escobar 1999a). In other words political ecologists, at the outset, were interested in how national or global economic or legislative processes impacted upon local environmental practice, whilst at the same time challenging Malthusian ideas of overpopulation (Bryant 2001). Political ecology rejected neo-Malthusian explanations of human impacts on the environment. Instead, the subfield understands environmental change as a result of power relations, which cause highly variable access to resources.

Political ecology analyses social forms and human conceptualism that interact with the environment. Political ecology is at the confluence between ecologically rooted social science and the principles of political economy. It explicitly aims to represent an alternative to apolitical ecology (Forsyth, 2008). The field conceptualizes the central questions asked by the social sciences about the relations between human society and its bio-cultural-political complexity, and a significantly conceptualized nature. Political ecology thus encompasses the issues of the clash of individual interests and the potential for collusion that lie at the heart of political economy, and ecology's concerns with our biological and physical environment and emphases on holistic analysis that connects with the more social and power-centered field of political economy.

The origins of political economy may be found in the works of seventeenth to nineteenth century thinkers such as Hobbes, Adam Smith, Malthus, Ricardo, and Marx. Karl Marx, perhaps, came closest to defining the dialectic between individuals,

their productive activity in human society, and nature (Mészáros 1970:104) that political ecology seeks to address by his insistence that one must begin not with abstract premises or dogmas (Marx and Engels 1970 [1846]:42), but with the productive activities of real individuals. This focuses attention on political economy as it transforms and is transformed by individuals and nature. Nature and society are both socially constructed to significant degrees, yet both are determined to some extent by what may be glossed as system-like constraints that are neither the deliberate nor inadvertent products of human purposive activity. Political economy as a field has tended to reduce everything to social constructions, blatantly disregarding all that is not human. This has led to a narrowing of the potential of Marx's more flexible dialectic, and to serious analytical deficiencies. Political ecology expands ecological concepts to respond to this inclusion of cultural and political activity within an analysis of ecosystems that are significantly but not always entirely socially constructed.

Linking political ecology to vulnerability It has been argued that vulnerability comes from a loss of resilience. Resilience is often weakened by external or non-place-based forces acting on the capacity of local communities to cope with the prospect or actuality of problems such as drought, crop failure or cash shortages. Such external forces might include the impact of structural adjustment policies, the impact of conflict, the impact of commodity price fluctuations, the impact of tariff or trade policies, or the impact of global environmental change. The aim of political ecology is to contextualize vulnerability at the local scale with any external or local pressures or drivers that may have an influence on, for example, access to nutritious and affordable food or viable seed.

The Future of Political Ecology

There are three major factors in the future development of political ecology (Clark, 2012). The first is the high likelihood that global ecological crisis will become more severe, which will have a profound effect on various tendencies in political ecology. As problems intensify, efforts to find solutions within the existing global market economic system will continue, and the literature of market environmentalism will

grow in response, as it is challenged to devise creative proposals. Aggravating crisis is likely to increase demands for more effective legislative and regulatory approaches, which bodes well for the future of mainstream liberal political thought However, if significant progress in reversing ecological crisis does not occur in the relatively near future, then it is likely that more radical political ecologies such as eco-socialism, eco-anarchism, and eco-feminism will grow in significance, as will the postmodernist critique of the dominant forms of environmentalism. In addition, eco-authoritarianism, which is all but excluded from recent political ecological discourse, may have a strong revival.

The second factor in the development of political ecology will be the continued growth of economic globalization, with its enormous impact on the international balance of power. There is an increasing awareness that just as ecological problems must be approached in their local, regional and global dimensions; the political and economic issues that are intertwined with them require a politics that addresses all these levels. The convergence between environmental justice movements in the global North, which has focused on the plight of disadvantaged minorities, I environmental movements of the global South, which has focused on impacts of women and large populations, is likely to continue. In view of the scale of emerging ecological problems, I possible that "First World" environmental politics will in the future succeed in identifying itself more with a generalized public interest and the general good, and that environmental justice may take on a more majoritarian image. A final important factor in determining the future of political ecology will be the unfolding of the dialectic between the institutionalization of environmental politics and its critical and oppositional stance. A major issue in the past decade has been the question of the normalization of environmental politics and the accompanying theoretical political ecologies, a development that has been explored particularly in the post-modernist critique. Environmental politics has become increasingly integrated into the institutional structures of nation-states and the global economy, and the language and concepts of political ecology have been adopted by much of the political and theoretical spectrum. Political ecology may be expected to play a growing theoretical role in relation to the ideological mainstream, and it remains to be seen whether more

radical and oppositional political ecologies, which were very significant in the emergence of the field, will once again grow in relative importance.

1.4   Evidence of Global Warming

What is the evidence that 'climate change' or 'global warming' is taking place? The evidences are available. Firstly, the earth is warming as global annual temperature has increased. Secondly, rainfall trend has become erratic. Finally, sea surface temperature has also increased with number of rough sea events. There is now convincing scientific evidence those human activities is altering the global climate.

Figure 5: Evidence of Global Warming
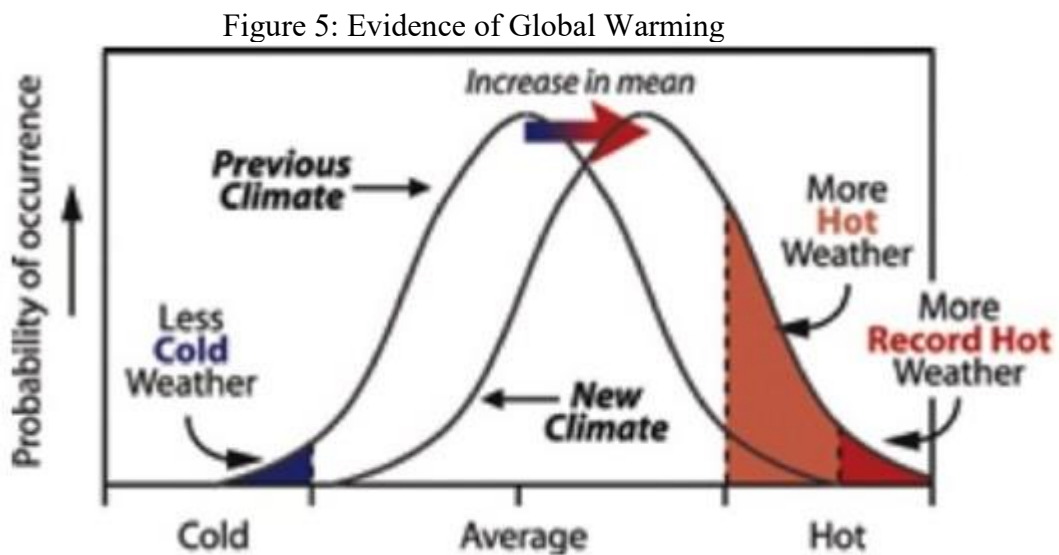
Source: IPCC, 2007

The evidence of temperature records give us the picture that the earth is warming as temperature has increased. Temperature is increasing (from 1950 till date); variation in precipitation (e.g. rainfall trend become erratic); and sea surface temperature increased with number of rough sea events. Glaciers serve as early indicators of climate change (Thompson, 2010). Global average temperature is expected to rise by 1 to 3.5 degrees Celsius by 2100. As such the effect will be complex, varying considerably from place to place. Clegg and Boright (2009) show the change of geographic distribution of temperature over last 40 years. With rising of temperature the ice melting is taking place and as the reflective ice disappears then the darker ocean water absorbs more heat, as a result the sea surface temperature increases. The carbon dioxide cycle also increases the temperature; and the major reason is the concentration of green house gases (GHGs). As such, the nature is expected to behave

erratic with adverse effects on physical, economic and social systems across the globe. There are losses of crop yields with per degree warming.

Human Induced Climate Change

Humans can affect the climate by changing the gases in the atmosphere (greenhouse effect). The annual global carbon emission is about 2.9 billion tons due to human activities like industrial activities and transportation, burning fossil fuel, agriculture and deforestation. Global surface and ocean temperatures, sea levels, extreme climate events and the retreat of Arctic Sea ice have all significant picked up more pace than experts predicted only a couple of years ago. Most of the emissions of GHG that cause human induced climate change come from burning of fossil fuels like coal, oil and gas.

Climate Change causing 'Global Warming'

The main aspect of climate change is global warming, as a result of which glaciers and ice caps are melting, ocean water volume is expanding and sea level is rising. Rising earth temperature is changing ocean wind current, disrupting normal weather patterns and increasing the livelihood of extremely weather events. If the current trends of GHG emission and global warming continue, the very existence of human beings on this planet will be lost. It is the GHG emissions by the currently developed countries over the last 250 years (since the first industrial revolution) that has resulted in the current high atmospheric concentration level of CO_2 causing the climate change. These countries continue to aggravate the problem each passing day by their currently high levels of GHG emissions. Clearly it is the responsibility of the developed countries to arrest and prevent climate change by drastically reducing their GHG emissions.

Climate Change Evidence

The Earth's climate has changed throughout history. Just in the last 650,000 years there have been seven cycles of glacial advance and retreat, with the abrupt end of the last ice age about 7,000 years ago marking the beginning of the modern climate era — and of human civilization. Most of these climate changes are attributed to very small variations in Earth's orbit that change the amount of solar energy our planet receives.

The current warming trend is of particular significance because most of it is very likely human-induced and proceeding at a rate that is unprecedented in the past 1,300 years (IPCC, 2007:5).

Earth-orbiting satellites and other technological advances have enabled scientists to see the big picture, collecting many different types of information about our planet and its climate on a global scale. Studying these climate data collected over many years reveal the signals of a changing climate. Certain facts about Earth's climate are not in dispute. The heat-trapping nature of carbon dioxide and other gases was demonstrated in the mid-19th century. Their ability to affect the transfer of infrared energy through the atmosphere is the scientific basis of many instruments flown by The National Aeronautics and Space Administration)NASA(. With increased levels of GHGs the Earth gets warm in response. Ice cores drawn from Greenland, Antarctica, and Tropical Mountain glaciers show that the Earth's climate responds to changes in solar output, in the Earth's orbit, and in GHG levels. NRC (2006) shows that in the past, large changes in climate have happened very quickly, geologically-speaking: in tens of years, not in millions or even thousands.

All three major global surface temperature reconstructions show that Earth has warmed since 1880. Most of this warming has occurred since the 1970s, with the 20 warmest years having occurred since 1981 and with all 10 of the warmest years occurring in the past 12 years (Peterson et al, 2006). According to Allison et al (2009), even though the 2000s witnessed a solar output decline resulting in an unusually deep solar minimum in 2007-2009, surface temperatures continue to increase. The number of record high temperature events has been increasing, while the number of record low temperature events has been decreasing.

1.5   Introducing the 'Human' into Security Discourses

Mankind has reached an interesting point of its history. It has now the choice either to keep its development unchanged and undergo massive disasters, or to bifurcate and ensure its own sustainability. Made famous by the United Nations Development Program (UNDP 1994), the concept of human security has been around for more than twenty years. The provocative idea of understanding security that is concerned with

more than the state and its traditional apparatus has been appealing to a variety of actors, which include middle powers, international organizations, practitioners, and some sectors of academia. Not without controversy, and even with the lack of an agreed definition, human security is increasingly used as a concept when addressing a broader set of threats to people's lives, welfare, and dignity (UN Secretary-General 2010).

Disaster and emergency situations epitomize the nonlinearity of human events. These are events in which the relationship between relevant variables is churning. Even in our desire to create order and control the situation, events often seem to churn one step ahead of our best efforts. Heinz Pagels (1988:56) noted that, "life is…nonlinear. And so is everything else of interest." Clearly, what makes disaster situations particularly interesting and challenging is the inherent nonlinearity in such events. Many countries particularly in Asia are not only beleaguered with natural hazards but also human-induced disasters arising from complex situations of conflict. Bangladesh is among them. According to "Assessing the Costs of Climate Change and Adaptation in South Asia" of Asian Development Bank (2014), Bangladesh could lose more than 9 percent of its gross domestic product by the end of this century due to the impact of climate change.

Human security, which seeks to shift the meaning of security away from its traditional military-oriented and state-centric focus, has become one of the most important concepts since the late twentieth century. Since the 1990s, the concept has been the focus of debates in the United Nations (UN) system, international organizations, various governments, and the academic and intellectual community. Various efforts have been made at developing dimensions and variables of human security. The United Nations Development Programme's (UNDP) Human Development Report (HDR) of 1994 was the first major document that acknowledged the importance of human security. The HDR defined human security as "safety from the constant threats of hunger, disease, crime and repression," as well as "protection from sudden and hurtful disruptions in the pattern of our daily lives" (UNDP 1994:3). Furthermore, human security in the report incorporates seven broad categories of concerns, namely economic, environmental, personal, community, health, political, and food concerns.

One of the primary roles of the state is to provide peace and security for its citizens both within the nation-state and to ensure their protection against threats from outside (Naidoo, 2000). The concept of human security has already been employed for some time by different local stakeholders, usually from contrasting perspectives, with varied objectives and outcomes. Such multiplicity of understandings can help in foreseeing potentialities and shortcomings in the operationalization of the concept, which can improve its application in other contexts. Given the complexity of facts, situations, and agents that converge around its proposition, the investigation is less about what human security *means* and more about what the concept of human security *has become* in Bangladesh. This research intends to take the discussion by addressing the question of domestic focus, while describing the problem of internal consensus surrounding the concept.

The present study seeks to produce an organized body of practical knowledge about the experience of three Asian countries in dealing with the physical (survival), economic (livelihood) and political (dignity) aspects of human security. This study aims to explain how the climate change induced disaster is one of the most important threats to Human Security. It also aims at showing that the notion of Human Security could serve as a conceptual tool for raising awareness and bringing solutions to the problems.

1.6   Definition of Security

A state that can provide security

Max Weber once defined a state as that entity that has a monopoly of the legitimate use of force in the country. Security is an underdeveloped and contested concept and it does not have a universally accepted definition (Galle, 1962). Hence, the meaning of the word 'Security' is complex and abstract. A noted security expert, Barry Buzan states that security is a complicated and multidimensional subject and thus, the nature of security defies pursuit of agreed definitions. Therefore, it is a developing and contested concept (Buzan, 1991). Despite the fact that it is a contested concept, it is nevertheless a very important and sensitive issue for a country and its citizens as it is directly related to people's security and national sovereignty. The concept of security was state centric in the past. So, interpretation was that as long as the state is secure,

within the state everyone is secure. However, fundamental changes can be observed in security policies, concepts and practices particularly after the end of the Cold War. Now its definition has become wider and comprises national unity and territorial integrity in addition to people's security and economic development. In fact, security refers to two fundamental concepts: protection of national integrity and sovereignty from external threats and assurance of security to the citizens based on comprehensive concept of human rights. Security is the right to live without torture, violence, poverty, disease and fear (Hamson, 2000).

The UN has given utmost importance to human security by prioritizing the rights to life and security. According to the concept, the role of the state is not only confined to protection of territorial integrity of the state but it also comprises the assurance of people's freedom, human rights, peace and security and recognition of culture. As per the concept, security challenges are not only related to external invasion, they are also created on account of factors related to internal political and social aspects, economic insecurity, cultural challenge, poverty, migration and environmental degradation. Therefore, the assurance of various aspects of security like freedom, peace and security, socio-economic prosperity and human rights must be established permanently along with the internal security management. Citizens of every county want to be secured. However, due to narrow mindset and antinational behavioral activities of some people, human security is being compromised. Human security has stood as a new and nontraditional security challenge.

Linking environmental security with security discourse

Generally security has been understood as keeping away from danger or threat through the use of force. Security was often linked with conflict, war, crimes, robbery, theft, terror and the like. Gradually this concept has widened and started to link concepts of security to the survival of people in a specific environment.

1.7   What is 'Human Security'

'Human security' is one of the more salient neologisms that arose from the ashes of the Cold War. The paradigm of human security has evolved considerably since its inception as an alternative to a traditional state-centric security framework. Despite the various arguments against the increasing securitization of socioeconomic concerns, human security today provides the moral fiber for many foreign policies,

state actions, and international interventions. Human security is an emerging paradigm for understanding global vulnerabilities whose proponents challenge the traditional notion of national security by arguing that the proper referent for security should be the individual rather than the state.

Human security holds that a people-centered view of security is necessary for national, regional and global stability. The concept emerged from a post-Cold War, multi-disciplinary understanding of security involving a number of research fields, including development studies, international relations, strategic studies, and human rights. The United Nations Development Programme's 1994 Human Development Report is considered a milestone publication in the field of human security, with its argument that insuring "freedom from want" and "freedom from fear" for all persons is the best path to tackle the problem of global insecurity.

Human security is defined as a condition in which people are protected and empowered to cope with severe and sudden threats to their survival, livelihood and dignity. It deals with conditions and events that impede the ability of people and communities to live in freedom, peace and safety; participate fully in the process of governance; enjoy the protection of fundamental rights; and have access to resources and the basic necessities of life.

The objective of human security is to safeguard the vital core of all human lives from critical pervasive threats, without impeding long-term human fulfillment. The most striking thing about the concept of human security is that it was born in the 'policy world', and did not spring forth from academics or analysis. It was first used in a serious way in the 1994 UNDP Human Development Report. The UNDP vision of 'human security' was very broad, encompassed 7 different dimensions including economic, food, health, environmental, personal, community and political security. The overall goal was to expand the concept of security, which had "for too long been interpreted narrowly, as security of territory from external aggression, or a protection of national interests in foreign policy or as global security from the threat of nuclear holocaust.' Human security was thus meant to change the referent object of security

"from an exclusive tress on territorial security to a much greater stress on people's security.

Figure 6: Different Dimensions of Human Security
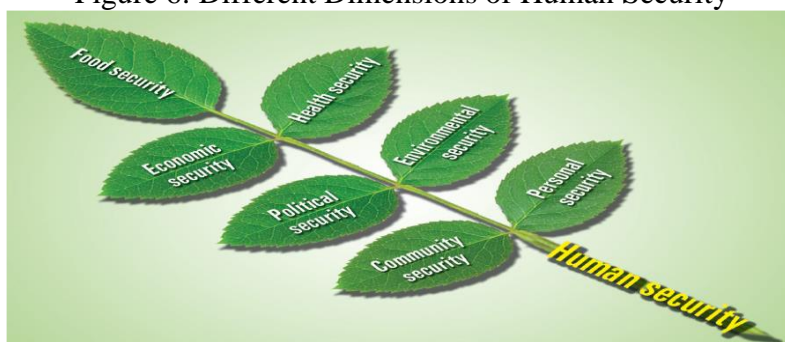
The term human security was first used in the 1994 HDR published by the UNDP. Mahbub Ul Haq, the economist chiefly responsible for crafting the Humane Governance and Human Development Indices, is the person most closely identified with the concept of human security. The 1994 publication formally defines the concept and explicitly makes the individual the referent object of security. In 1999, the Human Security Network was formed through the initiatives of Norway and Canada and in 2001, the Commission on Human Rights was formed with Professor Amartya Sen and Sadako Ogata as co-chairs.

According to JAICA (2010), people are confronted with a variety of threats including fear (such as from conflicts and terrorism, natural disasters and environmental degradation, infectious diseases, and economic crises etc), and want (such as the resulting from poverty, malnutrition, lack of education, health and other social services, underdevelopment of the basic infrastructure etc). Given the interdependence of these situations, sudden shocks and threats place people at greater risk in the face of downturn (downside risks). Human security refers to the safeguarding of people's freedom from fear and want, ensuring that they can live in safety and dignity. According to the final report (2003) of the Commission on Human Security, co chaired by Sadako Ogata and Amartya Sen, human security means "to protect the vital core of all human lives in ways that enhance human freedoms and human fulfillment."

Although the definition of human security is subject to much debate, its first, most-commonly cited usage came in the UNDP's 1994 *Human Development Report*. In this report, a whole chapter was devoted to the 'New Dimensions of Human Security', conceptualized the term as "a child who did not die, a disease that did not spread, a job that was not cut, an ethnic tension that did not explode in violence, a dissident who was not silenced," as well as stating that human security was *universal*; its components *interdependent*; based upon *preventative*, rather than reactionary measures; and intrinsically *people-centered* (UN, 1994: 22-23). Defining human security as "safety from such chronic threats as hunger, disease and repression" and "protection from sudden and hurtful disruptions in the patterns of daily life," the UNDP broadened the conceptualization of security. This moved it away from state-centric approach that had prevailed to encompass seven key individual centric components: economic security, food security, health security, environmental security, personal security, community security, and political security. At its core, it returned to the two equally open-ended foundational freedoms as outlined in the 1945 adoption of the UN Charter: "freedom from want" and "freedom from fear". Thus, the concept itself was designed with the ideas of inclusiveness and the desire for ambiguity in-built. "Like other fundamental concepts," the report states, "…human security is more easily identified through its absence than its presence. And most people instinctively understand what security means."

Further to the *Human Development Report*, the 2001 establishment of the Commission on Human Security (CHS) was seen as a significant development in the concept's relatively short history. Chaired by former United Nations High Commissioner for Refugees Sadaka Ogata and Nobel laureate Amartya Sen, the CHS was established to:

> "(i) mobilize support and promote greater understanding of human security,
> (ii) develop further the concept as an operational tool, and
> (iii) outline a concrete action plan for its implementation."

Chapter 1 of its final report – entitled *Human Security Now* – reaffirmed the goal of human security:

"to protect the vital core of all human lives in ways that enhance human freedoms and human conceptuali… protecting fundamental freedoms… protecting people from critical (severe) and pervasive (widespread) threats and situations" (CHS, 2003).

More importantly, in the face of continued academic scrutiny on the open-endedness of the concept, it reiterated the necessity for a dynamic conceptualization of human security, stating: "What people consider to be "vital" – what they consider to be "of the essence of life" and "crucially important" – varies across individuals and societies. That is why any concept of human security must be dynamic." Human security remained malleable, focused specifically on the individual and easily adapted to various cultural specificities.

Lack of human security approach exists in the very instruments of disaster management in Asia. Firstly, industrial disasters are not addressed or in an ineffective way even though they can have serious effects. Secondly, existing texts don't mention the most effective way to reduce the potential humanitarian effects of disasters, reducing the vulnerability of populations at risk. Thirdly, those texts don't address the problem of displaced persons who have to leave their home because of natural and/or climate change induced disasters.

To resolve the problem of human insecurity, the States of the victims and the States hosting them should guarantee rights to environmentally displaced persons: rights to information and participation, rights to assistance, rights to water and food aid, rights to housing, rights to health care, rights to juridical personality, rights to respect for the family, rights to education and training, and a right to work. Temporarily displaced persons should have right to return to their residence when it becomes habitable and their right to reintegration should be ensured by the State. Permanently displaced persons should have right to resettlement recognized by their State of origin and host State. In cases where they find a refuge on the territory of neighbouring States, those States should guarantee their right to nationality.

The figure 7 shows the overlapping and or complementary components of the human security. Components of human security are ecosystem and climate security, water and energy security, food and health security, environmental security, nuclear and

biological security, individual security, societal security and national security. In this context, human security is a holistic concept to be achieved through ensuring different security aspects. However, most majority of the policy makers, decision makers and security officials in Nepal (like in many other countries) are not yet able to internalize the importance of and interrelationship between different components of security mainly focus on the national security of achieving security from the use of forces (i.e. military).

Figure 7: Link of different security issues within overarching human security concept
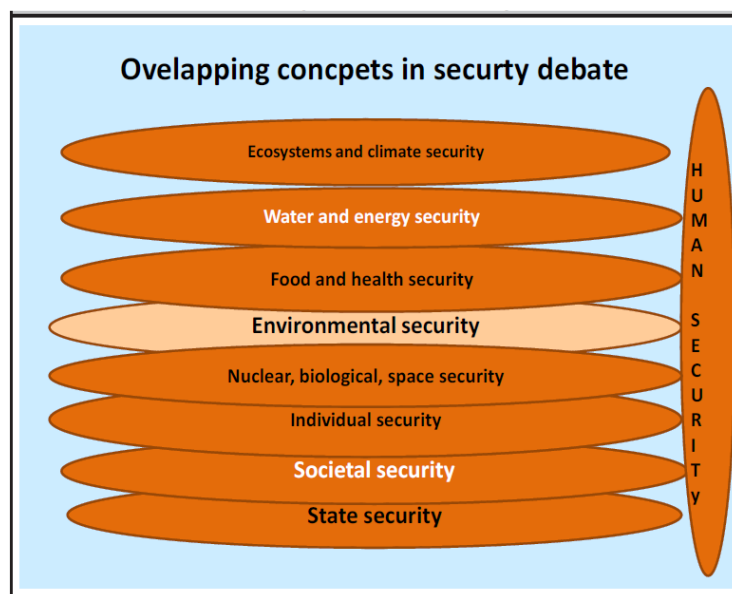
The theme of 'Human Security' encompasses a wide range of concerns and issues. These ranges from basic needs, such as food, health and shelters, through protection from crime and the impacts of technological and natural hazards, to collective security need such as protection from terrorism. However, only a few of these concerns and issues have been, and can be addressed from a disaster perspective. The concern of human security has been focused on the security of people, not states. The UN Commission on Human Security addressed a wide range of dimension of human security, including conflict and poverty, protecting people during violent conflict and post-conflict situation, defending people who are forced to move, overcoming economic insecurities, guaranteeing the availability and affordability of essential health care and ensuring the elimination of illiteracy and educational deprivation and

of schools that promote intolerance. This obviously, in broad coverage, includes several important distinguishing features that are relevant to safety and security:

  a.   Human security is focused on people and not states, because the historical assumption that states would monopolize the rights and means to protect its citizens has been outdated by the more complex reality that states often fail to fulfill their obligations to provide security.

  b.   The focus on people also place more emphasis on the role of human rights of individual in meeting these diverse security needs. There is them a shift from the rights of states to the rights of individual.

  c.   Recognizing and enhancing the rights of individual is a critical part of expanding the roles and responsibilities for security.

  d.   It recognizes that people centered solutions must be identified and supported to address the range of menaces and risks that they encounter.

  e.   Human Security, therefore, goes beyond the security of borders to the lives of people and communities inside and across those boarders.

The formal definition of human security given by UN Commission of Human Rights, that is "to protest the vital core of all human lives in ways that enhance human freedom and human fulfillment. Human security means protecting fundamental freedoms that are the essence of life. It means protecting people from critical (severe) and pervasive (widespread) threats and situations. It means using processes that build on peoples' strengths and aspirations. It means creating political, social, environmental, economic, military and cultural systems that together give people the building blocks of survival, livelihood and dignity. Human security is associated with broad three types of human vulnerabilities, like, chronic vulnerabilities arising from basic needs including food, shelter and health; contextual vulnerabilities arising from the socio-economic and political process and context of human life and vulnerabilities arising from extreme events, such as natural and human made hazards."

Human security thus is to safeguard the vital of all human lives from critical pervasive threats, in a way that is consistent with long-term human fulfillment. The significant change in weather, temperature, rainfall pattern, flood, and drought for the last few

decades is causing unprecedented hazards and disasters that are affecting the agriculture, aquaculture and animal husbandry which are the major livelihoods of the people. Many of the natural disasters like flood and drought are directly related to the environmental degradation and climate change. These events affect the poor the most by affecting their lives, properties, and livelihoods. Therefore, by creating disaster-resilient communities, it is possible to enhance human security. Governments and other stakeholders are increasingly becoming aware of the relationship between ecological stability and human security. The concept of vulnerability is the key and a common concept for human security and environment and disaster management. Human security focuses on analyzing who are vulnerable, how does action by local people in particular place and condition affect vulnerability, and what actions could be taken to reduce or mitigate vulnerability. It highlights the linkage between vulnerability and change in human and environmental conditions and interactions of hazards and exposures at different levels of place, region, and world. This is closely linked to the sustainable livelihood framework, where reliance and vulnerability are seen as counterpart of one another, and people's resilience depends largely on assets and entitlements that individual, households and, communities can mobilize and thus manage to face the hardship. Simply speaking, enhancing human security for environment and disaster management is like enhancing people's choices, and increasing their resilience to cope with the adverse impacts of the events.

1.8   The Development of Human Security as a Concept

Bajpai (2000) asserts that the "genealogy of the idea" of human security can be traced to changes in the notions of development from the 1960s to the 1980s. As he chronicles the evolution of the concept, he cites the importance of two independent commissions that further expanded notions of security. These are the Independent Commission on International Development Issues and the Independent Commission on Disarmament and Security Issues. The former securitizes the issues of hunger, economic inequalities and conflict while the latter advances the ideas of common security and common responsibility in which the issues of environment, population growth and migration, and undemocratic institutions are considered security threats (Bajpai 2000). Rothschild (quoted in Alkire 2002), on the other hand, goes back

further and gives a historical account of the development of "extended security" and traces its roots to European political thought.

More recently, it has become increasingly clear that much of the interaction between nature and society most significant for sustainable development occurs in what we call the 'missing middles'. Human security offers much to this vibrant field of sustainable development. Most notably, human security—like human development—highlights the social dimension of sustainable development's 'three pillars' (environment, economy, society).

Economist Dr. Mahbub-ul-Haq first drew global attention to this concept in UNDP's Human Development Report 1994, which argues that the scope of global security should be expanded from the state to include threats in economic, environmental, personal, political, etc. spheres.

Table 1: Possible Types of Human Security Threats

Type of Security	Examples of Main Threats
Economic security	Persistent poverty, unemployment
Food security	Hunger, famine
Health security	Deadly infectious diseases, unsafe food, malnutrition, lack of access to basic health care
Environmental security	Environmental degradation, resource depletion, natural disasters, pollution
Personal security	Physical violence, crime, terrorism, domestic violence, child labor
Community security	Inter-ethnic, religious and other identity based tensions
Political security	Political repression, human rights abuses

Source: UNDP Human Development Report, 1994

1.9   Human Security – A Paradigm Shift

Environmental issues have been seen in the broader context of human security since the end of the Cold War. This marked the end of both the political bipolarity and the narrow, mainly military notion of security concepts and perceptions which dominated the security discourse at that time. A number of United Nations' Conventions directly and specifically address environmental issues that have great bearing on societies worldwide and contribute indirectly to improving several of the dimensions of human

security. The *UNDP Human Development Report*, (1994) defined human security as *"safety from chronic threats such as hunger, disease, and repression as well as protection from sudden and harmful disruptions in the patterns of daily life – whether in homes, in jobs or in communities,"* and as the totality of economic security, food security, health security, environmental security, personal security, community security and political security. Human security has become *"both a new measure of global security and a new agenda for global action*." Culture, economies, trade, production-lines, values, politics are no longer framed within national boundaries, peoples of the world are connected through their actions and inactions, and as such threats to security and livelihoods transcend state apparatus.

Human security as a concept first surfaced in the early 1990s when it became increasingly clear that the end of the Cold War would not be accompanied by an end to armed conflict but that instead the nature of violent conflict was changing, away from traditional interstate war towards intrastate conflicts fuelled by ethnic, religious, or ideological divisions. The discourse about security became enriched with the new insight that states are not the only entities whose security ought to concern us. Regions, communities, families, and individuals can only feel secure if they have reason to believe that their continued functioning is not going to be threatened at every turn. Furthermore, the security of the state largely depends on the security of regions, communities, families, and individuals. And occasionally states fail to fulfill their obligations as security guarantors, even to the point of threatening the security of their own citizens. It was realized that a primary requirement for human security was not merely the absence of war but the absence of structural and personal violence. These realizations informed a shift in perspective from the state as the subject and object of security policy to the human individual as the centre of security considerations – from state security to human security. And since human beings, unlike states, are capable of sensations and emotions, human security was recognized as partly contingent on those particular states of mind that we tend to associate with human well-being.

Human Security focuses primarily on protecting people while promoting peace and assuring sustainable continuous development. It emphasizes aiding individuals by

using a people-centered approach for resolving inequalities that affect security. One of the major failings of Human Security, according to its critics, is that it is too all encompassing and that it fails to achieve its ambitious goals for improving the human condition. Still, the relevance of this concept for addressing the world's most pressing issues seems clear. Security has gone global. It is no longer simply related to the security of nation states. The security of the individual now directly impacts the security of the state and vice versa. By the beginning of the 21st century, climate change and harrowing effects of natural hazards like extended drought or extreme hurricanes, crushing economic inequality, disease, lack of resources and resulting migration have all shaped a new reality for the human security paradigm. The paradigm inseparably links humans, their social systems, and their environments and strives to achieve freedom and fear, freedom from hazard impact, and freedom from want. The paradigm has been shaped in part by recognition of the need to achieve greater societal resilience and improved environmental conditions among the world's most vulnerable people.

1.10   Human Security in the 21st Century

Human security relates to the well-being of individuals, including both freedom from fear and freedom from wants. As a concept, human security refers not only to security from physical violence, but also to food security, livelihood security, environmental security, health security and energy security. Although there are many definitions of human security, a prominent feature among all of them is reference to the security of individuals rather than the state. Importantly, the concept of human security is also relevant to communities and groups. In some cultures, the needs, values, and interests of a collective group are more important than those of the individuals within that groups (Barnett 2006). From this perspective, human security can be considered a condition whereby individuals and communities have the options necessary to end, mitigate, or adapt to threats to their human, social, and environmental rights, and where they have the capacity and freedom to exercise these options (GECHS 1999).

1.11   How does Human Security differ from Traditional Security, Human Development and Human Rights Approaches?

"Human Security complements state security, strengthens human development and enhances human rights" (CHS: 2003:2). Yet the question often arises as to what are the substantive differences between these concepts. Significant among these are the following:

- Whereas state security concentrates on threats directed against the state, mainly in the form of military attacks, human security draws attention to a wide scope of threats faced by individuals and communities. It focuses on root causes of insecurities and advances people-centered solutions that are locally driven, comprehensive and sustainable. As such, it involves a broader range of actors: e.g. local communities, international organizations, civil society as well as the state itself. Human security, however, is not intended to displace state security. Instead, their relationship is complementary: "human security and state security are mutually reinforcing and dependent on each other. Without human security, state security cannot be attained and vice versa" (CHS, 2003:6).

- To human development's objective of 'growth with equity', human security adds the important dimension of 'downturn with security'. Human security acknowledges that as a result of downturns such as conflicts, economic and financial crises, ill health, and natural disasters, people are faced with sudden insecurities and deprivations. These not only undo years of development but also generate conditions within which grievances can lead to growing tensions. Therefore, in addition to its emphasis on human well-being, human security is driven by values relating to security, stability and sustainability of development gains.

- Lastly, too often gross violations of human rights result in conflicts, displacement, and human suffering on a massive scale. In this regard, human security underscores the universality and primacy of a set of rights and freedoms that are fundamental for human life. Human security makes no distinction between different kinds of human rights – civil, political, economic, social and cultural rights thereby addressing violations and threats in a multidimensional and comprehensive way. It introduces a practical framework for identifying the specific rights that are at stake in a particular

situation of insecurity and for considering the institutional and governance arrangements that are needed to exercise and sustain them.

1.12   Limitations of Human Security

There is no commonly accepted definition and too vague as a concept (more efforts on widening than deepening). Not belong to one particular scientific discipline, eg. can be found in security studies, development studies, international relations etc. Poor efforts to operationalize and measure Human Security *("How much (in)security?")*. The comprehensive nature of HS has been constantly ignored (mostly used ONLY in LDCs) and only few attempts to use for disaster research.

1.13   Whose Agenda is it? Human Security as Political Discourse

New Questions Concerning the State and Intervention Policies

Beyond the academic dialogue as to whether security should be broadened and deepened as an analytical framework, human security introduces a number of new ideas for policy interventions. As a policy tool it allows a re-examination of the changing norms of sovereignty, collective security, and power politics. Ultimately, the question is posed as to who is in the best position to "provide" human security as a public good. Who are the actors, what are their duties, and what are the factors that impinge on their responsibility to protect?

The responsibility to provide human security falls first and foremost on the states. This conclusion is based on a reexamination of the changing nature of sovereignty, broadening the definition so as to go beyond the protection of borders and to include responsibility to provide for the well-being of the population. If sovereignty is seen as simply negative sovereignty, that is to say as freedom from outside intervention, we are reminded of the Hobbesian social contract that was supposed to accompany the Westphalian bargain between states. A truly effective state is one that plays a central role in economic and social development, if not as a direct provider of growth at least as a partner, catalyst, facilitator and regulator – one that can provide for human security and deal with social breakdowns.

The strength or weakness of a state is therefore to be judged not simply on the basis of its capacity to handle problems that threaten its security (such as for example armed insurgency or ethnic strife) but on the basis of its capacity to ward off threats to the health, welfare and level of life of its citizens Hence, if a failed state is traditionally considered as one that threatens regional security, from a human security point of view, a weak or failed state is primarily one which cannot deliver on the state-society bargain inside its own borders.

When states are not willing or capable of bearing the 'responsibility' of their own sovereignty, other actors, such as international organizations, have, if not an obligation, a moral responsibility to act. The discussion of who should provide human security in the case of weak or collapsed states is therefore closely linked to the debates on international intervention. It prompts a shift in both the ends and means of intervention, and focuses the debate on new ways of engagement at the international level. The new forms of engagement for collective human security involve not only military intervention as a reaction to crisis, but a responsibility for the prevention of crises and the rebuilding of society. Human security interventions and engagements should therefore be long-term and focus on eradication of grievances, and not only come into play when a breakdown has already occurred.

One of the most important challenges is to determine whether in fact this approach will result in the widening of the North/South divide. To many G77 countries, "human security" is seen as yet another criterion that challenges, on moral grounds, the sovereign role of the state by threatening intervention by the international community on behalf of the population. Its focus on the individual is considered as misplaced by proponents of the Asian model of social development, while others fear that the result will be the adoption of a double standard, whereby rich western nations will use human security as a pretext for adopting punishing measures in dealing with developing countries, without abiding by its tenets themselves. Critics among the G77 argue that human security is yet another ethnocentric paradigm which emphasizes subjective aspects and values while reinforcing the economic might of the North; it represents yet another attempt by the West to impose its liberal values and political institutions on non-Western societies. Their concern is strengthened by their belief

that rich countries, faced with economic and social underdevelopment in the South which, if allowed to continue, will breed political instability that will eventually spill over to North, will decide to press for further militarization, as has been the case in the current global war against terrorism. They argue that it is precisely this security dilemma and militarization that threatens a South already weakened by interventions, economic sanctions and debt crisis. Such fears are confirmed by the fact that most of the literature on human security treats it exclusively as part of an internationalist agenda. Some countries have adopted it as a foreign policy, but no Western country has made use of the concept in a domestic context to analyze the needs of its own citizens.

1.14   Discourses on (Human) Security in Bangladesh

There is a lack of clear understanding about the elements of human insecurity that are manifest in Bangladesh. The concept of human security was introduced to Bangladesh in 2012 through an international conference titled "Human Security and Natural Disasters: Bangladesh Perspective" organized by Bangladesh University of Professionals (BUP). This early attempt seems to indicate that the concept was introduced into the domestic arena following the external inoculation just described. However, the idea of security in the country is deeply entwined with violence; the version of human security that got into the mainstream discourse originated from the existing understanding of security, somehow in a bottom-up manner.

1.15   Human Security Dimensions of Climate Change

"We sink or swim together. Climate change can be a threat to peace and stability. There is no part of the globe that can be immune to the security threat." (Pauchauri, 2009)

The literature on environment and security has evolved over the years: from an early focus on incorporating environmental and related concerns into the definition of "security" to a new focus on how environmental change can be a cause or amplifier of violent conflict. An emerging trend within this evolution has been a move toward greater emphasis on the concept of human security.

Human security is not in opposition to the earlier trends of redefining security or of mapping the environmental roots of violent conflict. In fact, it is an outgrowth of these trends. Indeed, many early attempts to broaden the definition of "security" used language very similar to that found in today's discussions on "human security." For example, consider the following definition from Norman Myers' Ultimate Security:… security applies most at the level of the individual citizen. It amounts to human well-being: not only protection from harm and injury but access to water, food, shelter, health, employment, and other basic requisites that are the due of every person on Earth. It is the collectivity of this citizen's needs— overall safety and quality of life— that should figure prominently in the nation's view of security. Those analysts who have focused on explicating the environmental causes of violent conflict have also brought the debate closer to the notion of human security—most noticeably by focusing on intrastate (often conflicts that can…become a feature of state insecurity….If peoples and communities are insecure (economically, socially, politically, environmentally), state security can be fragile or uncertain.

Today, environmental change including climate change presents a new threat to human security and a new situation for migration. By 2050 when human population is projected to peak, some 9 billion people will live on Earth. The majority of them will live in urban areas with crushing environmental footprints. Many megacities are located in areas prone to sea level rise. Climate change will visit urban and rural areas alike with increasingly frequent and violent hazard events. Flooding, intense storms, or droughts, or more gradual but similarly intense changes in regional climates place great stress on livelihood systems.

Research on the effects of specific stressors like environmental degradation on society grew during this time period. Environmental issues have been seen in the broader context of human security since the end of the Cold War, which marked the end of political bipolarity and the narrow, mainly military notion of security that predominated the discourse at that time. The Brundtland report (1987) introduced the concept of sustainable development, followed by broad public discussion and a series of United Nations summits on environment and sustainable development (World Conferences in Rio 1992 and Johannesburg 2002). In this respect, the UNCED,

informally known as the Earth Summit, held in Rio de Janeiro in 1992 was a critical point in mainstreaming environmental issues at the international level. The event heralded the development of various UN Conventions dealing with environmental issues, for example, the UNFCCC, the CBD and the UNCCD. These conventions and conferences directly and specifically address environmental issues that affect human security.

The climate shocks also erode long-term opportunities for human development, undermining productivity and eroding human capabilities. No single climate shock can be attributed to climate change. However, climate change is ratcheting up the risks and vulnerabilities facing the poor. It is placing further stress on already over-stretched coping mechanisms and trapping people in downward spirals of deprivation. There is growing recognition among scientists, practitioners, and policy-makers that climate change will increase the frequency and magnitude of extreme hydro-meteorological events with potentially devastating economic and social impacts at the local and regional levels. Disasters are increasing in impacts and scope, not due to hazards alone, but because of the combined effects of large-scale environmental, economic, social, demographic, and technological changes. Climate change and the potential for increased disasters related to extreme events also raise critical concerns for long-term human security. Human security, broadly defined, includes the means to secure basic rights, needs, and livelihoods, and to pursue opportunities for human fulfillment and development. The promotion of human security is also closely linked to a "positive vision" of society that is encapsulated in notions such as well-being, quality of life, and human flourishing. This positive vision has been elaborated through the capabilities approach, which emphasizes the freedom of people to choose among different ways of living, and to pursue opportunities to achieve outcomes that they value.

A number of recent studies have assessed the relationship between climate change and human security, demonstrating that the linkages are often both complex and context-dependent. For example, negative impacts of climate change on food security over the medium- and long-term are likely to create greater emergency food aid needs in the future. Among the most widely-discussed humanitarian and human security issues

surrounding climate change are the possibilities of mass migration and/or violent conflict as the result of biophysical or ecological disruptions associated with climate change. Below, we discuss how migration and conflict, both of which are emerging as key security concerns among national governments and international institutions, are intricately tied to the vulnerability context that disaster risk reduction and climate change adaptation are targeting.

Climate change is seriously affecting hundreds of millions of people today and in the next twenty years those affected will likely more than double-making it the greatest emerging humanitarian challenge of our time. Events like weather related disasters, desertification and rising sea levels, exacerbated by climate change, affect individuals and communities around the world. They bring hunger, disease, poverty, and lost livelihoods-reducing economic growth and posing a threat to social and, even, political stability. Indeed, climate change reduces access to fresh and safe drinking water, negatively affects health and poses a real threat to food security in many countries in Africa, Asia, and Latin America. In some areas where employment and crop choices are limited, decreasing crop yields have led to famines. Desertification and other forms of land degradation have led to migration.

Gradual environmental degradation due to climate change has also affected long-term water quality and quantity in some parts of the world, and triggered increases in hunger, insect-borne diseases such as malaria, other health problems such as diarrhea and respiratory illness. It is a contributing factor to poverty, and forces people from their homes, sometimes permanently. Likewise, health outcomes and food insecurity lead to displacement and poverty which might result in competition for scarce resources and strains on mostly already limited government capacity to deal with deteriorating conditions and might ultimately lead to conflict.

Increasing Natural Disasters

Another consequence of climate change that has the potential to affect human security relates to natural disasters. Global warming is predicted to increase the frequency and intensity of tropical storms, flash floods, landslides, and wild fires, and substantially alter precipitation patterns in many parts of the world. The 2005 hurricane Katrina

demonstrates that climate-related disasters can, and occasionally do, have direct security implications even in developed societies. Natural disasters can be categorized as either geological or hydro-meteorological. Almost all of the temporal increase in disaster frequency is accounted for by the hydro-meteorological (or climatic) category. Hence, floods constitute the most prevalent disaster type. More than one-third of the world's landmass and 82% of the world's population live in flood prone areas. In 2006, floods accounted for 55% of all registered disasters. Drought is the second most frequent type, threatening about 70% of the world's population. Changing precipitation patterns and more extreme weather imply that hydro-meteorological disasters are expected to become more frequent in the future.

1.16   Climate Change and Migration

Concerning migration, disasters linked to both extreme events and more gradual changes often lead to displaced people, refugees, relocated communities, and temporary or permanent migration. The relationship between climate risk and displacement is a complex one and there are a myriad of factors that affect displacements and migration. However, recent studies suggest that climate change and associated adverse environmental impacts have the potential to trigger displacement of an increased number of people. Research further suggests that the bulk of migration will take place internally in individual countries; that the majority of migration will come as a result of gradual changes in climate and not so much from individual catastrophic events; that in most cases when hydro-climatic disasters occur in developing countries they will not lead to net out-migration because people tend to return to re-establish their lives after a disaster; and that long term environmental changes are likely to cause more permanent migration.

Recent studies distinguish between migration driven by 1) the increasing frequency and intensity of slow onset disasters such as drought and desertification; 2) rapid onset disasters such as floods and cyclones, and 3) incremental changes driven by sea-level rise. Most studies agree that the most important climate change-related driver of migration will be sea-level rise, with the more careful assessments recognizing that the severity of migration will depend critically on the rate of localized changes in sea-level, and the degree to which adaptation takes place and is successful. These studies

also recognize that the rate of migration driven by sea-level rise is likely to be slow, but steady, which suggests that disaster risk reduction and adaptation strategies may help avoid humanitarian crises and political instability.

Some studies also recognize that there may be some degree of exaggeration surrounding discussions of "environmental refugees" driven by climate change, creating the danger of inappropriate policy responses that do little to ensure the rights of those most at risk from climate change. While it does seem likely that climate change will be an additional contributor to migration, many studies emphasize that it is very unclear how many migrants there may be, where they may move from and to, and over what time scale. This uncertainty suggests that some of the more alarmist predictions, including those by Myers and Christian Aid, should not be used as a basis for policy.

It is also widely recognized that environmental change is never a sole cause of migration, and that there are always one or more underlying economic, political or other social factors that make environmental change a proximate trigger, rather than an underlying driver of migration. Whether an individual may migrate due to climate change depends on what is understood of the risks posed by climate change, and to what extent the benefits and costs arising from migration are understood by the individual. Many variables shape an individual or family's decision to migrate, including factors at the point of origin, factors at the destination, intervening obstacles such as distance and institutional constraints, and personal circumstances. Many studies also show that in most cases migration in response to disasters is only possible after a certain level of wealth is reached, meaning that the larger humanitarian problems may be in places where people *cannot* afford to move, rather than the places to which they do move. In terms of slow-onset disasters such as drought, the evidence is more mixed: repeated drought events such as occurred in the Sahel in the 1970's and 1980's did lead to large scale migration, although it is more often the case that drought was only a trigger, with the underlying drivers being changes in livelihood systems driven by dependence on exports of a few primary commodities as a result of colonization. In other cases, such as drought in Bangladesh in 1994, large-scale migration was not an outcome.

It is important to point out that migration as a form of adaptation is not unproblematic. For example, if recent estimates of a 140cm rise in SLR and annual coral bleaching are correct, then there is little that can be done to avoid or adapt to losses of land on low-lying atoll islands, with a worst case outcome being the collapse of the ability of island ecosystems to sustain human habitation and subsequent risks to the sovereignty of the world's five atoll-island states. The result may be increases in morbidity and mortality, as well as an increased demand for migration. In the Arctic, too, there is arguably little that can be done to avoid or adapt to absolute losses of snow and ice, melting of permafrost, and resultant changes in social-ecological systems. As with low-lying atoll islands, increased morbidity, mortality and migration may result. In both cases there are other significant losses as well, including of place and culture and the right to a nationality and a home. In each case migration cannot be seen as an 'adaptation' but rather as a loss of culture, livelihood, place and the right to a home.

Climate Change and Conflict

The magnitude of environmental changes expected to result from even 2°C of warming above pre-industrial levels may cause significant negative social outcomes in certain social systems—in particular low income and resource-dependent societies. In recent years there has been considerable attention to the relationship between climate change and violent conflicts. Many studies propose that climate change heightens the risk of violent conflict between countries. Others, however, are more circumspect, arguing that while there is cause for concern, there is as yet only limited research to substantiate the argument that climate change will increase violent conflict. These debates notwithstanding, some recent research suggests that certain aspects of climate do influence the likelihood of violent conflict. Miguel et al. use rainfall variation as a proxy for economic growth in 41 African countries and find that decreases in rainfall strongly increase the likelihood of conflict in the following year. Hendrix and Glaser, and Meier et al. also find associations between rainfall variability and violent conflict. Nel and Ringharts show that rapid onset disasters related to climate and geology increase the risk of violent civil conflict, particularly in low and middle income countries. All of these studies use aggregated data sets, and are not without their empirical and methodological problems as explained by Buhaug et al.

Yet they do indicate the possibility of a connection between climate and conflict, and justify grounds for concern about the possibility that climate change may increase the risk of violent conflict.

There is some evidence that some of the likely outcomes, such as dwindling resource stocks, a decline in livelihoods, decreasing state revenues, and increasing inequality across space and class, may create opportunities for some elites to harness resentment and mobilize people to fight, and this is more likely in states where regimes are weakened by decreasing revenues from resource-based rents or taxes. If climate change causes migration, this too may be a cause of violent conflict in certain circumstances.

Many studies recognize that there are multiple options for reducing the risk of conflict arising from climate change. It is also important to recognize that conflicts resulting from climate change will not necessarily be violent and can instead lead to changes in the distribution of power and resources, and protection of the things that are valued.

Furthermore, research on international river basins shows that issues of water access and water scarcity in many cases lead to cooperation, rather than conflict. In short, the evidence about the links between environmental change and violent conflict is currently inconclusive. Neither qualitative examination of cases, nor research seeking generalizable findings based on statistical data, have produced robust findings. There is, however, ample evidence that human insecurities associated with a lack of basic needs such as food, water, and shelter, limit capabilities and freedoms, and thus have negative implications for human development.

Climate change is one among many factors affecting human security. Climate change will have an enormous impact on environmental, social and economic conditions. This means that climate change also raises concerns regarding human security. The UN defines human security as a situation where the social, political, environmental and economic conditions conducive to a life in freedom and dignity are present. Human security is multi-faceted and includes freedom from hunger, violence and war, political repression, crime, disease, and environmental hazards. Climate change is

more directly linked to some of these dimensions, (e.g. hunger, if agricultural production declines in a region due to drought), and less directly related to others (e.g. crime and political repression). Water and food security are sub-dimensions of human security.

1.17   What does Human Security offer to Sustainable Development?

Human security offers much to the field of sustainable development, some that reinforces and some that adds to the contributions of human development (Khagram et al. 2003) as follows:

- Highly aggregated economies and environments have received significant attention in academic debates, policy agendas and action programs. Human security and human development, by emphasizing people, strengthen the social pillar of sustainable development, and may have important implications for future sustainable development goals, priorities and action plans.

- In addition to emphasizing the social pillar, human security and human development disaggregate it, moving to the 'inescapably pluralistic'. This encourages the sustainable development field away from a ''standard of living'' towards a ''sustainable livelihoods'' approach that prioritizes certain freedoms, the absence of which may not result in an ''identifiable diminution in the overall standard of living'' (Sen, 2002:8).

- Human security and human development move the sustainable development field from a primarily needs-based focus to a rights-based focus in the quest of improving opportunities and capabilities. The practical implication of this broadening is that civil and political rights along with economic, social and cultural rights become an integral component of the social pillar of sustainable development. It therefore provides a most basic, practical tool for individual empowerment through universally setout entitlements and obligations.

- Human security more than human development prioritizes achieving freedom from want and freedom from fear *urgently*. Sustainable development corrected the insufficient attention paid to inter-generational equity in the past, but some versions forgot intra-generational equity altogether. Even the more human development-centered versions of sustainability focused on promoting

'freedom tos' and thus underplayed the protections that are necessary to ensure 'freedom froms'.

1.18 What does Sustainable Development offer to Human Security

Conversely, the field of sustainable development offers much for human security:

- Nature and society are interdependent: what happens within one affects the other in significant ways. This is not a normative statement, but rather an empirical finding about how the world works. Goals, policies, and activities based on this understanding are likely to be more successful that those that dis-embed people from nature.

- The interdependencies of nature and society generate not only threats to both, but also opportunities for positive change. The potential for mutually destructive degradation and for mutually supportive nurture exists. Research and action that focus largely on threats posed by appropriately disaggregated nature and society to one another will miss important opportunities for joint improvement and mutual benefit.

- Threats and opportunities (or risks) exist at all time and space scales, from the acute and local to the chronic and global. It is at intermediate regional spatial scales and decadal time scales that some of the most critical contemporary threats arise, and some of the best opportunities for helpful initiatives exist. Popular efforts to establish agreement at the global level on 'the' most important challenges for human security are therefore likely to be much less effective than suitably contextualized efforts. Likewise, an exclusive focus on either immediate or very long term interactions is less likely to promote progress than a dynamic focus on intermediate temporal transitions.

- Communities and people must be able to articulate their own aspirations, have the appropriate means to make their voices heard and to participate effectively in decision-making about their security and development. Top down, technocratic efforts, regardless of how well planned or well intentioned, have little chance of durability or success. Human security proponents would do well to empower people to identify what they see as the critical insecurities and best means for promoting security.

- Finally, there is a strong case to see nature as valuable in its own right, in addition to its instrumental value for human beings. Taking this last principle, and following the broader model of integration and linkages offered by sustainable development, perhaps it is 'sustainable security'. Sustainable security offers a more open space for deliberation, analysis, and action could help connect analysts and practitioners of human and environmental security in common purpose to expand the narrow and problematic field of state security.

1.19   Rationale/ Significance of the Study

The issue of security is a contested issue especially in the academic domain. When it comes to dealing human security, we often confront questions like: What constitutes human security? Why has it become so pertinent for a country like Bangladesh? How can human security be made tenable? This study aims to attempt to address some of those questions and generate debate and discussion on the increasingly changing security dynamics of Bangladesh in relation to the climate change induced disaster only. There is meager published information available about climate change induced disaster. To fill up this gap, the present study aim to understand how climate change induced disaster acts as threat multipliers to human security in Bangladesh.

The relationship between the environment and human beings is evident (Westing 1989; Myers and Simon 1994). Human beings are embedded in the environment itself. From land, water and air, the environment guides each and every living organism. On one hand, the environment provides a living base of human beings; and on the other hand, human beings are threatening the environment through irrational use and over-consumption. Consequently, the environment is vehemently threatening human lives and creating perennial insecurity. The relationship is directly proportional to human actions upon the environment.

In this study, the researcher considers climate change within an emerging discourse on human security. We emphasize two important dimensions of human security that are directly influenced by climate change: 1) an equity dimension and 2) a connectivity dimension. The equity dimension draws attention to the fact that not all

individuals, communities, regions, and nations will be equally affected by climate change. The connectivity dimension emphasizes that the security of individuals and communities is increasingly linked across both space and time, such that outcomes for one group are increasingly related to outcomes in other areas or for other groups, both in the present and future. These interrelated dimensions of human security challenge current discussions and debates about climate change as an environmental issue, and call instead for a more people-based approach to climate change. Results will allow to identify, which countries are more resilient to disasters, and which factors (and *'securitabilities'*) influence it. Can they be adapted in other countries? Formula for sustainable development? What are we then looking for? Environment, climate and disaster risks go hand-in-hand with socio-economic deprivation. Turning this challenge into a constructive point, the opportunities are there for "win-win" planning and investments based on rational analysis to ensure human security through poverty alleviation along with climate and disaster resilient development with environment friendly approach.

Among various approaches possibly the social science approaches have dominated the field of disaster research since the 1950s and have emphasized the environmental and behavioral aspects of disaster. Social scientists findings on existing literature are the significant contributions to the conceptual typology of disaster research, where different areas of concern in disaster research such as planning, warning, evacuation, emergency, restoration, reconstruction, perceptions and adjustments are identified; and disaster under four major headings: preparedness, response, recovery and mitigation are discussed. However, most of the approaches and research on disaster have been formulated and conducted for the developed world (especially the US). Their application to developing areas is problematic and very limited, as in the Bangladeshi cultural context. Moreover, there is almost no discussion of the human security aspects to disaster under any theoretical approach.

Poverty, environment and climate dimensions of vulnerability in our understanding of human security would help to focus public attention, policy-makers and funds on the long-term value of environment and forest conservation and adaptive social protection measures. Human security is an integral part of any development effort in general and disaster management in particular. The disaster management program should take into

account of the human security implications. Vulnerability is often overlooked as an underlying risk driver in programming and analysis. For effective program development it is useful to make full use of the tools of human security policy such as the Human Security Governance Index, Human Security Mapping and Human Security Impact Assessment.

While both hazards and disasters are worsening the situation and increasing the risks day by day in Bangladesh, the GO and the NGOs as well as the community people need to look for the ways to tackle the hazards of nature. Although they have adopted several programs and mechanisms for promoting disaster management both at national and local levels, some more practical steps should be taken to limit the adverse impact of the hazards. In this regard, this research aims to achieve the overall objective of the study. The study will be significant endeavor in projecting awareness of the dangers and risk of climate change induced disasters and to integrate human security issues with this. This will be an important contribution to a body of research concerning human security and climate change induced disaster.

1.20   Objective of the Study

1.20.1   Broad Objective: To examine the impacts of climate change induced disasters and options for human security management in Bangladesh.

1.20.2   Specific Objectives:

a. To identify the impacts of climate change induced disasters on human security;

b. To find out the issues of human security in front of disasters/ climate change induced disasters; and

c. To analyze various policies/documents related to disaster management of the country and suggest a framework of human security for Bangladesh.

1.22 Outline of the Chapters

The thesis is organized as follows:

- **Chapter 1** states the problem of the present research project, sets the objectives, the research questions and ends with the thesis structure.

- **Chapter 2** discusses the main concepts used in this study and reviews literature of the past and current studies in Bangladesh and elsewhere.

- **Chapter 3** deals with the material and methods applied to achieve the objectives of the research project. It also focuses on the conceptual framework of this study, the data collection tools techniques and processing method after describing the socioeconomic context of the study area.

- **Chapter 4** uses analysis of various policies/documents related to disaster management of Bangladesh**.**

- **Chapter 5** presents the findings and discusses them.

- **Chapter 6** concludes in summarizing the key results and provides recommendations.

Introduction	Literature Review	Material & Methods	Analysis of DM policies	Findings & Discussion	Conclusion

At the end, important references will be listed and appendices enclosed relating to the present study.

1.21 Chapter Summary

In Chapter I, the subject has been introduced with background information and also the problems have been identified. Finally, the objectives of the research have been specified and the outline of the chapters is presented at the end of this chapter.

Chapter II

LITERATURE REVIEW

LITERATURE REVIEW

2.1   Introduction

A considerable body of literature now exists, which classifies and defines human security aspects, but in developed countries perspective it has been historically viewed as their phenomenon. So, a large body of literature on human security climate change induced of disasters has emerged in the context of developed countries. As such, the literature on the theory and practice on human security on the developing countries, therefore, remains scant. Three modes of objectification of subjects are scientific classification, dividing principles and subjectification itself. It is also having relation with the perspective of Michel Foucault and theory of deconstruction. It is a prominent concept in the philosophy concerning this doctrine is manifested in both societies as a whole and in individuals within the society is presented. In a wide sense, it is a more important element than pressure for adaptation or survival.

Foucault (1969) makes no distinction between knowledge and power. Power is seen as part of the discourses of people, which form paradigms, with the paradigms in turn influencing the discourse. These paradigms are referred to as epistemes, within which all discourse falls. Historically, periods of discontinuity for paradigms lead to change. Power can also be viewed as a positive influence for continuity, as well as a negative one. Foucault's theory developed during his lifetime but he was mainly interested in the acquisition of knowledge, and how power is expressed in relationships, studied from a historical perspective. The perspective of Foucault is useful here to analyze the form of human security and how it works. Human security activities of disasters seem to be liberal economic system from the perspective of neo-liberal capitalism. Knowledge that has been referred through exercising myth in the name of performing responsibility, that is in fact, recognizing 'underdevelopment'. This has been established on the basis of power relation, on which selected people or group exercise their power. Here capitalist policy and 'development' politics is involved. Power is utilized through exercising activities, creating image and communicating message as such it gives passive picture of welfare and willful character. With exercise of power on individual, this also influences individual's thinking, ideology etc., which Foucault (1972) terms as 'power game'.

Foucault (1980) also argues that the discourses are used to maintain the status quo, and power relation within it. He described this process as 'governmentality'. Governmentality is the process of institutions, procedures and tactics (discourses) the exercise power on populations, through historical development so that they are part of societies and individuals being, termed by Foucault (1979) as 'a whole complex savoir'. The contemporary human security literature suggests that obligations, duties and responsibilities between the societies and the public institutions are determined by the terms of social contract, which is subject to change from time to time, depending on the changing expectations of society. Yet, the term of the social contract are themselves undergoing a fundamental change as seen by Steiner & Steiner (1997) with the shift in societal attitudes and values, which include a greater emphasis on quality rather than quantity, a change from profligate use of resources to conservation from more government regulation to responsible self regulation, and from mastery over nature to existing harmony with it.

2.2   Review of Literature

The term human security has a recent and increasingly wide usage. With the end of the Cold War, calls for new thinking in security matters grew rapidly. In 1991, the Stockholm Initiative on Global Security and Governance issued a call for "Common Responsibility in the 1990's" which referred to "challenges to security other than political rivalry and armaments" and to a "wider concept of security, which deals also with threats that stem from failures in development, environmental degradation, excessive population growth and movement, and lack of progress towards democracy." Four years later, the Commission on Global Governance's report, Our Global Neighborhood, echoed the Stockholm Initiative's words on security: "The concept of global security must be broadened from the traditional focus on the security of states to include the security of people and the security of the planet." If these commission reports were the precursors to human security thinking, it was only in the early 1990s that an explicitly human security perspective was articulated with some rigor. The first contribution was that of Mahbub ul Haq and the United Nations Development Program (UNDP). Mahbub ul Haq proposes human security as a new paradigm of security: 'the world is entering a new era in which the very concept of security will change - and change dramatically. Security will be interpreted as:

security of people, not just territory. Security of individuals, not just nations. Security through development, not through arms. Security of all the people everywhere - in their homes, in their jobs, in their streets, in their communities, in their environment." He mentioned human security by articulating a universal, preventive, "people-centred" approach that focused jointly on "freedom from fear and freedom from want" (Haq 1995:115). The intent of human security was to bridge the freedom from want and freedom from fear, freedoms that lay at the heart of the United Nations. However, the working definition of human security is to safeguard the vital core of all human lives from critical pervasive threats, without impeding long-term human fulfillment.

Recent academic literature has moved very quickly to a critical evaluation of human security but seems distinctly unclear about what its critique of the phenomenon is based on. Human security is the new catchphrase in international security discourse. It is presented both as a concept and as a policy framework that challenges traditional notions of security, which are state-centric, focused on interstate conflict, and primarily concerned with military defense. Human security broadens the notion of security by expanding its dimensions to economic, political, cultural, and even psychological aspects. It deepens the notion of security as the referent object shifts to include individuals, groups, and societies (Paris 2001; Krauseand Williams 1996). As a concept, human security is contested. Scholars, institutions, and even nations offer various definitions of the concept. Despite the abundance of literature, debate and analysis on the issue since 1994, human security is considered vague and meaningless as a conceptual tool.

Human security has generated substantial literature since its introduction in 1994. The focal point of the debate has been the concept's theoretical framework. Human insecurity is pervasive among refugees and internally displaced persons, with long-term consequences for affected individuals. A review of literature shows that human security is essentially a contested concept. Various scholars, nations and institutions offer alternative definitions, referent objects, operationalization and proposed methods of measurement (referred to Table 1 for a survey of human security measurements). These proposals range from minimalist to maximalist definitions that tend to overload the concept with various dimensions. The tendency of defining human security in

such broad or narrow terms largely depends on the interest of groups engaging in the theorizing or applying the concept of human security. It is important to note that the maximalist definitions are usually founded on normative grounds and that criticism of the maximalist position and the preference for the minimalist definitions are grounded on empirical and methodological grounds.

Table 3: Elements of Human Security

UNDP 1994	Sen 2000 (Obuchi)	Hampson et al. 2002	Nef 1999	Buttedahl 1994	Canada 2000	Leaning & Arie 2000	Thomas 2000	Agenda 21	Nussbaum 2000
Personal security Environmental security Economic security Political security Community security Health security Food security	Survival Daily life Human Dignity	Freedom from fear / safety of peoples Liberty/rights and rule of law Freedom from want/equity and social justice	Environmental, personal & physical security; Economic Security Social Security Political Security Cultural security	Personal and physical security Economic Security Social Security Political Security Ethnic and cultural security	Protection of Civilians1 39 Peace Support Operations Conflict Prevention Governance and Accountability Public Safety	Sustainable sense of home Constructive social and family networks Acceptance of the past and a positive grasp of the future	Basic Needs Dignity Democracy	Peace as the foundation The Economy as the engine of progress The Environment as the basis of sustainability Justice as a pillar of society Democracy as good governance	Life Bodily health Bodily integrity Senses, imagination, thought Emotions Practical reason Affiliation Other species Play Control over one's environment

There remains to be considerable debate on the scope of human security, the dimensions of the concept and the core values to be protected amongst scholars. There is a lack of directional focus, which should direct the substantive and systematic study of threats under human security. Paris argues that various dimensions and values are selected arbitrarily without compelling justification. For him it is futile to attempt to narrow down the concept when it is in the interest of advocates of human security to keep the concept ambiguous. He argues that "… human security is powerful precisely because it lacks precision and thereby encompasses the diverse perspectives and objectives of all the members of the coalition". Instead, he proposes that human

security should not be used as a concept but as a category of research of military and non-military issues concerning individuals, groups and societies (Paris 2001).

The history of mankind is the history of social conflicts. In the pre-business era, Code of Hummurabi that was linked to the customary law, but more akin to the labor laws of today, stipulated the wages due to field laborer per year. Then society sought refuge in theology for solution to the issues of poverty and inequality. The discourse on human security goes beyond its mere definition. As Gasper (2005, p. 228) argues, it "includes normative claims that what matters is the content of individuals' lives, including a reasonable degree of stability." It stands apart from other discourses (e.g., human needs and human development) by disaggregating down to the level of the individual, taking a human rights stance that the basic requirements of no individual are to be sacrificed. This reflects John Rawls (1971) theory of justice, and human security indeed has a strong link to notions of justice, equity, and fairness. But human security is also about freedom from threats and risks – risks that are increasingly likely to become global in their scale (Beck 1992).

Human security is a concept that links together different issues and allows one to look at power, politics, and the contextual factors that create insecurities. It is considered an emerging theme among international institutions, encompassing issues related to human development, human rights, and environmental sustainability (Gasper 2005). The discourse on human security has developed since the early 1990s, when the first Human Development Report was published by UNDP, with the explicit goal of putting people at the center of the development process. The notion of human security has been increasingly promoted as an integrative concept that focuses on both protection and empowerment. The Sen-Ogata Commission's 2003 report "Human Security Now" raised the visibility of human security, and the concept has been widely used in policy circles, particularly in the United Nations system, but also in the Human Security Network, which is made up of 14 countries that identify important themes or issues of concern that are linked to a human security agendas.

The promotion of human security is also closely linked to a "positive vision" of society that is encapsulated in notions such as well-being, quality of life, and human

flourishing (Lister, 2004). This positive vision has been elaborated through the capabilities approach, which emphasizes the freedom of people to choose among different ways of living, and to pursue opportunities to achieve outcomes that they value (Sen, 1999:291). In viewing development as freedom, Sen draws attention to the notion of opportunities, and in particular focuses on the role of human beings as instruments of social change. Freedoms emphasize "both the *processes* that allow freedom of actions and decisions, and the actual *opportunities* that people have, given their personal and social circumstances" (Sen, 1999:17). Human security thus implies both protection from threats, and empowerment to respond to those threats in a positive manner.

The relationships between the environment and human security are certainly close and complex. A great deal of human security is tied to peoples' access to natural resources and vulnerabilities to environmental change — and a great deal of environmental change is directly and indirectly affected by human activities and conflicts (Khagram et al., 2003).

These assessments carried out by IPCC confirm that climate change is contributing to dramatic transformations of the biophysical environment that will affect human settlements, ecosystem services, water resources, and food production, among other things. These transformations are likely to have widespread implications for individuals, communities, regions, and nations. Although there is considerable uncertainty about the future trajectory of climate change, related in part to the amount and rate of greenhouse gas emissions, the consequences of climate change represent an unprecedented threat to human security (O'Brien and Leichenko, 2009).

Literature on human security and disasters, while it does exist, suffers from an absence of systematic knowledge or theoretical frameworks. Disaster is a severe, relatively sudden and unexpected disruption of normal structural arrangements within a social system over which the system has no firm control (Barton, 1974). Turner (1978) views disaster as a significant departure from normal experience for a particular time and place. Disaster is also viewed as a mental construct imposed upon experience. This is because to understand disaster knowing the number of deaths, the

value of property destroyed or the decrease in per capita income is not sufficient. The symbolic component requires knowledge of the sense of vulnerability, the adequacy of available explanation and the society's imagery of death and destruction (Barkun, 1977).

Disasters can be more easily recognized than they can be defined (Britton, 1986). Natural disasters, such as earthquakes, floods, landslides, and extreme weather conditions, continue to cause death in many parts of the world. According to the Centre for Research on the Epidemiology of Disasters (CRED), a total of 385 natural disasters resulted in approximately 300,000 deaths worldwide and caused more than US$ 120 billion of economic damages in 2010 alone (Guha-Sapir, 2011). There is a paradigm shift from emergency response to proactive disaster risk management by strengthening institutions (GOs, development partners, INGOs, NGOs, academics etc) as per as the disaster management of Bangladesh is concerned. By now Bangladesh's public policy on disaster management has shifted from a focus on relief and rehabilitation efforts to holistic management of disasters. This new policy approach incorporates pre-disaster issues of prevention, mitigation, and preparedness, as well as post-disaster issues of response, recovery, and reconstruction.

In the recent years, particularly, over the last one and a half decades, climate change has been considered as the greatest threat to the mankind in the 21st century due to global warming. The global climate has been changing far more rapidly now than anticipated earlier. This will further, increase the frequency and intensity of different natural hazards like floods, droughts, cyclone, SLR, salinity etc. (IPCC, 2007) and would cause increased devastation on the human system, ecology and natural resource bases. Climate change poses one of the greatest challenges for human security in the 21st century, yet there is a major disconnection between our actions to deal with it and the gravity of the threat it implies (Yeasmin and Rahman, 2013).

Climate change adds a new dimension to community risk and vulnerability. The disaster victims/migrants experiences difficulties largely due to unemployment, health hazard, growth of population, and excessive price of daily commodities (Ahmed et.al, 2014). Because of its location in the tropics, Bangladesh is geographically exposed to a multitude of adverse impacts of climate change, a problem compounded by the

country's low adaptive capacity (due to its extreme poverty). The livelihood of most of the people in Bangladesh is agriculture-related. Climate change will affect livelihood assets, agriculture and food production, access to water and natural resources. The increased frequency and intensity of disasters that accompany climate change will add to displacement, migration and social conflicts. The impact of climate change is clear: it increases people's vulnerability to poverty and social deprivation. Populations of marginalized community, whose rights are poorly protected, are likely to be the least equipped to adapt to climate change effects. The human costs of climate change include direct threats to internationally accepted human rights: rights to life, food, health, a place to live, and work. Climate change adds to existing challenges for marginalized people, including political and economic marginalization, and land and resource encroachments.

On the other hand, historically, security has been considered as both a prerogative and a responsibility of states, but the evolution of threats, especially during the last decade, has considerably affected this understanding. Since the end of Cold War, the global security issue has become more complex. The threats to security are menaces against the environment, increases in transmissible diseases, instability provoked by massive population displacement and the proliferation of weapons of mass destruction. No state can protects its citizens against these realities by strengthening traditional state control mechanisms alone. State and societies now depend much more than ever on the acts or omissions of other societies for their security and sometimes, even for their survival (Fouinat, 2004).

In simple terms, 'security' means freedom from danger, fear, want and deprivation. Throughout most of the past century, security thinking and policy have focused on the dangers posed by military aggression. This focus was determined basically by the experience of two world wars. Exploring linkages between the environment (the natural physical and biotic world) and security (free from danger) has long been a familiar theme of world politics. Geography confers advantages and disadvantages that are well known to military planners. For centuries, research on this topic has been extensive and diverse, but recent scholarship has received considerable attention since the end of the Cold War, focuses on the immediate and foreseeable security implications of human-generated environmental change such as land degradation,

deforestation, global warming, air pollution, and biodiversity loss etc. According to this perspective, some of these compressed forms of environmental change already pose direct threats to national interests, regional stability, and the welfare of humankind. Other forms amplify and complicate problems such as poverty, mass migrations, ethnic rivalry, civil violence, and interstate tension and conflict.

'Human Security' is more than an abstract concept, which provides the necessary integrated framework for addressing the root causes of conflict and human, economic, environmental and social insecurity. It is basically an emerging paradigm for understanding global vulnerabilities whose proponents challenge the traditional notion of national security by arguing that the proper referent for security should be the individual rather than the state. Human security holds that a people-centered view of security is necessary for national, regional and global stability (Wikipedia, 2015).

The concept of 'human security' is characterized by an emphasis on the security of individuals and communities that has moved beyond traditional national security, with the ultimate goal of the latter being the security of national borders. The concept of human security, from the 1994 Human Development Report (HDR) goes beyond traditional notions of national and military security and includes such issues as development and respect for human rights. It provides an integrated comprehensive framework for designing, developing and evaluating humanitarian affairs and capacity building initiatives in emergency, transitional and development contexts. Accordingly the definition of human security argues that the scope of global security should be expanded to include its threats also.

Almost a decade later, The Commission on Human Security went on to say that human security should focus on addressing 'critical and pervasive threats' to the 'vital core of all human lives' and added the freedom to live in dignity to the UNDP's dual freedoms from fear and from want. It also defined the importance of five elements of human security: (1) it is people-centered; (2) it is integrated with human development and human rights; (3) it deals with a comprehensive set of threats; (4) it engages actors beyond the government; and (5) it proposes a bi-modal strategy of protection from above and empowerment from below.

Since end of the Cold War, the subject matter of security studies has been changing in different ways. Paris (2001) argues that security studies have both dimensions "broadening" and "deepening." By broadening, he means the consideration of nonmilitary security threats, such as environmental scarcity and degradation, the spread of disease, overpopulation, mass refugee movements, nationalism, terrorism, and nuclear catastrophe. By deepening, it covers the security of individuals and groups, rather than focusing narrowly on external threats to states.

The framework in Table 2 as follows shows that if we define human security as security of survival (mortality/injury, health), security of livelihood (food, water, energy, environmental, shelter, and economic security), and dignity (basic human rights, capacity and participation), natural disaster has different effect on these respective security aspects:

Table 4: Framework on Human Security and Climate Change Induced Disaster

Human Security	Security Aspect	Climate Change Induced Disaster	Opportunities (Policy etc)
Security of Survival	Mortality/injury	* Mortality through different extreme weather events	* Disaster preparedness. * Early warning systems. * Gender-specific participation and access/control).
	Health	* Increase infectious diseases vectors * Physical and mental stress	* Access to health facilities and services (for women). * Monitoring health situation. * Reproductive health facilities.
Security of Livelihood	Food security	* Agricultural production changes. * Fishery stocks decrease	* Agricultural extension in adaptive strategies, e.g. mixed cropping, better adapted crops/livestock. * Affordable and ecologically sound agricultural inputs. * Nutritious extension. * Land rights for women. * Marketing facilities.
	Water security	* Lack of water. * Pollution and salination water. * Flooding.	* Safeguarding of affordable drinking water. * Safe sanitation facilities. * Preservation wetlands.
	Energy security	* Lack of biomass fuel	* Provision of fuel sources. * Provision of (and training

		* Malfunctioning hydropower	in) energy-saving devices. * Ecological regeneration.
	Environmental Security	*Environmental processes and services jeopardized	* Ecological restoration. * Safe shelter areas.
	Shelter security	* Housing, infrastructure and services damaged.	* Safe shelters and solid housing.
	Economic security	* Decrease of income generating (+credit facilities) opportunities.	* Affordable credit and financial facilities for women. * Provision of alternative livelihood options.
Dignity	Basic human rights	* Triggers violation of basic human rights: stress factor increases.	* Supporting facilities (including counseling, CBOs).
	Capacity	* Lack of opportunity: education and income generation	* Education. * Skills training.
	Participation	* No/limited part in decision-making; lack of information.	* Access to information. * Ensure participation.

(Source: Researcher's adaptation based on Dankelman, 2008)

The objective of human security is to safeguard the vital core of all human lives from critical pervasive threats, in a way that is consistent with long-term human fulfillment. Human security takes its shape from the human being: the vital core that is to be protected. Institutions that undertake to protect human security will not be able to promote every aspect of human wellbeing. But at very least they must protect this core of people's lives (Alkire, 2003).

Table 5: Few Proposed Elements of Human Security

UNDP 1994	Sen 2000 (Obuchi)	Hampson 2002	Nef 1999	Buttedahl 1994	Canada 2000	Leaning/Arie 2000	Thomas 2000	Agenda 21	Nussbaum 2000
Personal security Environmental security Economic security Political security Community security Health security Food security	Survival Daily life Human Dignity	Freedom from fear / safety of peoples Liberty/rights and rule of law Freedom from want/equity and social justice	Environmental, personal & physical security;[129] Economic security[130] Social security[131] Political security[132] Cultural security[133]	Personal and physical security[134] Economic security[135] Social security[136] Political security[137] Ethnic and cultural security[138]	Protection of Civilians[139] Peace Support Operations[140] Conflict Prevention[141] Governance and Accountability[142] Public Safety[143]	Sustainable sense of home Constructive social and family networks Acceptance of the past and a positive grasp of the future	Basic needs[144] Dignity[145] Democracy[146]	Peace as the foundation The Economy as the engine of progress The Environment as the basis of sustainability Justice as a pillar of society Democracy as good governance	Life Bodily health Bodily integrity Senses, imagination, thought Emotions Practical reason Affiliation Other species Play Control over one's environment

Human security, in fact, is not an isolated issue; rather it encompasses the whole ranges of disaster management cycle. Due to the presence of vulnerability factors such as poverty, coping capacity, health management capacity, shelter management capacity, social insecurity (dignity, livelihoods, wants), absence of insurance, presence of microcredit, stress; there is a direct relationship of human insecurity for natural disaster. Security arrangements are vital during emergencies to ensure safety of citizens and protection of public as well as private properties, for restricting entry into affected areas by unauthorized persons and for controlling traffic during such emergencies. So, the relationship between environment and human security is reciprocal and there is a linkage between security and vulnerability. Any risk related to disaster is basically anticipated drawing on experiences of human systems in dealing with current climate variability and extremes to provide guidance in designing adaptation strategies.

2.3   Basic Theoretical Assumptions of Disaster Management

A disaster is a natural or man-made hazard resulting to physical damage or destruction, loss of life, or drastic change to the natural environment. The use of the term disaster management implies the ability to "manage" a very destructive and chaotic event, as if it was akin to managing a group of steel workers, or managing your money. In reality though, it is more of a mitigation against the various threats that arise due to a disaster, in order to lower the amount of total damage it can do. In some cases, where the disaster is expected, such as the possibility of a nuclear terrorist attack, steps may be taken to prevent it. Other times the disaster may be generally expected, but the time when it happens may not be known, such as in areas affected by earthquakes and hurricanes. Disaster management therefore must always concern itself with analyzing potential threats, protecting against those threats, having contingency plans ready should threats materialize, and finally have a concrete plan or system in place to repair any damage sustained. This represents the standard theory of disaster management.

Going beyond the essence of what disaster management is, there are also different theoretical approaches that sometimes conflict with one another in terms of how best to protect against the dangers of disasters.

2.3.1 Marxist Paradigm

Marxists see society in terms of a conflict between economic classes. A dominant class (the bourgeoisie or 'capitalist' class) owns and controls the means of production; an industrial working class, the 'proletariat', is exploited by them. The Marxist analysis of welfare concentrates principally on its relationship to the exercise of power. The state can be seen either as an instrument of the ruling capitalist class or as a complex set of systems which reflects the contradictions of the society it is part of. It is often argued that welfare has been developed through the strength of working-class resistance to exploitation. Marxism is not a single doctrine; it has come to stand for a wide range of opinions within an analytical framework that is critical of 'capitalist' society. The basic objections to marxist analyses are that the description of 'capitalism' is false; that power in society is divided, and not based in ownership; and that states which promote the welfare of their citizens are not pretending to be more legitimate - they are more legitimate.

2.3.2 Utilitarianism

There is a convergence between Amartya Sen's capabilities approach and utilitarianism to specify human security. It defends the idea that this key issue is related to the social perspective that underpins both theories and demonstrates that a rational conception of individual freedoms and rights present in both traditions gives adequate criteria for human security towards the stakeholders (Renouard, 2011). Capability approach was initially conceived in the 1980s as an approach to welfare economics. In this approach, Amartya Sen brought together a range of ideas that were hitherto excluded from traditional approaches to the economics of welfare. This approach to human wellbeing emphasizes the importance of freedom of choice, individual heterogeneity and the multidimensional nature of welfare. The core characteristic of the capability approach is its focus on what people are effectively able to do and to be, that is, on their capabilities.

2.3.3 Individualism

It values the short-term success of individual. Due to the nature of human person, it does not do justice to reality and the dignity of the human person in relation to the common goods. Human security has its roots in the end of Cold War – the birth of a unipolar world means social structures, communities and ways of life were

completely reshaped over a relatively short period of time. In the late 18th century, a Scottish philosopher and economist named Adam Smith wrote numerous articles. His magnum opus being 'The Wealth of Nations' in which he espoused the concept of free trade and the free market on which the classical market economy was based. The classical view of Adam Smith of perfect markets and the 'invisible hand' have been the core perception of the responsibilities for the past three hundred years. Adam Smith explained of how rational self-interest and competition, operating in a social framework depending on adherence to moral obligations, can lead to economic prosperity and wellbeing. But according to Karl Marx, capitalism has inherent contradictions that are not explained by Adam Smith and the biggest failure of capitalism is the inability to maximize collective welfare as a result of pursuit of individual interest in the market.

One of the fundamental differences between Marx and Smith is that Smith deduced things about socially building up from individuals' basic instincts, whereas Marx thinks that individuals are formed by their society. Other important aspect regarding Marx's view on the individual is that Marx asserts the individual goals of a person to be detrimental to society. Individualism is more realistic view that each person has moral significance and certain inviolable natural rights. Under individualism, knowledge tends to be viewed as fragmented and widely dispersed. Each person is free to choose among systematically produced rewards, punishments and opportunities arising from other free persons without being subject to the articulated judgments imposed by the state or other collectivities. One of the dominant characteristics of modern culture, it values the short-term success of the individual and capitalism is the epitome of individualism. With the growing self-interest of individual, Adam Smith wrote his famous book, 'The Wealth of Nation', in which he beautified self-interest as driving force in an ideal society and emphasized an invisible hand (role of price in demand and supply) in a free economy. Due to the nature of human person, individualism does not do justice to reality and the dignity of human person in relation to the common goods. Individualism denies that a community or a society has an existence apart from the individuals that makeup the community or society. It involves the idea that society is no more than the sum of individuals comprising it.

2.4   Approaches to Disaster Research

Disaster researches are categorized as geographical, anthropological, sociological, development studies, technical and disaster medicine (Alexander, 1993). The geographical approach was pioneered by Barrows (1923) and White (1945). Deals with the human ecological adaptation to the environment with special emphasis on the 'spatio-temporal' distribution of hazard impacts, vulnerability and people's choice and adjustment to natural hazards. Social science methods are widely used in this approach. The anthropological approach (Oliver-Smith, 1979 & 1986; Hansen and Oliver-Smith, 1982) emphasizes the role of disasters in guiding the socio-economic evolution of populations. Anthropologists adopting this approach in search for reasons of why communities in the 'Third World' are affected. It fails to provide basic requirements for their people's survival. They also discuss the 'marginalization syndrome' caused by impoverishment of disadvantaged groups in 'Third World' countries. Oliver-Smith (1996) developed three general themes as the major trends in anthropological research in disaster: behavioural response approach, social change approach, and political economic/ environmental approach. Oliver-Smith argues that disaster in developing world occur at the interface of society, technology and environment and is fundamentally the outcomes of the interactions of these characteristics. The sociological approach (Dynes, 1970; Qurantelli, 1978; Mileti, Drabek and Haas, 1975; Drabek and Boggs, 1968; Drabek, 1986) discusses vulnerability and the impact of disaster upon patterns of human behaviour and the effects of disaster upon community functions and organization. The development studies approach (Davis, 1978; Knott, 1987) discusses the problems of distributing aid and relief to 'Third World' countries and focuses on refugee management, health care and the avoidance of starvation.

The disaster medicine and epidemiology approach (Beinin, 1985) focuses on the management of mass casualties. It also includes the treatment of severe physical trauma and other diseases which may occur after a disaster. The technical approach (Bolt et al. 1977; El-Sabh and Murty, 1988) focuses on geophysical approaches to disaster such as studied in seismology, geomorphology and volcanology and seeks engineering solutions. Among these approaches two disciplines, geography and sociology, have dominated the field of disaster research since the 1950s and have

emphasized the environmental and behavioural aspects of disaster. Drabek's (1986) findings on existing sociological literature are the significant contributions to the conceptual typology of sociological disaster research. He identified different areas of concern in disaster research such as planning, warning, evacuation, emergency, restoration, reconstruction, perceptions and adjustments. He discussed sociology of disaster under four major headings: preparedness, response, recovery and mitigation. Among these approaches two disciplines, geography and sociology, have dominated the field of disaster research since the 1950s and have emphasized the environmental and behavioural aspects of disaster. Drabek's (1986) findings on existing sociological literature are the significant contributions to the conceptual typology of sociological disaster research. He identified different areas of concern in disaster research such as planning, warning, evacuation, emergency, restoration, reconstruction, perceptions and adjustments. He discussed sociology of disaster under four major headings: preparedness, response, recovery and mitigation.

Disaster research in Bangladesh is conducted from six major approaches: geographical approach, behavioural approach, structural approach, historico-structural approach, sociological approach and anthropological approach. Although geographical and sociological approaches have dominated the field of disaster research in developed societies, disaster research in Bangladesh mainly followed the geographical approach. Disaster research from sociological approach in Bangladesh has been started since early 1990s (Nasreen, 1995). Other approaches are also getting attentions since the first decade of 21st century. Moreover, a number of research activities and investigations have been carried out in Bangladesh at different time and space scales, but as a matter of fact, most research activities have been focused on natural disasters.

2.5 Disaster, Development and Human Security: Evolution of a Conceptual Framework

Disaster Causes and Effects

1. Increasing Number of Events Qualifying as Climate Change Induced Disasters.
2. Development Risk Continuum.

2.6   Research Questions

After literature review, a gap has been identified and accordingly several questions arised in the mind of the researcher with regards to the human security and climate change induced disasters as follows:

- What is 'human security' and what would be the appropriate management of disaster especially climate change induced disaster?

- What would be effective human security framework for climate change induced disaster management in Bangladesh?

2.7   Chapter Summary

This chapter aimed to cover literature review and theoretical framework. Several works and findings on human security and climate change induced disasters are cited here. Then various categories of approaches are discoursed with regard to those issues. Though there is considerable literature on human security in relation to developed countries; but for developing countries, people have hardly any choice. Though recent academic literature has moved very quickly to a critical evaluation of human security, but seems distinctly unclear about what its critique of the phenomenon is based on. However, majority of global human security literature is related to issues other than climate change induced disasters. Basically three group of approaches with regard to human security are found; utilitarian group in which the institutions intended as a maximizing 'black-box'. Marxist paradigm towards a theoretical framework has guided its relationship to the exercise of power. Among the contemporary theories the individualism is discussed. In individualism, it does not do justice to reality and the dignity of the human person in relation to the common goods.

Chapter III

MATERIAL AND METHODS

Material and Methods

3.1   Introduction

"A truth is the kind of error without which a certain species of life could not live"

Frederick Nietsche: The Will to Power (1901:493)

Social researchers have argued that addressing social problems requires first recognizing, defining, and establishing ownership over the problem (Gusfield, 1989). Within this chapter, the rationale for the methodological design of the research is outlined. The chapter deals with methods and techniques which are used to address the research questions. The research which forms the basis of this thesis is basically inspired by my fascination with the climate change induced disaster response to the human security by exploring different facets and perspectives from a broader multi-disciplinary perspective.

3.2 Methodology

The methodology depends mainly on the purpose of the research objectives and the issues that are under investigation. I used various research methodologies for conducting this research. With the existing methodologies of social sciences other contemporary methodologies are also used for collecting data. It is aimed to discuss a variety of research methodology inspired and theoretically innovative contributions to the theme in order to improve the understanding of the meanings, dynamics and impacts of human security across social and cultural contexts. The criteria for selection of human security issues of various disasters are made basing on availability of my access to the places.

This is more of a qualitative study. Regarding a qualitative research Merriam (1998:5) observes; "Qualitative research is an umbrella concept covering several forms of inquiry that help us understand and explain the meaning of social phenomena with as little disruption of the natural setting as possible." Qualitative data were collected by a semi-guided questionnaire. As mentioned in the literature review that human security is in its infancy in Bangladesh, the qualitative research is best adopted in this research. This provides the opportunity to obtain the descriptive data which may be hidden in a

quantitative research. However, both qualitative and quantitative approaches have been used in the investigation and analysis. At quantitative level, the occurrence of disasters was counted to establish frequencies of appearance. This has been presented using percentages. In order to facilitate data analysis at this level, tables are used to summarize the findings. The quantitative analysis showed the existence and the extent to which climate change induced disasters have been portrayed in the country. The second level of investigation and analysis has been at qualitative level, where an in-depth understanding has been developed on how human security issues have been portrayed. The description is on the basis of the identified human security roles determined at the quantitative level of analysis.

In addition, the most effective means of gathering data for this research purpose is the key informants' interview research strategy. It helped to generate insights into how respondents see their world that is not achieved by other methods. The data of this research were collected from both primary and secondary sources. For secondary data, I explored books, journals, newspaper clips, published and grey literature including edited archive records and other existing resources available for gaining access to the updated scholarship on climate change induced disasters and human security issues. I gathered primary data from the targeted respondents. I used different tools of participatory research to collect both qualitative and quantitative data.

In the data collection interviewing the affected people of the climate change induced disaster, people responsible to ensure human security and the stakeholders of the project are made. However, this required to follow various steps. For interviewing the people responsible to ensure human security, official process that includes application, maintaining an appointment and time etc were very much important. Due to the scheduled work of the people responsible to ensure human security, it required to wait long time for interviewing them. However, whenever they got time, the informants disclosed much information voluntarily. Obtaining information from different stakeholders was not always an easier task.

I also consulted different key stakeholders which include local people, government officials, NGOs and civil society representatives through meeting them and taking

their interview. This research also took the support of existing research into cultural dimensions and attitudes, surveys of disaster risks, interviews and cumulative knowledge of economic and social development. This research has reignited an old debate about disasters, and has sparked an interesting new discussion of the concept. The old debate centered on whether or not human activities are responsible for climate change, while the new debate centers on how much of an impact of human security can actually on people and the environment in respect of climate change induced disasters.

This research uses a comparative study approach as a methodology to address the research problem presented, through looking at three essential situations when it comes to human security framework to climate change induced disaster management; Bangladesh, Nepal and Philippines. It is important to note that this research conducted similar study, i.e. human security and climate change induced disaster on Nepal and Philippines in addition of the study on Bangladesh and compared the data of other two countries in order to recommend the human security framework on climate change induced disasters on Bangladesh. However, for collecting data of Nepal and Philippines, this research relied on secondary literature.

3.2.1   *Epistemology and Ontology*

Epistemology is the theory of knowledge. Debates in epistemology refer to establishing the so-called conditions of knowledge, or the social and philosophical requirements necessary to possess, need, and use knowledge. A crucial problem in epistemology is establishing criteria for defining when we know, and do not know something. For example, there is much evidence to suggest that anthropogenic climate change ('global warming') is occurring. But accepting such evidence as 'proof' requires answering questions about what sort of knowledge allows us to make that conclusion. The sort of criteria used to make that judgment might include philosophical concepts of how far we can make meaningfully predictions on the topic; ecological questions of gaining sufficient information to infer change for such time and space scales; and social themes of identifying the legitimacy of which organization or observer makes statements about the nature or meaning of that change. The debate concerning what sort of information is meaningful, who is

recognized as speaking with accuracy, and who decides both of these questions, are central epistemological questions relating to the debate concerning anthropogenic climate change.

Ontology is the theory of underlying structures in biophysical or social entities. Ontology aims at discovering a framework for understanding the kinds of things that constitute the world's structure. For example, an ontological approach to anthropogenic climate change would aim to understand the causal mechanisms of climate change, and the accurate apportioning of responsibility to different human causes according to their influence on the biophysical process of warming. Ontology is different to epistemology because it aims to focus on the underlying causes and structures of change. But questions of ontology will inevitably also have to consider questions of epistemology in seeking an explanation of physical changes. Concerning climate change, for instance, one difficult question might be to ask how far seeking the causes of 'global warming' might actually lead to the creation of an entity known as 'global warming' because of the framing of research in order to assess whether it is occurring (this problem is called reification). Ontology is also closely related to other philosophical debates about 'realism,' the belief in biophysical reality or important causal social structures, and 'truth,' the question of how far statements may be considered 'true.' Ontology, realism and truth, however, are all subtly different and should not be used interchangeably.

3.2.2   *Duration of Fieldwork*

The formal duration of the fieldwork was six months (from January 2015 to June 2015), however the actual fieldwork started much early, when this research was conceptualized in 2011. We collected the information as per the schedule given by the informants. The time included from 10 a.m. to 3 p.m. and often beyond that except government holidays. However, while getting information from the target group, fieldwork continued even up to evening. The initial two months we visited different coastal areas which are more exposed to climate change induced disaster in Bangladesh. Among the study areas, We selected Rampal of Bagerhat, Amtali of Barguna and Banshkhali of Chittagong in Bangladesh to conduct this research. Our easy access to those areas including the scope of local hospitality was the guiding factors of selecting those areas for our fieldwork.
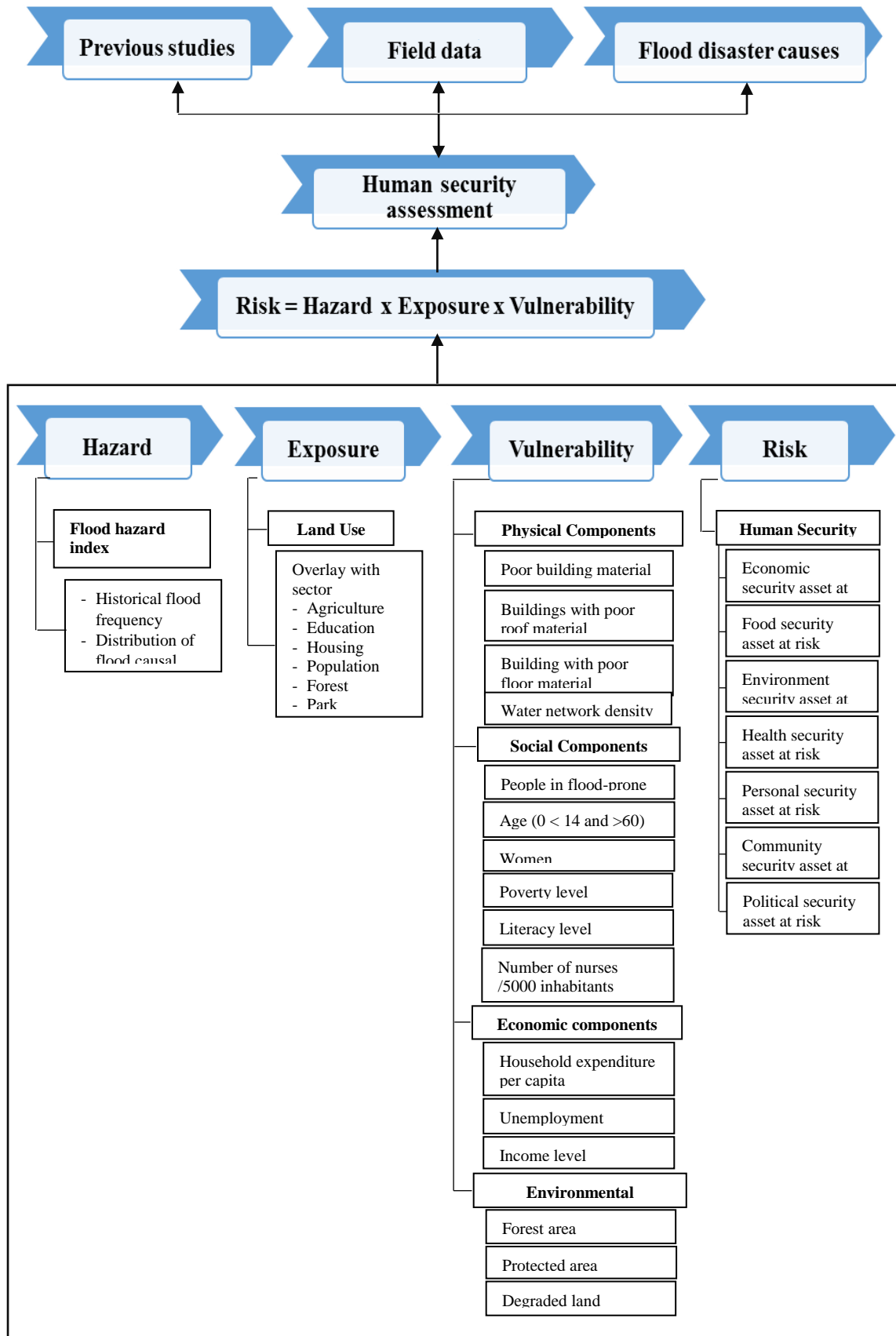
3.3 Conceptual Framework

Figure 10: Conceptual Framework
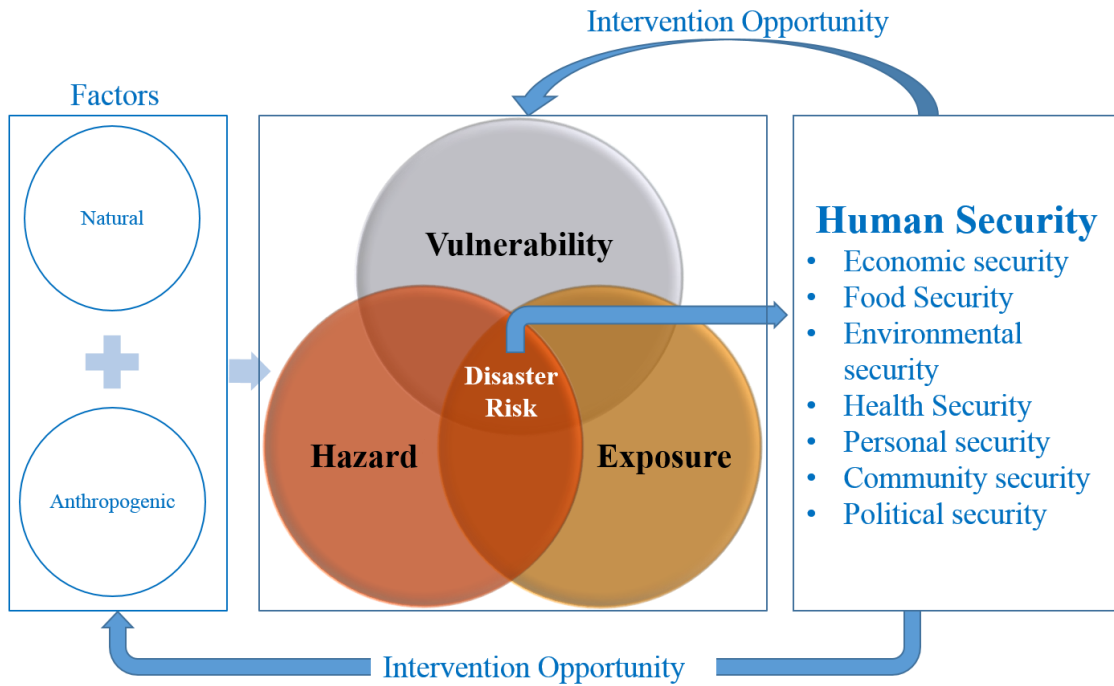
Source: Adapted from UNDRO (1980) representation of risk
Framework for assessing Disaster Risk Impact on Human Security (DRIHS)

Figure 11: Research Methods Workflow

3.4   Sources of Data

In this research, an attempt was made to analyze critically the state of human security in disaster management in Bangladesh. In order to acquire the theoretical perspective about human security and climate change induced disasters, several bodies of literature of Western origin, research articles and dissertations have been reviewed. In the light of different scholarly debates of paradigms, relation between human security and disasters has been analyzed. The research was planned relying mainly on the critical analysis of both primary and secondary data. In order to carry out the research, information were collected and analyzed from the following sources:

- **Primary Source:** These are original materials, which were collected through interviews, internet/e-mail communication, survey and experience. The primary data were gathered from the targeted respondents and for doing so different tools of participatory research were used in order to collect both qualitative and quantitative data.

- **Secondary Source:** They are interpretation and evaluation of primary sources. Secondary sources are not evidence, but rather commentary on and discussion on evidences. Information from secondary sources were mostly books, websites, journal articles related to climate change induced disasters and human security. It was recommended that examination of available secondary data was complete before collection of primary data. Therefore, the research was planned to proceed to primary data only when secondary data sources have been exhausted or yield marginal returns.

The target population or sampling units of the research were the selected people affected by any disaster based on purposive sampling. The behavior and response of the people and the community to disaster preparedness was very significant in the planning for emergencies and disasters, as well as the collaboration and team work in handling the aftershock of the disaster for a vigorous, fast and efficient recovery. Since access to different areas became an issue, this research was conducted through purposive sampling technique. Within the purposive sampling technique, quota method was used, which is a non-probability sampling that ensured that certain number of sampling units were picked up to represent the population.

This study utilized a comparative and participatory research approach which involved duty-bearers and stakeholders of the issue to ensure that data generated were reliable and valid and that its users assumed ownership of the human security aspect. Participatory research involves the researcher actively engaging the researched as co-researchers or participants in the process (Reason, 1988). To do so enables change to occur more fully, with mutual involvement, and researcher-researched power relations being on a far more equal footing. At a nutshell, a mixed approach (quantitative and qualitative) is used in present study in order to capture the full dimension of the various aspects of risk, vulnerability and human security related to climate change induced disasters. The risk assessment is quantitative and the human security assessment is qualitative.

To encapsulate the different dimensions of human security, the study gathered multi-level data from various sectors using both quantitative and qualitative techniques:

(1) *Key Informant Interviews (KII):* Respondents for the KII included government and NGOs officials, and members of civil society.

(2) *Focus Group Discussions (FGDs):* The semi-structured technique and focus group was used to collect qualitative data about all components of human security. A total of 3 (three) FGDs with at most 10 participants per discussion were conducted in Rampal, Amtali and Banshkhali Upazila respectively. Participants came from different sectors, focusing on the marginalized (e.g. indigenous peoples, women, farmers, other agricultural workers, and fisher-folks).

(3) *Interview:* The interview was administered to total 150 people of the affected 3 (three) Upazilas with 50 respondents from each Upazila.

(4) *Direct/Participatory Observation:* This is an important method to identify peoples' behaviors and the physical environment of the affected communities. It was used to make the state of art of physical items of relief, building material, road, physical damage extent, type of building etc.

(5) *Content Analysis of related Documents:* In order to find out the status of 'human security' in the DM related policies/documents, detail content analysis was made.

The numbers of interview per community is categorized in the table as follows:

Table 6: Details of Interview

Sample Classes	Number of Interviews		
	Rampal	**Amtali**	**Banskhali**
Human security key informants specialists	7	7	7
Administrative officials	10	10	10
Women focus group in most affected areas	6	6	6
Men focus group in most affected areas	6	6	6
Displaced persons, ethnic minorities, religious, NGO workers and others	21	21	21
Total	50	50	50
Grand Total	**150**		

3.5   Human Security Assessment Method

In order to better understand the human security risk induced by disasters in Bangladesh, 15 main indicators and 36 sub-indicators were selected.

Table 7: Human Security Indicators with Measurement Variables

Human Security Components	Selected Indicators	Measurement Variables
Economic Security	Lower level of income, rising unemployment, persistent poverty	Increase of poverty, increase of unemployment, decrease in purchasing power of households, high cost of living, decrease of productivity and products selling difficulties, community economic instability
Food Security	Lack of quantitative access to food, lack of qualitative access to food	Increased food prices, decreased food prices, increased food quality, decreased food quality
Environmental Security	Environmental degradation, decrease in ecosystem services	Pollution of surface water, erosion and degradation of agricultural land, loss of biodiversity (flora and fauna), decline in ecosystem services
Health Security	Access to health care services, spread of diseases	Water-borne diseases, air-borne/droplet diseases, vector-borne diseases, physical trauma
Personal Security	Individual physical threat and/or personal violence due to disaster events	Building collapse, peoples disappearance, drowning, increase of crimes, sexual violence, force displacement, land conflicts
Community Security	Loss of community traditional values and relationships	Collective migration, conflicts, inter group or ethnic violence, social exclusion, lack of social cohesion, loss of traditional values

Political Security	Abuse of fundamental human rights, absence of democracy, abuse of participation rights	Violation of the right to life and dignity of victims, violation of the principle of non refoulment, discrimination or exclusion of ethnic minorities, non-consultation with affected population, rape of women

3.6   Questionnaire

Questionnaires are frequently used in social research. They are a valuable method of collecting a wide range of information from a large number of individuals, often referred to as respondents. Adequate questionnaire construction is critical to the success of a survey. Inappropriate questions, incorrect ordering of questions, incorrect scaling, or bad questionnaire format can make the survey valueless, as it may not accurately reflect the views and opinions of the participants. A useful method for checking a questionnaire and making sure it is accurately capturing the intended information is to pretest among a smaller subset of target respondents. In this study, we collected information by using both structured and unstructured questionnaire.

3.7   Methodology Used (to answer the Research Questions)

In order to answer the research questions in a more focused way the researcher planned to conduct KII, in-depth interview and FGD including content analysis of various DM related documents.

3.8   Hypothesis

The hypothesis of this study is that in front any disastrous situation, classical state security has proven unsuccessful. Command and control schemes are not adapted. On the contrary, 'human security' is an attempt to place the people at the center and provide flexible solutions, adapted to local realities. Human security derives from a structure of protection and empowerment; increasing human security removes obstacles, facilitates trust and improves the environment for social development. Security derives from a structure of protection and empowerment that enables people to cope with threats to their survival, economic well-being and dignity. Where there is human security, people are better able to shift their attention from immediate risks and basic needs to progressively higher expectations and desires for development and fulfillment. Increased human security thus removes obstacles, facilitates trust and

improves the environment for social development. International cooperation can also help to increase human security. Doing so should contribute to the effectiveness of development efforts, including progress toward the Millennium Development Goals (MDG) followed by Sustainable Development Goals (SDG).

3.9 Defining Sampling Technique

Given the time and resources, access and logistics constraints, it would be unrealistic to collect meaningful quantities data at household or individual levels in the area specified. This justifies the choice made on purposive sampling technique. The technique has been widely used for disaster risk assessment.

For this research, the researcher planned to select the respondents through purposive sampling. Different respondents were dealt differently during conducting interviews, where a checklist was used. It was also planned to make the interview process very informal. After returning from the field, the researcher aimed to take the notes on sensitive issues which could not be recorded and also plans to expand the short notes (if there is any) and use 'triangulation' method as far as possible to ensure cross checking of collected data.

3.10 Sample Size and Interviews Selection Criteria

"With the purposive sampling approach, there is no formula to set the size of the sample" (FAO, 2009:112). The sample size is determined by the personnel, time and logistical support available as well as the geographic spread of the disaster and heterogeneity/homogeneity of the population (IASC, 2012:16). The selection of interviews follows the 'key informants' criteria. Key informants are individuals of people with prior specific knowledge or expertise regarding disaster in the area. They were chosen according to their professional occupation, their personal experiences and their responsibilities as leaders involved in disaster management in the communities. The selection criteria were as follows:

- Being an authority, a local leader of the civil society, religion, government or institution with a precise knowledge of disaster in the affected community;

- Being a local responsible or specialist in the field of human security (economy, food, environment, health, community, personal or political security) involved in disaster management in the affected community; and

- Being at least 50 years and able to talk about disaster and its impacts in the community over the past four decades.

3.11   Field Work/Data Collection

With confirming the sampling units, a quantitative questionnaire was developed and field tested prior to the actual study. 3 (three) FGDs were conducted to match the findings from different secondary data sources. In order to control quality, questionnaire design and its relevance with respondents was done carefully. Then field test of the questionnaire was done to find its limitations and review as per research requirements. The correction, editing, elimination of data in the data analysis phase was done carefully to minimize mislead/error respond. Statistical software was used for further analysis. Moreover, the study was ethically conducted throughout the research period. While collecting data, all possible attempts were taken to ensure the accuracy as follows:

- Clarify the purpose of the study to the respondents;

- Encourage the respondents by expressing the fact on which the survey was undertaken, e.g. this was done only for academic purpose;

- Questions were administered in a very friendly way; and

- Each and every interview schedule was checked on the spot. Entries in the schedule were carefully examined and their consistencies were checked thoroughly.

3.12   Data Management

3.12.1 Data Recording and Documentation

Data were recorded in hand written notes during fieldwork and later on we expanded those at night.

3.12.2 Data Analysis

Before analysis, data processing performed in the survey with few steps such as editing, classification and tabulation. The data collected from the population were analyzed both in the qualitative and quantitative manner. Analysis began immediately on collection of data and continued throughout the research process. The collected data were processed in a scientific manner, then analyzed and summarized according to content and context of the study. Statistical tool such as MS Excel and Graphs were used to analyze the quantitative data and for the analysis of the qualitative data this research mostly relied on discourse analysis. The framework for analysis of qualitative data was mostly discourse analysis of news reports of selected newspaper based on purposive sampling to further validate the findings from the survey. This analysis was supported by findings in detail interviews different key stakeholders which include people from targeted group, journalist, disaster management experts, state, NGOs and civil society.

Analysis began immediately on collection of data and continued throughout the research process. Data was analyzed and summarized according to the content and context of the study. For the analysis of the qualitative data this research mostly relied on discourse analysis. we processed the data in a scientific manner and for increasing the validity and reliability triangulation was made between the data from observations and in-depth interviews.

Discourse analysis is the study of language in context, which deals with both primary and secondary data. It is an approach that emphasizes how versions of the social world are produced within naturally occurring spoken or written discourse. The discourse analytic view is that all features of talk or texts perform some kind of action (for example exercising power and control over others) and it is possible to analyze how language is used to achieve that action. It is, therefore, concerned with how participants construct themselves and others through their discourse and how these selves may be undermined. Discourse means statement in so far they are a group of sequences of science that can be assigned a modality of existence, a modality that can help it in remaining within its own domain. So discourse is a group of statement having single formation. There are a number of different approaches to discourse

analysis (see Phillips and Jørgensen, 2002 for a full review) due in part to the developing nature of the field and to the number of disciplines in which it has its roots, including linguistics, sociology, psychology, philosophy and literary theory. However, all approaches share the same postmodern perspective that talk does not neutrally reflect our world and our social relationships but rather actively constructs and alters them.

Discourse analysis can be applied in a number of data collection settings primarily to examine naturally occurring talk. For example discourse analysts might be interested in talk within institutions (schools, hospitals, prisons) or interested in written texts such as newspapers. Discourse analysis might be applied to examine a number of subjects such as gender inequalities, national identity or the construction of knowledge claims. Why discourse analysis is important will be clear to us if we analyze Queen Victoria's famous words - "we are not amused." Linguistically, 'we' is a noun phrase, 'are' is a linking verb agreeing with 'we', 'not' is a negative marker, and 'amused' is an adjective. This is syntactic analysis. This does not answer who said it, to whom, where, when and why. Again, if we analyze the literary meaning of the sentence, we can say that the meaning could be - "we are not pleased or entertained". This is semantic interpretation. However, if we analyze Victoria's remark in context, we would see that she "had been in a prolonged depression, caused by the death of her husband Albert, and her courtiers knew this, and that her words were a response to a joke which they had made." This statement was made to stop the courtiers trying to make her laugh. Pragmatics and discourse analysis study context, text, and function. But pragmatics is different from discourse analysis in that discourse gives importance to social principles. As discourse analysis involves both the linguistic and sociological/anthropological study of language. Discourse analysis help to legitimize new ideology. Sometimes local discourse contradicts with broader discourse. In this study, this has been used to explore how 'human security' creates a discourse like public demonstration, media, images etc.

3.13   Validity, Reliability and Generalization

Validity, reliability and generalization could all provide difficulties for the qualitative researcher, especially if the research is based on social constructionism, where reality

is defined by people's constructions, rather than it being objective. Cohen, Manion and Morrison (2000:124) argue that further difficulties arise with interviews in that in order to make the interviewed feel at ease, increasing validity, reliability suffers in that control of the elements of the conversation is less easy to achieve.

Yin (1994) discusses validity and reliability in depth as areas that require careful consideration in order to ensure research designs of quality. He defines internal validity as ensuring that, where causal relationships are investigated, that x led to y. The suggested tactics to ensure that this occurs are pattern matching (where different routes produce the same results) and time-series analysis (looking at events in sequence which relate to each other). However, once again this can only relate to individual validity from a constructivist perspective. Another validity test defined by Yin is that of external validity, which is if the findings can be generalized beyond the case studied.

Validity and reliability, in terms of a social constructionist perspective, can be checked with the researched by checking back with them at a later date. Heuristic researches validation in terms of meaning (Moustakas, 1990), or by triangulation in terms of checking the same viewpoint from several directions. Reliability can also be gained from different people in the same organization in terms of their shared social constructions, or not as the case may be. These all occurred in the research described here as control mechanisms. The end of the Discussion section explores these constructs in more detail.

3.14   Research Experiences

Qualitative researchers are expected to describe the research experience in an authentic manner. There is a visible difference between the social scientists, who go for fieldwork and people, who are made subjects of the research. It is largely different in terms of socioeconomic condition, education, knowledge, culture, attitude, conduct etc. Thereby a researcher is considered as 'marginalized person', whether he or she is involved in conducting research in his/her own society or in different society. In the process of sourcing for people to participate in this research, We found that most people working with the government were either not receptive to research by external

parties or approval for such research takes very long time. In-depth face-to face interview was time consuming.

We had many experiences, which we came across during the fieldwork as well as report writing. At first, our experience is related to the selection of research areas. As we started communicating to various government employees in the research areas, but unfortunately, we got very less response as expected from many of them. Rather people working in those offices, who are primarily responsible to handle visitors, asked written request from us with detail of our intension and appointment. This took much of our time without any result. After facing such bottlenecks, we pursued the concerned people of those offices through personal communication by taking the help of friends, relatives and well-wishers. The sample selection process had proved that personal networking is important in such environments. Ultimately, we could gain access to the respondents in different companies. However, the experience of this research was wonderful and lessons learned for the future by other researchers. However, we will cherish all those experiences in our future research career.

3.15   Ethical Assurance

The research strictly maintained the confidentiality of data and rights of the respondents. Consents were taken from all the respondents. They were also free to quit or reschedule for his/her convenience. This research was reviewed by the 'Committee on Advanced Studies' of the Department of Peace and Conflict Studies of University of Dhaka. The significant principles to ensure ethical compliance largely are as follows:

- Responsibility to the participants which include no harm, sharing knowledge, taking account of gender, cultural, race, religious and sexual orientation issues, having the right to withdraw from the study and the researcher being open and honest and confidential.

- Responsibility to research including stating sources and facts clearly, making it clear when things are stated as opinions and theory, attributing all sources and questioning all findings openly.

- Responsibility to the researcher including knowledge of the limitations, not overstretching personal resources, questioning in an open way as part of the learning journey, acknowledging personal preference affecting findings and the limitations of the research.

- Responsibility to the research sponsor- both the university and the local authority where the research occurred. This includes feeding back any useful findings to the authority to help them in future when working in this field, and following university protocol and the advice of the supervisor of the research.

- The overriding responsibilities are firstly towards the participants, secondly towards the research. Before taking part in any taped discussions/ meetings/ interviews all participants signed a letter to say that they understood the parameters, ethical guidelines and confidentiality of the research.

- Meeting transcripts did not go back to participants for their comment, mainly due to the numbers in these meetings. Individual conversations and interviews always went back to the interviewee for comments and amendments were made if needed, following feedback.

1.16   Limitations

In carrying out this research, the few limitations have been notes as follows:

- Making subjective judgments in the interpretation of the findings, while efforts have been made to ensure that data collection instruments are valid and reliable, the personal subjective judgments of the researcher have not completely been eradicated, but have been minimized.

- Making a strong connection between the depiction of human security and climate change induced disasters, where the usual trend in most developing countries like Bangladesh is lack of appropriate data so it has at some incidences proved difficult to relate the actual gaps that exist in society when discussing the findings.

Other than the above, this research was constrained by accessibility, resources and time. The main limitation of this study was that this research had focused on a small sample of different areas of Bangladesh. As a result, the findings of this study may not be generalisable across other countries affected by disasters. Therefore, future research should increase the sample size and consider human security issues and the applicability of the conceptual framework to other disaster affected countries towards broadening an understanding of climate change induced disasters in the context of human security in the entire disasters affected countries of the world.

3.17   Chapter Summary

This chapter deals with methods and techniques which were used to conduct this study, in which various research methodologies were used. The techniques of collecting data ranged from sampling, in-depth interview, KII and questionnaire; and also of discourse analysis. With the existing methodologies of social sciences, other contemporary methodologies were also used for collecting data. This was more of a qualitative study. However, both qualitative and quantitative approaches have been used in the investigation and analysis. The data of this study have been collected from both primary and secondary sources. For secondary data books, journals, newspaper clips, both published and grey literature including edited archive records and other existing resources available were explored for gaining access to the updated scholarship on human security and climate change induced disasters, and primary data were collected from the targeted respondents. Different tools of participatory research to collect both qualitative and quantitative data were used. In addition different key stakeholders have been also consulted. This chapter also has included the data management, validity, reliability and generalization, research experiences, ethical assurance and limitations.

Chapter IV

ANALYSIS OF NATIONAL DISASTER MANAGEMENT FRAMEWORK FOR BANGLADESH

ANALYSIS OF NATIONAL DISASTER MANAGEMENT FRAMEWORK FOR BANGLADESH

4.1 Introduction

The analysis aims to explore different dimensions of an issue. An analytical study deems as a method or tool that is used to show the difference and provide recommendation that placed under the purpose of using various elements of the study. This is largely helpful to ascend from the initial level of development to a more advanced level of general evolution of any incident.

4.2 Rationale of Selection Criteria

The study began with the selection of the issues to be included. Bangladesh has significant disadvantaged population groups and all have had experience with major threats to the security of those groups due to climate change induced disaster. There are abundant published data about the country and no exceptional difficulties were foreseen in conducting the study. Problems with data and constraints on conducting the research ruled out some alternative choices.

Table 8: Overview of Bangladesh

Country	Population (in millions)	GDP (in billion $)	Per Capita Income ($)	HDI Ranking by UNDP
Bangladesh	159.1	173.8	1,092.7	142 (0.558)

Source: World Bank Data (2014)

4.3 Country Profiles

4.3.1 Bangladesh

Bangladesh is one of the most disaster-prone countries in the world. The country has had a long experience of severe cyclonic events such as floods, landslides, arsenic poisoning and tornadoes; and is under threat of earthquakes. The country is also highly vulnerable to climate change, which is also threat for livelihoods and food security. Climate change adaptation issues particularly need consideration both at a national and community level. This has great impact on our hazard frequency and

severity, particularly in case of floods and droughts. As a signatory of Hyogo Framework for Actions (HFA, 2005-2015), disaster risk reduction and climate change risk issues have to be mainstreamed in all development sectors of the country.

Map 3: Political Map of Bangladesh

Bangladesh is a low-lying deltaic country in South Asia formed by the Ganges, the Brahmaputra and the Meghna rivers. It is a land of 147,570 sq. km territory. More than 310 rivers and tributaries have made this country a land of rivers. Diversified cultural heritage, archaeological sites and the natural beauty of the country have made this land attractive. The country has the world's longest unbroken sandy beach of 120km, sloping gently down to the blue waters of the Bay of Bengal. The geographical location, land characteristics, multiplicity of rivers and the monsoon

climate render Bangladesh highly vulnerable to natural hazards. The coastal morphology of Bangladesh influences the impact of natural hazards on the area. Especially in the south western area, natural hazards increase the vulnerability of the coastal dwellers and slow down the process of social and economic development.

Natural and human induced hazards such as floods, cyclones, droughts, tidal surges, tornadoes, earthquakes, river erosion, fire, infrastructure collapse, high arsenic contents of ground water, water logging, water and soil salinity, epidemic, and various forms of pollution are frequent occurrences in the country. It is situated in a highly seismically active region which has experienced some earthquakes in the past and according to the earth scientists, there is a high possibility that strong earthquakes will continue to strike the region for the foreseeable future. A number of efforts have been launched to improve earthquake and human safety, but the needs are massive, and much work remains to be done. Unlike other natural hazards, earthquakes strike suddenly and without warning.

Since independence in 1971, Bangladesh has achieved substantial improvements in some social indicators like a decrease in infant and maternal mortality as well as illiteracy, and an increase in life expectancy, access to safe water and sanitation. However, a significant number of the population still continues to live below the poverty line. The economic performance of the country has been relatively strong since 1990, with an annual 5% average GDP growth rate. Although half of the GDP is generated through the service sector, nearly two thirds of Bangladeshis are employed in the agriculture sector with paddy as the single most important product.

4.3.1.1 Global Climate Change and IPCC Reports on Bangladesh

The UN Intergovernmental Panel on Climate Change (IPCC) in its Fourth Assessment Report concludes that human activities are leading to global warming and climate change. According to the report, human made emissions of greenhouse gases (GHG) can be blamed for the harmful effects of climate change. Bangladesh is currently ranked as the most climate-vulnerable country in the world. IPCC (2007) in its Fourth Assessment report described following changes in climate trends, variability and extreme events:

- In Bangladesh, the average temperature has registered an increasing trend of about 1°C in May and 0.5°C in November during the 14 year period from 1985 to 1998.

- The annual mean rainfall exhibits increasing trends in Bangladesh. Decadal rain anomalies are above long-term averages since 1960s.

- Serious and recurring floods have taken place during 2002, 2003, and 2004. Cyclones originating from the Bay of Bengal have been noted to decrease since 1970 but the intensity has increased.

- Frequency of monsoon depressions and cyclones formation in Bay of Bengal has increased.

- Water shortages have been attributed to rapid urbanization and industrialization, population growth and inefficient water use, which are aggravated by changing climate and its adverse impacts on demand, supply and water quality.

- Saltwater from the Bay of Bengal is reported to have penetrated 100km or more inland along tributary channels during the dry season.

- The precipitation decline and droughts has resulted in the drying up of wetlands and severe degradation of ecosystems.

The IPCC Working Group II has reported in their fourth assessment that the production of rice and wheat might drop in Bangladesh by 8 percent and 32 percent respectively by the year 2050. Bangladesh is especially susceptible to increasing salinity of their groundwater as well as surface water resources, especially along the coast, due to increases in sea level as a direct impact of global warming. With a 1m rise in sea level, the Sunderban mangrove forest is likely to be lost; Bangladesh would be worst affected by the sea level rise in terms of loss of land. Approximately 1,000 square kilometers of cultivated land and sea product culturing area is likely to become salt marsh. Projected sea-level rise could flood the residence of millions of people living in the low-lying areas such as in Bangladesh. Even under the most conservative scenario, the sea level will be about 40 cm higher than today by the end of 21st century and this is projected to increase the annual number of people flooded in coastal populations from 13 million to 94 million worldwide. Almost 60 percent of this increase will occur along the coast in South Asia. The coastal lowlands below the

elevation of 1,000-year storm surge are widely distributed in Bangladesh where millions of people live. Global burden (mortality and morbidity) of diarrhoea and malnutrition attributable to climate-change are already the largest in Bangladesh. The relative risks for these conditions for 2030 are also expected to be the largest. Bangladesh's population is expected to increase by 130 million more people over the next 50 years. Climatic changes in Bangladesh would likely exacerbate present environmental conditions that give rise to land degradation, shortfalls in food production, rural poverty and urban unrest. About 15,000 Himalayan glaciers form a unique reservoir that supports perennial rivers such as the Indus, Ganges and Brahmaputra, which, in turn, are the lifeline of millions of people in Bangladesh (IPCC, 2007).

4.3.1.2 Climate Change and Security: The Case of Bangladesh

Bangladesh has been traditionally vulnerable to natural disasters on account of its unique geo-climatic conditions. Bangladesh is frequently cited as one of the most vulnerable countries to climate change because of its disadvantageous geographic location; flat and low-lying topography; high population density; high levels of poverty; reliance of many livelihoods on climate sensitive sectors, particularly agriculture and fisheries; and inefficient institutional aspects. Many of the anticipated adverse effects of climate change, such as sea level rise, higher temperatures, enhanced monsoon precipitation, and an increase in cyclone intensity, will aggravate the existing stresses that already impede development in Bangladesh, particularly by reducing water and food security and damaging essential infrastructure. These impacts could be extremely detrimental to the economy, the environment, national development, and the people of Bangladesh.

The human suffering and cost to development is massive to this country and its people. Between 1991 and 2000, 93 major disasters were recorded in Bangladesh, resulting in nearly 200,000 deaths and causing US$ 5.9 billion in damages with high losses in agriculture and infrastructure.45 Indeed, the impacts of climate change have added significant stress to our physical and environmental resources, our human ability, and economic activities which ultimately threaten the condition of human security. The impact of climate change on the national security of Bangladesh has

clearly been manifested through a report of the *New York Times*, published on August 8, 2009:

> An exercise last December at the National Defense University, an educational institute that is overseen by the military, explored the potential impact of a destructive flood in Bangladesh that sent hundreds of thousands of refugees streaming into neighboring India, touching off religious conflict, the spread of contagious diseases and vast damage to infrastructure. "It gets real complicated real quickly," said Amanda J. Dory, the Deputy Assistant Secretary of Defense for Strategy of the US.

4.3.1.3 Increase of Capacity of the Country

Bangladesh has taken various steps to increase the capacity with regards to disaster management. In the past two decades, Bangladesh's public policy on disaster management has shifted from a focus on relief and rehabilitation efforts to holistic management of disasters. This new policy approach incorporates pre-disaster issues of prevention, mitigation, and preparedness, as well as post-disaster issues of response, recovery, and reconstruction. New initiatives, such as mainstreaming disaster risk reduction in development, building capacity through education and greater awareness at all levels, and utilizing advanced technologies, have enhanced country's preparedness for each phase of disaster management. Bangladesh at present has achieved the capacity to combat any primary disaster within 24 hours by reaching to the distress people with relief and money.

4.3.1.4 Disaster Management Regulatory Framework

As a disaster prone country Bangladesh also has a National Disaster Management Plan emphasizing 'the management of both risks and consequences of disasters that would include prevention, emergency response and post–disaster recovery' (Disaster Management Bureau, 2010). Involvement of community and local government bodies would be an essential part of the strategy. Self-reliance should be the key for preparedness, response and recovery. At national level the organization structure for disaster management is as follows:

Table 9: National Level Disaster Management Structure of Bangladesh

Organizations	
National Disaster Management Council (NDMC)	headed by the Honourable Prime Minister
Inter-Ministerial Disaster Management Co-ordination Committee (IMDMCC)	headed by the Hon'ble Minister in charge of the Disaster Management and Relief Division (DM&RD)
National Disaster Management Advisory Committee (NDMAC)	headed by an experienced person having been nominated by the Honourable Prime Minister.
National Platform for Disaster Risk Reduction (NPDRR)	headed by Secretary, DM&RD and DG, DMB functions as the member secretary.
Earthquake Preparedness and Awareness Committee (EPAC)	headed by Honourable minister for MoFDM and DG, DMB act as member secretary
Cyclone Preparedness Program Implementation Board (CPPIB)	headed by the Secretary, Disaster Management and Relief Division
Cyclone Preparedness Programme (CPP) Policy Committee	headed by Honourable Minister, MoFDM and Secretary, DM&RD act as member secretary.

Source: National Plan Disaster Management, 2010

At sub-national level the structure is as follows:

Table 10: Sub-National Level Disaster Management Structure of Bangladesh

Organization	
District Disaster Management Committee (DDMC)	headed by the Deputy Commissioner (DC)
Upazila Disaster Management Committee (UZDMC)	headed by the Upazila Nirbahi Officer (UNO)
Union Disaster Management Committee (UDMC)	headed by the Chairman of the Union Parishad
Pourashava Disaster Management Committee (PDMC)	headed by Chairman of Pourashava (municipality)
City Corporation Disaster Management Committee (CCDMC)	headed by the Mayor of City Corporations

Source: National Plan Disaster Management, 2010

Bangladesh's regulative framework for disaster management provides for the relevant legislative, policy and best practice framework under which the activity of Disaster Risk Reduction and Emergency Management in Bangladesh is managed and implemented. The framework includes:

Figure 12: Disaster Management Framework of Bangladesh
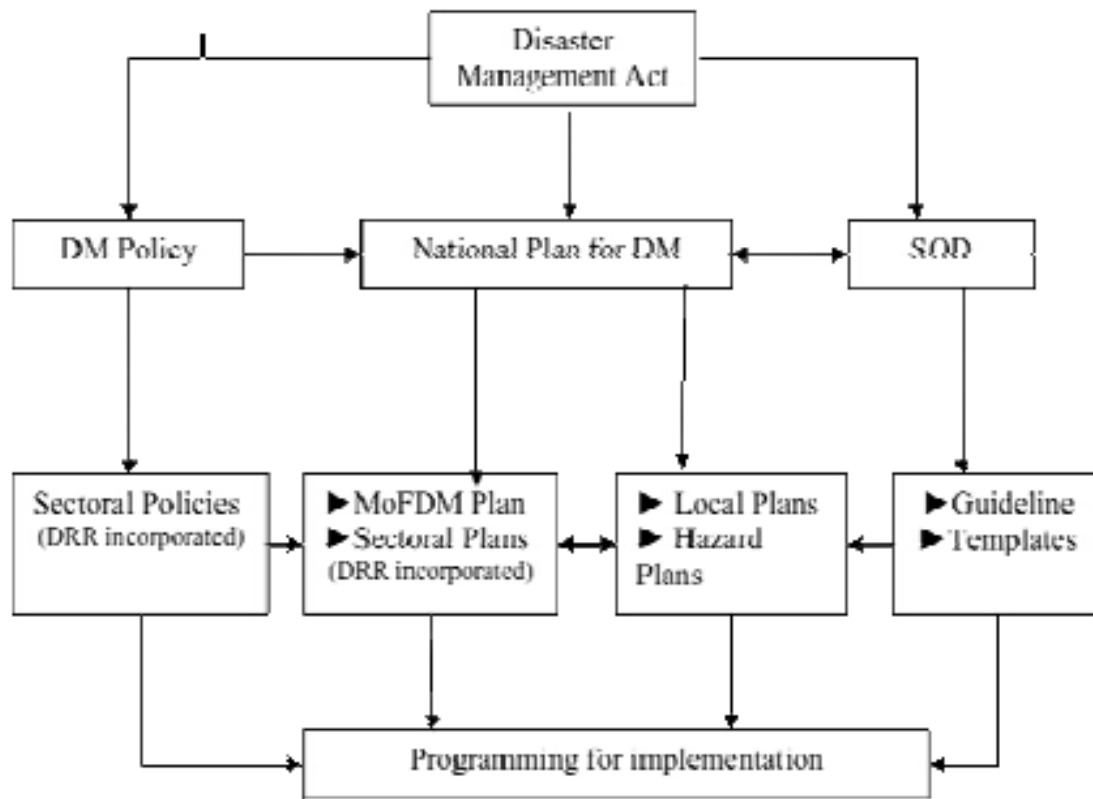
4.3.1.4.1 Disaster Management Act

A Disaster Management Act is important with a view to create the legislative tool under which disaster risk and emergency management will be undertaken in Bangladesh, and the legal basis in which activities and actions will be managed. It will also create mandatory obligations and responsibilities on Ministries, committees and appointments. The objectives of the Act is a) To help communities to mitigate the potential adverse effects of hazard events, prepare for managing the effects of a disaster event, effectively respond to and recover from a disaster or an emergency situation, and adapt to adverse effects of climate change; b) To provide for effective disaster management for Bangladesh; c) To establish an institutional framework for disaster management; and d) To establish risk reduction as a core element of disaster management.

4.3.1.4.2 National Disaster Management Policy

Formulation of a National Disaster Management Policy is important to define the national perspective on disaster risk reduction and emergency management, and to describe the strategic framework, and national principles of disaster management in any country. The National Disaster Management Policy of Bangladesh defines the national policy on disaster risk reduction and emergency response management, and describes the strategic policy framework, and national principles of disaster management. It is of strategic in nature and describes the broad national objectives, and strategies in disaster management.

4.3.1.4.3 National Plan for Disaster Management

The Bangladesh National Plan for Disaster Management is a strategic document. This is an umbrella plan that provides the overall guideline for the relevant sectors and the disaster management committees at all levels to prepare and implement their area of roles specific plans. The Disaster Management and Relief Division (DM&RD) being the focal ministry for disaster risk reduction and emergency management will take the lead role in disaster risk reduction and emergency management planning. Additionally, there are a few hazard specific management plans, such as Flood Management Plan, Cyclone and Storm Surge and Tsunami Management Plan, Earthquake Management Plan, Drought Management Plan, River Erosion Management Plan, etc. Moreover, there is a detailed Disaster Management Plan for each District, Upazila, Union and Pourashava and City Corporation of the country. A District Disaster Management Plan is the compilation of the Upazila Disaster Management Plans of the District. Similarly an Upazila Disaster Management Plan is the compilation of the union disaster management plans of that Upazila prepared by the Union DMCs. So DMCs at Union and Pourashava levels are mainly responsible for conducting the risk assessments and prepare the ground level plans. Once developed those are sent to the DMCs at one level higher – Upazila DMCs, whose role is to verify and compile the union plans and identify the resource requirements for the Upazila.

The National Plan for Disaster Management is prepared by the Disaster Management and Relief Division. The plan includes the following as minimum:

- Introduction.

- GoB Vision for Disaster Management.

- Hazards profile of Bangladesh.

- Disaster development linkages: national and international drivers for change.

- Aim of the plan.

- Strategic goals of the plan.

- Conceptualizing disaster management in Bangladesh.

- Disaster management system in Bangladesh.

- The roles and responsibilities of entities involved in emergency operations and risk reduction.

- Disaster management regulative framework.

- Action matrix for disaster risk reduction and emergency management in Bangladesh describing the priorities and the strategies.

- Review and evaluation.

- Implementation and follow-up.

- Financing of the plan.

- Other matters relating to disaster management as deemed necessary by appropriate authority for inclusion in the plan.

Importance of the Plan

- To articulate the long-term strategic focus of disaster management in Bangladesh.

- To demonstrate a commitment to address key issues: risk reduction, capacity building, information management, climate change adaptation, livelihood security, issues of gender and the socially disadvantaged, etc.

- To show the relationship between the government vision, key result areas, goals and strategies, and to align priorities and strategies with international and national drivers for change.

- To detail a road map for the development of disaster management plans by various entities.

- To guide the DM&RD in the development and delivery of guidelines and programs.

- To illustrate to other ministries, NGOs, civil society and the private sector how their work can contribute to the achievements of the strategic goals and government vision on disaster management.

- To provide a framework within which to report performance and success in achieving goals and strategies.

4.3.1.4.4 Standing Orders on Disaster (SoD)

The Standing Orders on Disaster describes the detailed roles and responsibilities of committees, Ministries and other organizations in disaster risk reduction and emergency management, and establishes the necessary actions required in implementing Bangladesh's Disaster Management Model. The Standing Orders have been prepared with the avowed objective of making the concerned persons understand their duties and responsibilities regarding disaster management at all levels, and accomplishing them. All Ministries, Divisions/Departments and Agencies shall prepare their own Action Plans in respect of their responsibilities under the Standing Orders for efficient implementation. The National Disaster Management Council (NDMC) and Inter-Ministerial Disaster Management Coordination Committee (IMDMCC) will ensure coordination of disaster related activities at the National level. Coordination at District, Thana and Union levels will be done by the respective District, Thana and Union Disaster Management Committees. The Disaster Management Bureau will render all assistance to them by facilitating the process.

In addition of the Standing Order to Disaster (SoD) of 2010 and Disaster Management Act of 2012, the Cabinet has already approved the draft Disaster Management Rules 2015 as per the requirement of section 19 of the Disaster Management Act of 2012. The Rules will supplement the Act. However, nothing is mentioned regarding human security in those documents other than a Tafsil of the Disaster Management Act 2012 has included few issues of human and material security as follows:

1. Installation of fire fighting, rescue and first aid equipments in all hospitals, clinics, community centers, shopping malls, cinema halls, restaurants, factories and warehouses.

2. Provision of emergency exit routes in all hospitals, clinics, community centers, shopping malls, cinema halls, restaurants, factories and warehouses.

3. No obstruction of fire fighting and rescue vehicles in case of fires, earthquakes, building collapses or any other disasters.

4. Provision of sufficient numbers of Lifebuoy, one transistor, whistle, torchlight and other preparatory equipments in river crafts and sea going fishing boats or trawlers to combat disaster.

5. On receiving the Local Warning Signal number IV from the Meteorological Department all the boats of less than 150 ft that is not capable to counter storm wind of 61 km speed need to return or safe shelter.

6. No obstruction can be caused on the ways of water access and exit or no development work can be done that can cause water logging or can create peoples' sufferings.

7. 'Danger Signal Sign' to be fixed on all electric pylons and dangerous installations that can cause hazard and disaster.

8. Highly flammable or dangerous chemicals cannot be stored or marketed in residential area or normal shopping market or market without sufficient safety measures.

9. Sands and trees of the coastal areas cannot be removed or cut.

10. On identification of any rational abnormal activities that can cause disaster must be brought to the notice of the president or member of any local disaster management related committee or nearest police station.

11. No obstruction can be made against the instruction given before, during and after disaster for the removal of houses, shops or business places erected on the foothill or hill top.

District Disaster Management Plan (DDMP)

There is a District Disaster Management Committee (DDMC) at the District level. The DDMC consists of the Deputy Commissioner of the District as the chairperson and members comprising all District level department heads, NGO leaders and civil society members. District Relief and Rehabilitation Officer (DRRO) acts as member secretary of the committee. Members of Parliament act as advisors of the committees. The committee is required to meet bi-monthly during normal period and as and when necessary during emergency situation.

There will be a plan for each District titled "District Disaster Management Plan" comprising both disaster risk reduction and emergency response to be prepared by the District Disaster Management Committee. This is a plan to be prepared by

compilation of the Upazila and Pourashava Disaster Management Plans of the District being received from the respective Upazila and Pourashava/City Corporation DMCs. The DDMP should highlight and articulate, among others, the following:

a. The areas in the District vulnerable to different forms of hazards and risks.

b. Total resource requirements and the planned action for the District.

- To take measures for prevention and mitigation of disasters by government agencies, NGOs, CBOs and the private sector within the District.
- Capacity building and preparedness measures to be taken by government agencies, NGOs, CBOs and the private sector.
- Strengthening emergency response management system plans and procedures in the event of a disaster.

c. The response plans and procedures in the event of a disaster, providing for:
- Allocation of responsibilities to the departments of the government at District level and other DMC members
- Procedure for mobilization of resources
- Prompt response to disaster and relief thereof
- Procurement of emergency supplies
- Operation of disaster shelters
- Restoration of emergency services, such as water supply, gas supply, power, telecommunication, road links
- Provision of emergency medical services
- Burial of dead bodies
- Trauma counseling
- The dissemination of information

d. Recovery plans and procedures delineating damage assessment procedure, restoration of damaged public infrastructure, resumption of educational institutions, restoration of livelihood, rehabilitation of affected people, especially the disabled, and elderly women and children.

e. The DDMP shall be reviewed and updated annually.

f. The copies of the DDMP shall be made available to all District level stakeholders, Divisional Commissioners, etc.

g. A copy of the DDMP will be sent to the Disaster Management Bureau and all relevant ministries and divisions.

h. The DMB/NDMTI will provide technical advice and capacity building services to all DMCs.

Upazila Disaster Management Plan (UzDMP)

Upazila is an important and vital administrative unit of Bangladesh. There is an Upazila Disaster Management Committee (UZDMC) at the Upazila level. The UzDMC consists of the Upazila Nirbahi Officer as the chairperson and members comprising all Upazila level department heads, NGO leaders and civil society members. The PIO acts as the member secretary of the committee. Members of Parliament act as advisors of the committees. The committee is required to meet bimonthly during normal period and as and when necessary during emergency situation. There will be a plan for each Upazila titled "Upazila Disaster Management Plan" comprising both disaster risk reduction and emergency response to be prepared by the Upazila Disaster Management Committee by compiling all the Union Disaster Management Plans of the Upazila being received from the respective Union DMCs of the Upazila. The UzDMP should highlight and articulate, among others, the following:

a. The areas in the Upazila vulnerable to different forms of hazards and risks.

b. Total resource requirements and the planned action for the District.

- To take measures for prevention and mitigation of disasters by government agencies, NGOs, CBOs and the private sector within the District.
- Capacity building and preparedness measures to be taken by government agencies, NGOs, CBOs and the private sector.
- Strengthening emergency response management system plans and procedures in the event of a disaster.

c. The response plans and procedures in the event of a disaster, providing for:

- Allocation of responsibilities to the departments of the government at District level and other DMC members.
- Procedure for mobilization of resources.
- Prompt response to disaster and relief thereof.
- Procurement of emergency supplies.

- Operation of disaster shelters.
- Restoration of emergency services, such as water supply, gas supply, power, telecommunication, road links.
- Provision of emergency medical services.
- Burial of dead bodies.
- Trauma counseling.
- The dissemination of information.

d. Recovery plans and procedures delineating damage assessment procedure, restoration of damaged public infrastructure, resumption of educational institutions, restoration of livelihood, rehabilitation of affected people, especially the disabled, and elderly women and children.

e. The UzDMP shall be reviewed and updated annually.

f. The copies of the UzDMP shall be made available to all Upazila level stakeholders and members of DDMCs.

g. A copy of the UzDMP will be sent to the District Disaster Management Committee and DMB.

h. The DMB/BIDMTR will provide technical advice and capacity building services to all DMCs.

Union Disaster Management Plan (UDMP)

Union Parishad is the lowest administrative unit of Bangladesh. There is a Disaster Management Committee at the Union level. The UDMC is chaired by the elected Chairman of the respective Union Parishad. The Union Disaster Management Committee consists of the Union Parishad Chairman as the Chairperson and members comprising all the Government department head at Union level, members of Union Parishad, NGO leaders working in respective union and civil society members. Secretary of the respective Union Parishad acts as the member secretary of the committee. The committee is required to meet bimonthly during normal period and as and when necessary during emergency situation.

There will be a plan for each Union titled "Union Disaster Management Plan" comprising both disaster risk reduction and emergency response to be prepared by the Union Disaster Management Committee following a proper community risk

assessment procedure to be provided by DM&RD with the participation of vulnerable groups and the communities.

The UDMP should highlight and articulate, among others, the following:

a. Defining and redefining community risks to hazards utilizing both traditional and scientific knowledge.

b. Total resource requirements and the planned action for the District.

- To take measures for prevention and mitigation of disasters by government agencies, NGOs, CBOs and the private sector within the District.
- Capacity building and preparedness measures to be taken by government agencies, NGOs, CBOs and the private sector.
- Strengthening emergency response management system plans and procedures in the event of a disaster.

c. The response plans and procedures in the event of a disaster, providing for:

- Allocation of responsibilities to the departments of the government at District level and other DMC members.
- Procedure for mobilization of resources.
- Prompt response to disaster and relief thereof.
- Procurement of emergency supplies.
- Operation of disaster shelters.
- Restoration of emergency services, such as water supply, gas supply, power, telecommunication, road links.
- Provision of emergency medical services.
- Burial of dead bodies.
- Trauma counseling.
- The dissemination of information.

d. Recovery plans and procedures delineating damage assessment procedure, restoration of damaged public infrastructure, resumption of educational institutions, restoration of livelihood, rehabilitation of affected people, especially the disabled, and elderly women and children.

e. The UDMP shall be reviewed and updated annually.

f. The copies of the UDMP shall be made available to all Union level stakeholders, UNOs and DCs.

g. A copy of the UDMP will be sent to the Upazila Disaster Management Committee.

h. The DMB/BIDMTR will provide technical advice and capacity building services to all DMCs.

Paurashava (Municipality)/City Corporation Disaster Management Plan

Pourashava is at the bottom of the urban administrative tier of Bangladesh. There is a Disaster Management Committee at the City Corporation/Pourashava level. The Pourashava Chairman is the head of the committee. The members of the Committee are all Pourashava commissioners, representatives from all the Government departments, NGOs and CBOs. Chief Executive Officer of the Pourashava is the member secretary of the committee. The committee is required to meet monthly during normal period and as and when necessary during emergency situation.

Besides, metropolitan cities in Bangladesh have City Corporation Disaster Management Committees with the Mayor as the Chairman and comprising members as it is in case of Pouroshavas. There will be a plan for each Pourashava/City Corporation titled "Pourashava/City Corporation Disaster Management Plan" to be prepared by the "Pourashava/City Corporation Disaster Management Committee having linkages with the National Plan for Disaster Management.

The PDMP/CCDMP should highlight and articulate, among others, the following:

a) The areas in the Pourashava/City Corporation vulnerable to different forms of hazards and risks.

b) Total resource requirements and the planned action for the District.

- To take measures for prevention and mitigation of disasters by government agencies, NGOs, CBOs and the private sector within the District.
- Capacity building and preparedness measures to be taken by government agencies, NGOs, CBOs and the private sector.
- Strengthening emergency response management system plans and procedures in the event of a disaster.

c) The response plans and procedures in the event of a disaster, providing for:

- Allocation of responsibilities to the departments of the government at District level and other DMC members.
- Procedure for mobilization of resources.
- Prompt response to disaster and relief thereof.
- Procurement of emergency supplies.
- Operation of disaster shelters
- Restoration of emergency services, such as water supply, gas supply, power, telecommunication, road links.
- Provision of emergency medical services.
- Burial of dead bodies.
- Trauma counseling.
- The dissemination of information.

d) Recovery plans and procedures delineating damage assessment procedure, restoration of damaged public infrastructure, resumption of educational institutions, restoration of livelihood, rehabilitation of affected people, especially the disabled, and elderly women and children.

e) The PDMP shall be reviewed and updated annually.

f) The copies of the PDMP shall be made available to all Pourashava/City Corporation level stakeholders, UNOs and DCs.

g) A copy of the PDMP will be sent to the District Disaster Management Committee and Disaster Management Bureau.

h) The DMB/ BIDMTR will provide technical advice and capacity building services to all DMCs.

4.4   Chapter Summary

In this chapter the proposed draft National Disaster Management Framework for Bangladesh has been analyzed especially the issues of climate change induced disaster in which the IPCC reports on Bangladesh and also the global climate change scenario has been thoroughly studied. In order to consider the security issues with climate change the existing disaster management regulatory framework has also been analyzed.

Chapter V

FINDINGS AND DISCUSSION

FINDINGS AND DISCUSSION

5.1 Introduction

This chapter organizes and reports the study's main findings, including the presentation of relevant data obtained from the research. Then it discusses the results in light of the study's research questions, literature review, and conceptual framework. The purpose of which is to state the researcher's interpretations and opinions. This chapter describes the analysis of data followed by a discussion of the research findings. The findings relate to the research questions that guided the study. Data were analyzed to identify, describe and explore the content and context of the study.

5.2 Findings

Human Security has potential to become a new approach for disaster research. It allows identify and measure, which security dimension (and how much) is affected; measure changes in public perception of different threats; and measure society's trust/confidence to state & non-state security providers.

Key points emphasized throughout this thesis are that disaster risk reduction and climate change adaptation are of critical importance to the security of millions of people, and that vulnerability reduction can serve as a cornerstone for strategies to reduce the negative outcomes of climate change. There is a considerable body of knowledge on disaster risk and climate change that can be used as a basis for developing coordinated efforts for climate change adaptation.

The human security assessment finds that any disaster affects communities through a wide range of threats: house collapse, destruction of economic infrastructure and food items losses (crops, fisheries and livestock), health diseases and contamination of ecological systems. Consequently, disaster hinders economy, health and social progress in the area. With regards to SLR due to climate change for global warming and present state of exposure and vulnerability conditions, it is likely that the human security may increase in the coming decades.

As a signatory of Hyogo Framework for Actions (HFA, 2005-2015), disaster risk reduction and climate change risk issues have to be mainstreamed in all development sectors of the country. The geographical location, land characteristics, multiplicity of rivers and the monsoon climate render Bangladesh highly vulnerable to natural hazards. The country is situated in a highly seismically active region which has experienced some earthquakes in the past and according to the earth scientists, there is a high possibility that strong earthquakes will continue to strike the region for the foreseeable future.

Adaptation to climate change will be an enormous challenge for society over the next several decades. While mitigation measures are expected to reduce or slow the growth of future emissions, these efforts will not halt climatic changes that are already underway due to carbon dioxide and other GHGs that are currently present in the atmosphere.

There is a strong correlation between disaster sufferings, low levels of human security and sustainable environment. Human security is both a pre-condition for, and an outcome of, sustainable development and the conservation of the world's resources. As such, the pace of environmental change and a growing demand for natural resources are generating new challenges to human security.

The research finds that a paradigm shift has taken place from reactive to proactive mode in terms of the country's disaster management efforts. Existing environmental threats and the strands, through which the security linkages are evident within it, reflect the fact that environmental security is difficult to achieve for Bangladesh in its current guise of development.

Results of Questionnaire Survey – Human Security to Disaster Management

Figure 13: Gender of the Participants
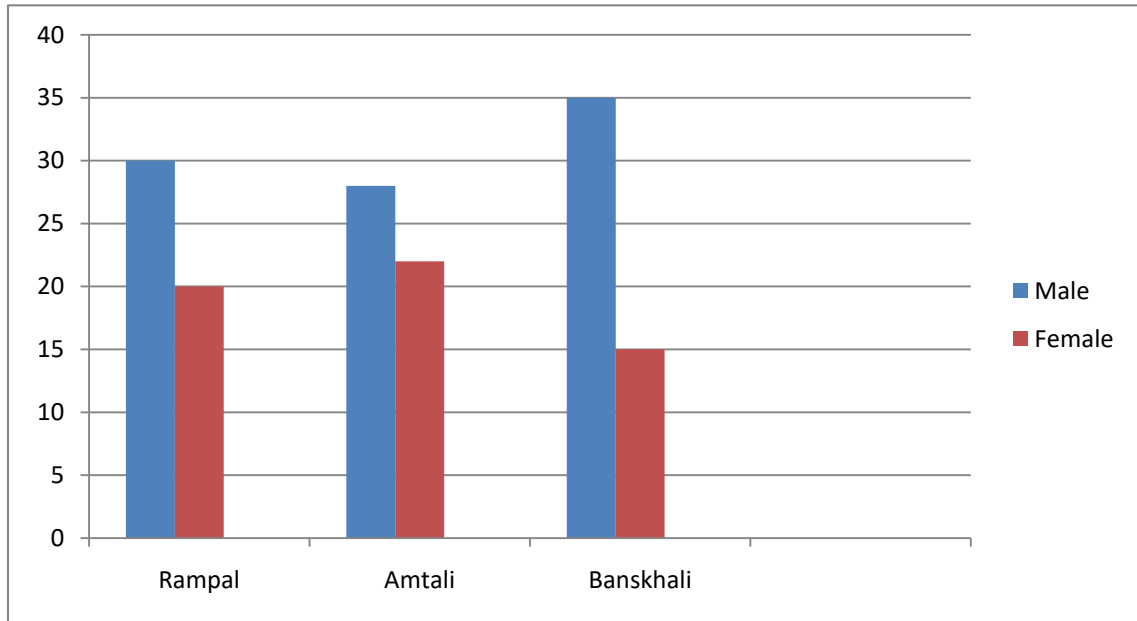
Source: Fieldwork, 2015

Figure 14: Age of the Participants
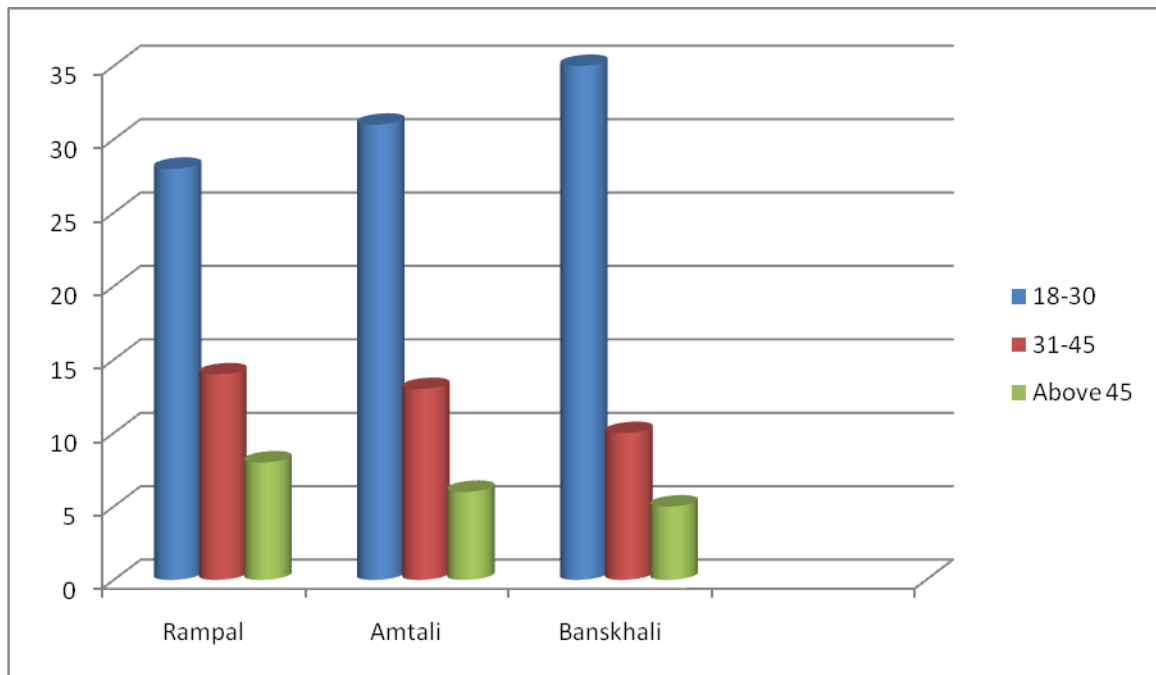
Source: Fieldwork, 2015

Figure 15: Marital Status
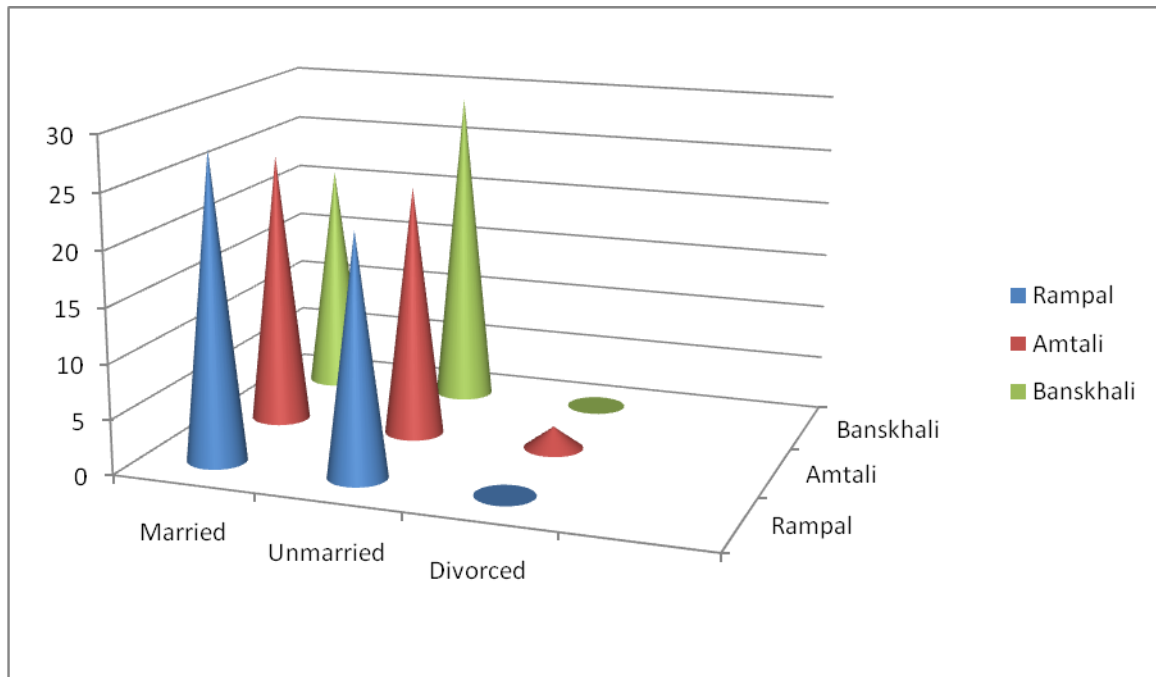
Source: Fieldwork, 2015
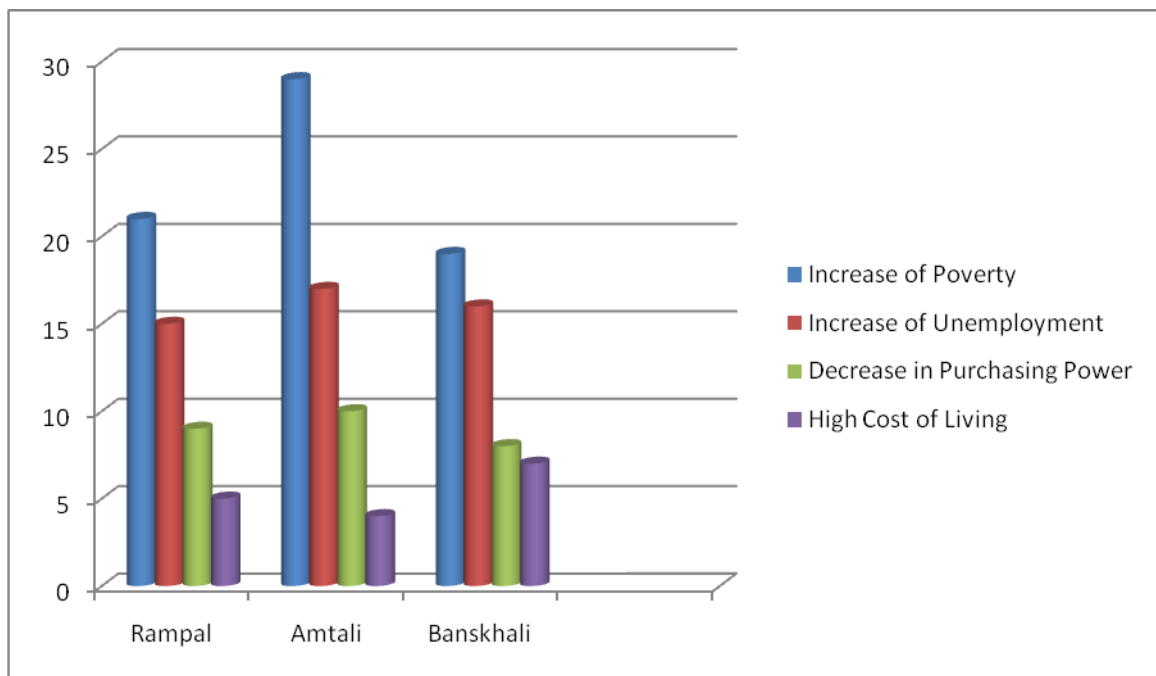
Figure 16: Highest Educational Qualification
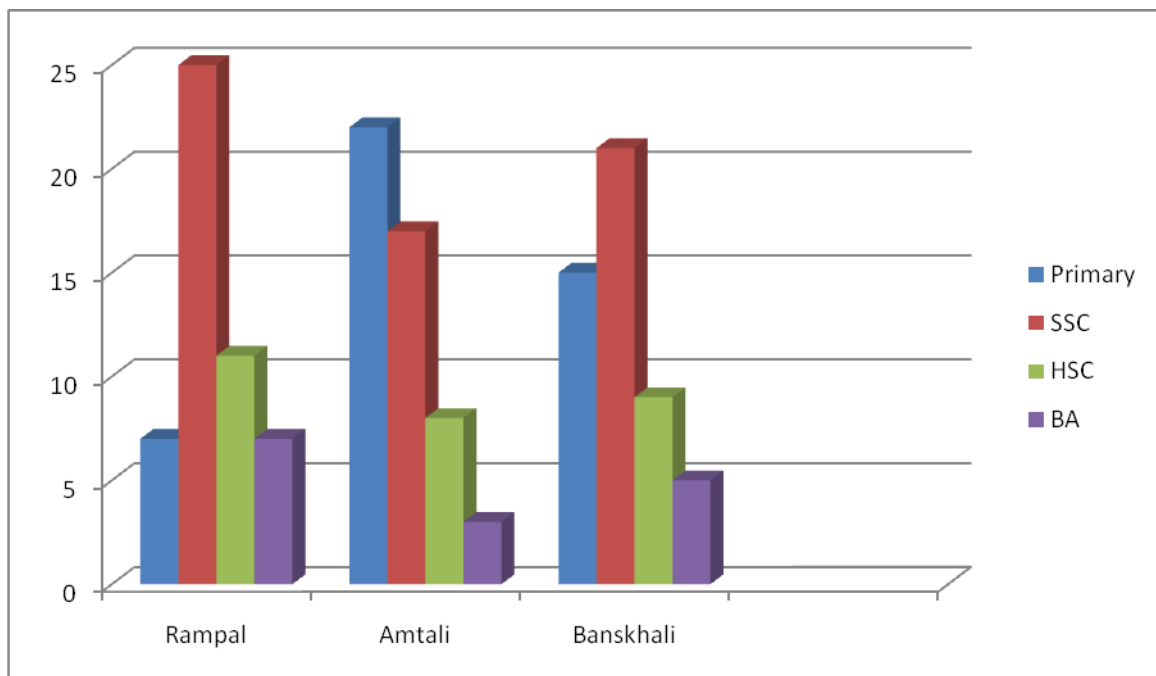
Source: Fieldwork, 2015
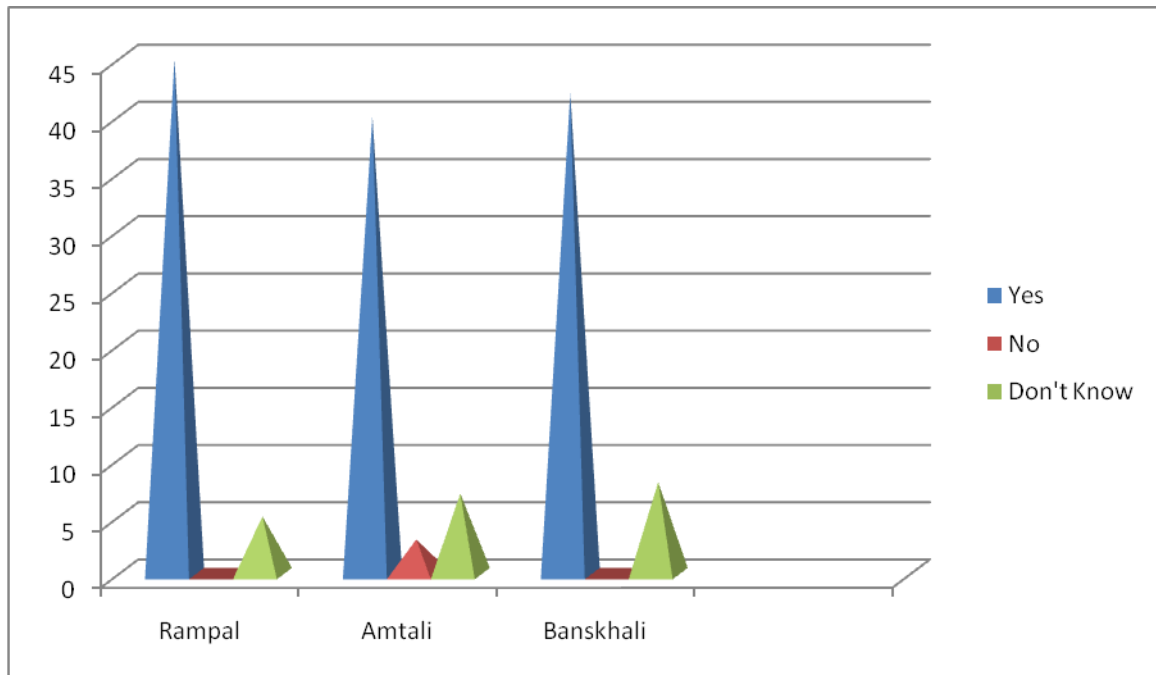
Figure 17: Participants' Profession
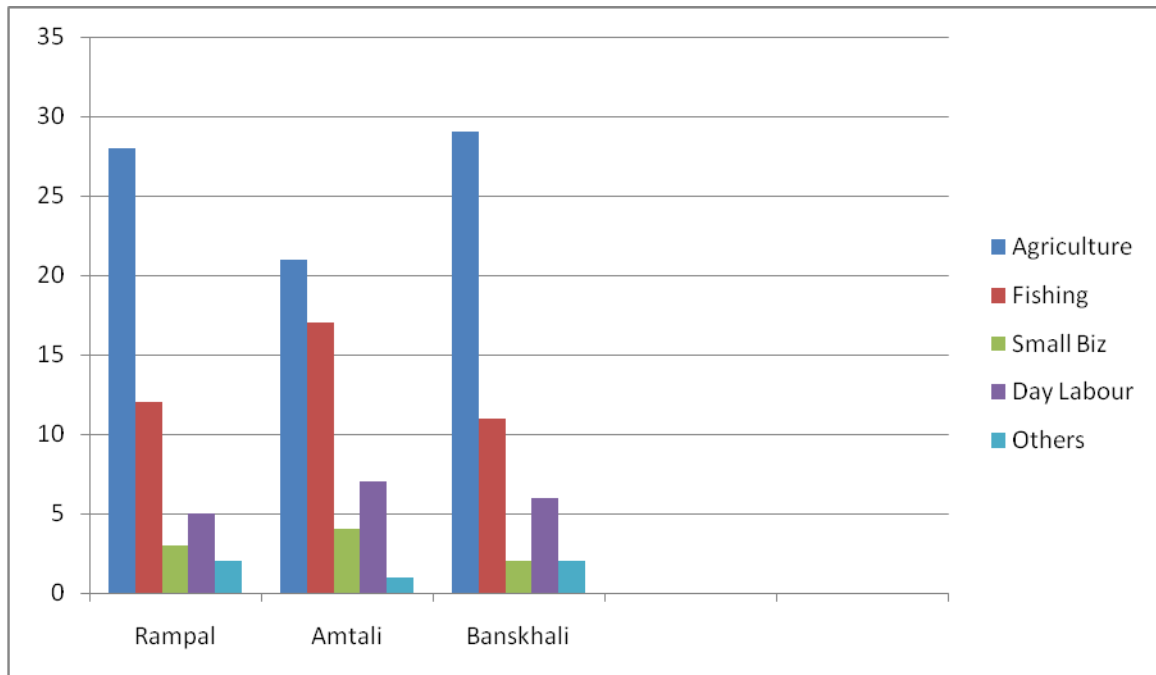
Source: Fieldwork, 2015
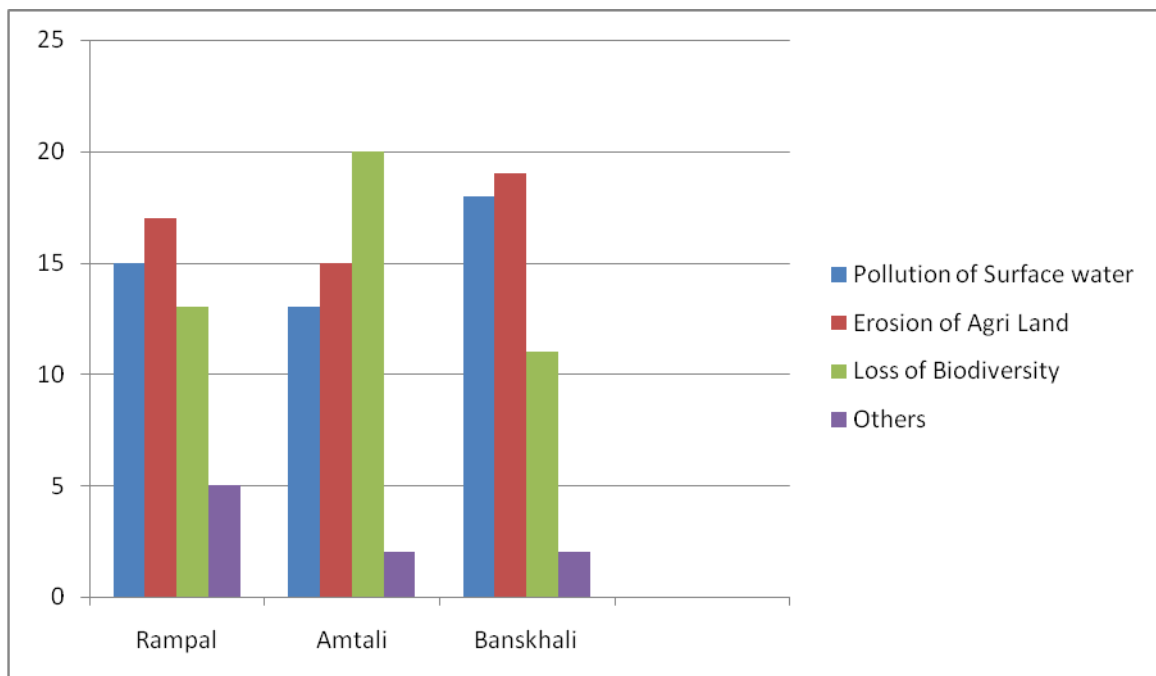
Figure 18: Issue related to disaster affects the community

Source: Fieldwork, 2015

Figure 19: Do disasters affect access to the sources of food?

Source: Fieldwork, 2015

Figure 20: How community is affected with effect of disaster?

Source: Fieldwork, 2015

Figure 21: Which disaster effect affects your community?
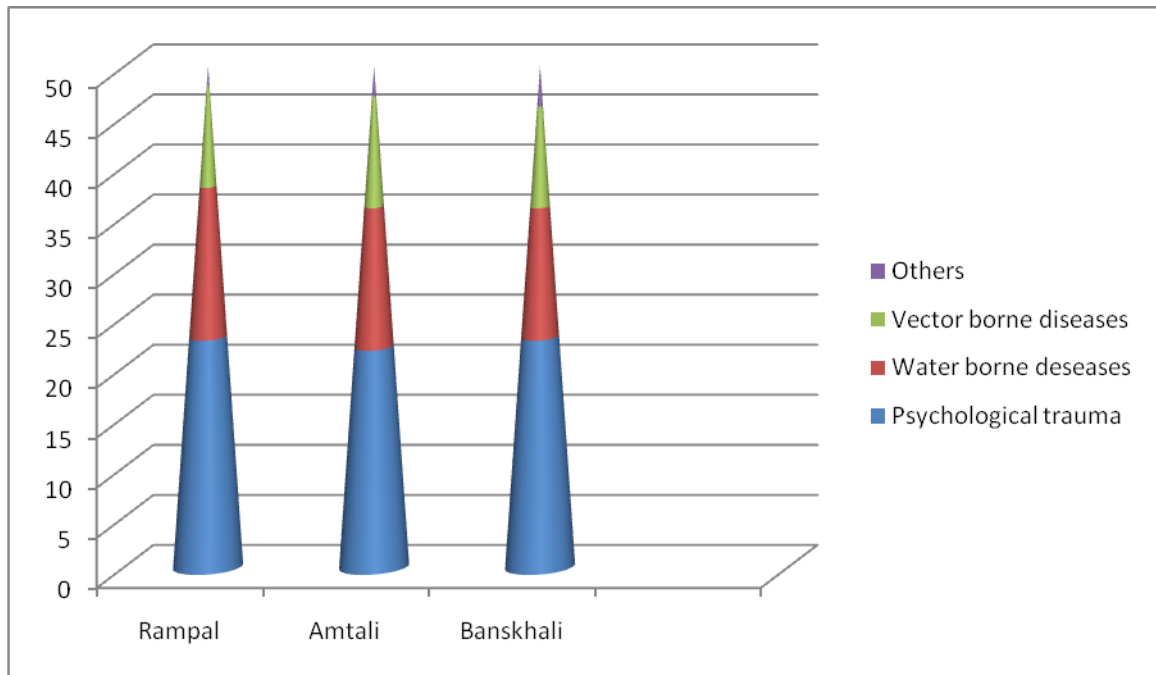
Source: Fieldwork, 2015

Figure 22: Which security problems related to disasters affect your community?
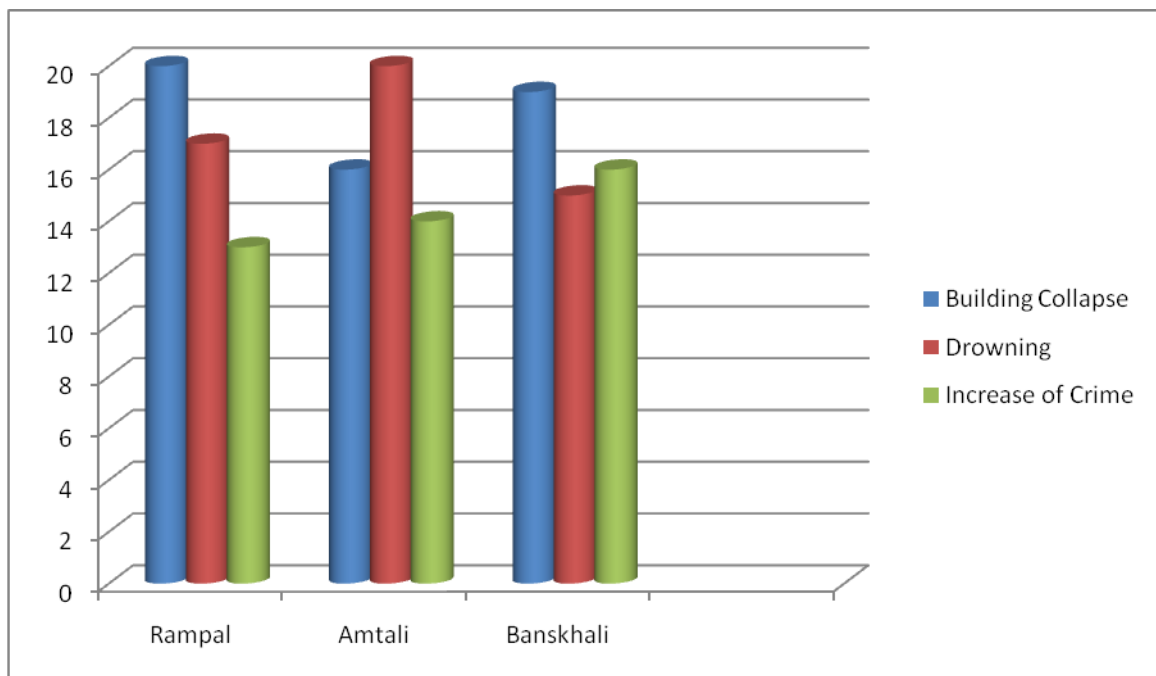
Source: Fieldwork, 2015

Figure 23: Which political security affects your community in case of disaster?
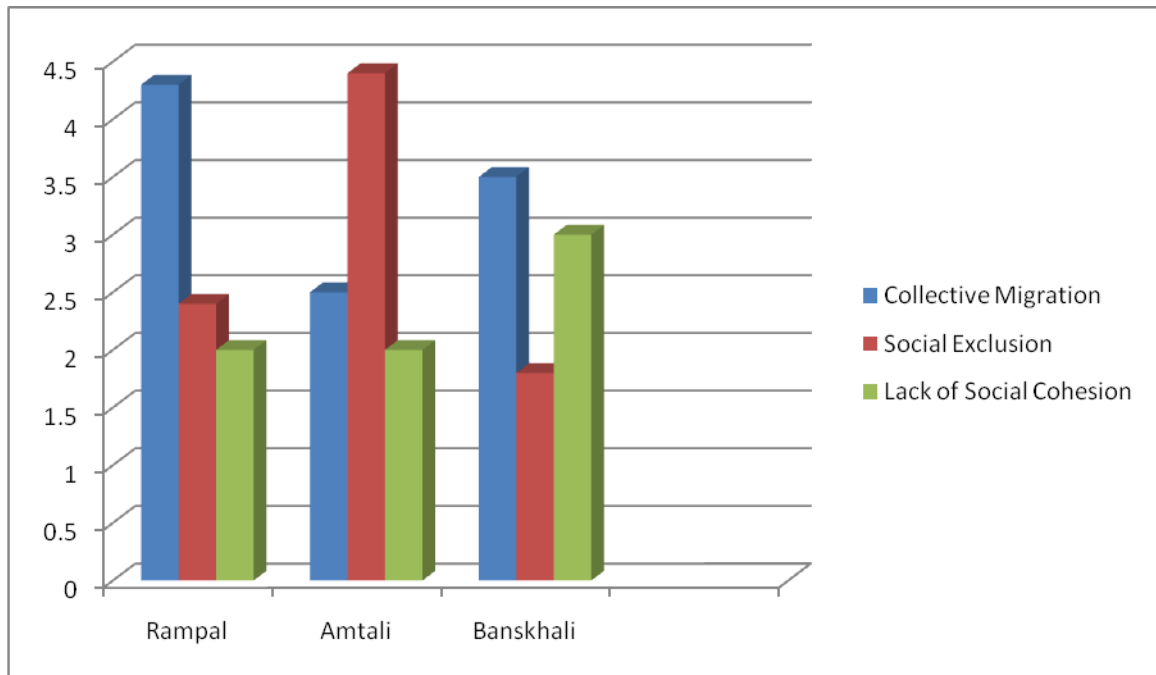
Source: Fieldwork, 2015

The participants of the questionnaire survey represented both the gender male and female in all 3 places – Rampal, Amtali and Banskhali, but dominated by males. The participants were distributed in 18-30 years, 31-45 years and above 45 years age groups. They were comprised of both married and unmarried in all 3 survey conducted areas except in Amtali where very few divorced participants took part. Most of them were primary school qualified followed by secondary and higher secondary; and only few were graduates. Majority of their profession belongs to agriculture, and followed fishing and day labourer.

Table 11: Results of Key Informants' Interview

Questionnaire	Indicators	Number of Reply		
		Rampal	Amtali	Banskhali
1. List three human security risks and threats which, according to your opinion, is pertinent to Bangladesh in relation to climate change induced disaster?	a) Air pollution b) Anarchic urbanization c) Chemical pollution d) Climate change e) Deforestation f) Ecosystem dysfunction g) Energy-related issues h) Food insecurity i) Freshwater pollution & scarcity j) Gender discrimination k) Health-related threats l) Human rights violations m) Loss of biodiversity n) Loss of cultural diversity o) Marine pollution p) Natural disasters q) Natural resources depletion r) Ozone depletion s) Sea level rise t) Social exclusion u) Waste disposal	a) 2 b) 1 d) 1 e) 1 g) 1 h) 1	a) 1 c) 1 e) 2 h) 2 i) 1	d) 2 e) 2 k) 2 m) 1
2. Which approaches and policy tools do you think can best address human security risks and threats?	a) Normative approach b) Precautionary approach c) Ethical approach d) Interdisciplinary approach e) Human security indicators f) Alert system g) Advocacy h) Education i) Training	b) 2 c) 2 f) 1 g) 1 h) 1	a) 1 b) 1 c) 3 f) 2	c) 2 f) 2 g) 1 h) 1 i) 1
3. Who are your main partners in the field of human security?	a) Individuals b) Institutes c) Int'l Organizations/Donors d) Governmental Institutions e) NGOs f) Networks	c) 2 d) 3 e) 2	a) 1 b) 1 c) 2 d) 2 e) 1	b) 2 c) 1 d) 3 e) 1
4. Do you think enough work is being done with the aim of anticipating future risks and threats in the field of human security?	a) Yes b) No c) I don't know	a) 2 b) 3 c) 2	a) 1 b) 2 c) 4	a) 3 b) 3 c) 1

5. Do you think that MDGs/SDGs are tackling major human security risks and threats efficiently?	a) Yes b) No c) I don't know	a) 1 b) 1 c) 5	a) 3 b) 2 c) 2	a) 2 b) 3 c) 2
6. The best anticipate human security risks and threats through:	a) Prevention b) Preparedness c) Standard-setting d) Advocacy e) Post-disaster activities	a) 2 b) 3 d) 1 e) 1	a) 3 b) 2 d) 2	a) 1 b) 2 d) 2 e) 2

Source: Fieldwork, 2015

In the KII, same questions were asked to all 7 individuals in each location. But their answers varied significantly. After analyzing the interviews it has been deduced that there is a lack of knowledge about 'human security' in general and its relation to 'disaster management' in particular. However, the key informants were aware about lack of security consequence in the field during and after any disaster. In all 3 places, many of them put emphasis on prevention, preparedness and advocacy.

Table 12: Results of Focus Group Discussion (FGD)

Participants	Rampal	Amtali	Banskhali
Male Students	5	6	6
Female Students	4	3	3
NGO workers	2	2	1
Local Govt Representatives	1	1	2
Total	11	12	12

Source: Fieldwork, 2015

Total 3 FGDs have been conducted each at Rampal, Amtali and Banskhali, where 11, 12 and 12 participants took part in the discussion respectively. One thing was very much common in all 3 locations that they are concerned about security issues during and after any disaster. However, the term 'human security' sound new to them. Though all of them raised the issue of self security, but few of the from each location mentioned about post disaster security of materials including livestock and also the dignity of the women.

In the content analysis of the DM relevant policies/documents 'human security' was found only once at page 25 (line 6) of National Plan for Disaster Management 2010.

5.3   Discussion

Although present scenario is noticeable in local area context, the challenges are not only faced locally, nationally, but also at international level. In each strand of security linkages, i.e. increasing number of environmental refugee, food and health insecurity, ecological imbalance, human security etc. all have a common elements of intra boundary causes and effects. The notion of security strives to reconcile socio, economic and environmental challenges. A disaster destroying an ecosystem or cultural heritage is generally assumed to be unwelcome. While disasters can have appalling consequences, they may also provide opportunities to rebuild to a different and better state than had existed before and to enact beneficial changes which might not have been feasible otherwise.

As the review of literature has shown and based on the many ongoing debates among the so-called human security advocates, human security in Bangladesh is still a contested and vague concept. Advocates are divided by minimalist and maximalist tendencies as well as by adopting the UNDP concept or pursuing a more Bangladesh-specific human security definition and framework. The human security concept itself needs further clarification and contextualization in the local setting to be better understood and used by a larger group of people. Currently, the concept is used by a limited group of people, mostly academics and some civil society groups. While there should be efforts to further clarify the concept, there should be efforts as well to make it understandable to more people, particularly those vulnerable to security threats and risks in terms of other issues including climate change induced disaster management. The high importance and urgency given to the elimination of destitution and deprivation over the short-term that is core to human security reminds proponents of sustainable development that intra-generational equity must not be sacrificed to the altar of inter-generational equity. Goals should be set, actions taken, and progress assessed at disaggregated levels commensurate with respect for the welfare and dignity, the needs and rights, of human beings.

Human security is largely a local phenomenon. Indicators based on national data and statistics do not provide sufficient guidance on effective policies and actions to

strengthen human security. There is a lack of clear understanding about the elements of human insecurity that are manifest in Bangladesh. When communities in Bangladesh revolt as a result of their loss of dignity or access to land, the government views this only as a law-and-order problem that requires police action, rather than implementing responses that are as multidimensional as the causes themselves. The huge economic disparity of the country will determine the status of human security in future. Many policies in Bangladesh continue to be driven by state-centric frameworks. While reforms are under way to make the government more accountable, transparent, and responsive to the needs of the people, the implementation of these reforms is undermined by high levels of corruption, the criminalization of politics, and weak institutions.

5.3.1 Human Security Asset at Risk

5.3.1.1 Economic and Food Security

Agriculture, livestock and fisheries are the main economic activities of the people living in coastal belt of Bangladesh. As rural population, their income is heavily tied to these economic activities. Any disaster such as cyclone, flood has caused great economic losses in the past. The field assessment revealed that disaster threatened economic security of the people through various ways such as increase of poverty, increase of unemployment, decrease in purchasing power of households, high living cost, decreased productivity and products selling difficulties and community economic instability.

100% of the respondents said that disaster increased poverty and created economic instability in their community, 97% claimed that disaster decreases the purchasing power and productivity; and 93% highlighted high cost of living and increase of unemployment. All these threats are due to losses of agricultural production and economic assets destruction. In terms of risks, losses of agricultural production will reduce food availability. Food shortage may lead to rising prices of crops. As a result, they cannot afford things. The combination of food items losses, decrease in food availability and income may threaten peoples life and increase poverty. As soon as their economic assets on which they heavily depend for food and income is lost, they become poorer and more vulnerable to food insecurity. In addition, disaster may cause

deaths and injuries to livestock and loss in fishing materials. Overall, the livelihood of the population is likely to be severely undermined.

5.3.1.2 Health Security

Any disaster alerts the natural environment allowing the growth of vectors and bacteria to flourish. The field assessment indicated that the water-borne disease, gastroenteritis illness (diarrheal diseases including cholera, dysentery, intestinal parasites), vector borne diseases, malaria and air borne diseases such as pneumonia, influenza etc are the main health risks that affect the people.

100% of the respondents indicated that gastroenteritis illness affected the community followed by intestinal parasites (93%) and pneumonia (32%). The spread of above mentioned diseases might be related to poor hygienic practices, deficiency of potable water, poor environment characterized by lack of excreta and waste water management. Psychosocial trauma is another important issue about health risks; undeniably, disaster survivors are likely to be traumatized.

5.3.1.3 Environmental Security

The environmental risk of any disaster is about inland water pollution, biodiversity losses and soil degradation. The soil is eroded as the water flowing with high speed in case of flood occurring erodes the soil and and carries away the soil's particles. The sediment removed is transported and deposited alongside buildings and low area contributing to river silting. Flood water mixed with the waste water or other soil pollutants leads to water supply system contamination. The field survey found out that flood washed away some very important species such as 'aloe-vera', which grew in the coastal area and are used for traditional medicine by people. Hence, the ecosystem declines. 100% of the respondents stated that erosion affected their environment; while 96% confirmed surface water pollution, followed respectively by 93% and 54% of biodiversity losses and decline in ecosystem services.

5.3.1.4 Personal Security

The personal security deals with the several indicators such as building collapse, peoples' disappearance, drowning, increase of crime, sexual violence, forced

displacement, land conflicts etc. Disasters pose a range of threats to human life, health and well-being injuries. The field assessment indicated that people were facing massive house destruction, people disappearance, drowning that lead to forced displacement, land conflicts, psychological instability of the affected people and crime. It should be noted that the massive housing collapse results from the fact that most houses are constructed with poor construction materials and covered with straw. The above figure represents house collapse and forced displacement 100%, drowning 77%, sexual violence 19%, increase of crime 13% and person disappearance 10% of the respondents.

5.3.1.5 Community Security

Any disaster affects community in various ways: bridges and culverts destroyed, roads or pathways destruction, collapse of housing and community social infrastructure (schools, market sheds etc). It induces collective migration, displacements, conflicts, intergroup or ethnic violence; it breaks up families' social cohesion. Education suffers too due to the displacement or schools being closed.

Respondents respectively 81%, 71%, 36%, 16% and 7% said that their community was affected by migration/conflict, ethnic violence, social exclusion, lack of social cohesion and loss of traditional values.

5.3.1.6 Political Security

In case of emergency, in assisting the affected populations relief team should respect some basic human rights related disaster events. Affected population have the right to express their needs to local authorities without being rejected, they have the rights to be consulted and to participate in decision making concerning their life, equitable access to relief items; aid should not be hidden from victims, women's dignity should be respected.

The field investigation unveils that there are unequal distribution and discrimination of disaster relief aid by local government leaders. Political and ethnic considerations are involved in the disaster relief and aid distribution. Furthermore, relief fund send to the affected communities, normally supposed to be given to the affected populations

by local government, hardly reach them. In contrast, the affected people pointed out that NGOs were more efficient in their work. This fact seriously undermines faith in public institutions.

5.4 Chapter Summary

In Chapter V, the research findings have been listed and discussed in a logical sequence through analysis. The objectives of this research have been identified and the findings of the data collected discussed. The findings of questionnaire survey, KII and FGDs are presented here before discussing them. The findings have revealed that a paradigm shift has taken place from reactive to proactive mode in terms of the country's disaster management efforts.

Chapter VI

RECOMMENDATIONS AND CONCLUSION

RECOMMENDATIONS AND CONCLUSION

6.1   Introduction

This chapter presents a set of recommendations and concluding statements. The recommendations contain practical suggestions that will improve the situation or solve the problem investigated in the study. The conclusion reaffirms the thesis statement, discusses the issues, and reaches a final judgment. It also relates directly to the significance of the study, which is always, in some way, to improve the human condition. In fact recommendations are the application of the conclusion.

6.2   Recommendations

The following recommendations are based on the outcomes of the study on human induced climate change and human security and the three country specific case studies:

Climate Change and Human Security

- Need to identify, research and integrate climate change as a human security issue into human rights frameworks, mechanisms and legislation, including the Hyogo Framework for Action.
- It is important to apply a human security framework to climate change at all policy levels.
- There is a requirement to conduct a vulnerability analysis of climate change mitigation and adaptation and promote an integrated human and environmental security approach that is proactive and inclusive and combines top-down measures (e.g. institutional consolidation, laws, norms and policies) with bottom-up participation and resilience-building for exposed communities.

Adaptive Capacity: Strengthening Human Security

- Require to build on and strengthen peoples' experiences, knowledge and coping capacity adaptation policies and ensure that women's needs are considered in livelihood adaptation strategies.
- Important to integrate a gender approach and enhance women's human security in all National Adaptation Programmes of Action (NAPAs).

- Need to foster direct involvement of all gender in both policy and project planning in NAPA preparation.

- Important to create an environment in which peoples' engagement in adaptation discussions and governance structures is fully supported—in order to do so, existing coping strategies and constraints to adaptation should be studied.

- Require to empower people as agents of adaptation, and provide marginalized section with opportunities to control greater percentages of resources (including land) and services and to make independent decisions.

- Have to prevent cultural practices from hindering all peoples' capacity to adapt.

- Important to support and promote practical solutions to enhance peoples' adaptive capacity and livelihoods including alternative agricultural practices, equitable employment opportunities, access to credit, labor-saving technologies and equipment, safe shelter and facilities, energy and water supply and services.

- Require assisting marginalized people and their coalitions and networks at community, national and international levels to ensure that recovery and adaptation measures respond to their needs and concerns.

- Need to provide training to grassroot organizations, networks and support groups and opportunities to share experiences—marginalized group and their organizations should demonstrate exemplary leadership and serve as advocates and credible ambassadors on climate change.

- Important to acknowledge their social, economic, physical and psychological vulnerabilities in community-based preparedness and response plans in order to reduce the impact of disasters on them.

- Need to recognize marginalized peoples' abilities and incorporate them into disaster relief efforts with the goal of changing their roles and perception of rights.

- Require endeavor to ensure that activities are appropriate for them, and that they receive positive encouragement and support for participation.

Financing Mechanisms

- Need to integrate human security for all people into climate change funding mechanisms, to ensure that poor people get a fair share of funds—practical tools such as accountability mechanisms would support their equality's incorporation into climate change initiatives, including the Clean Development Mechanism (CDM).

- Require to consider developing a mechanism for the CDM to fund projects that make renewable energy technologies available to all. For example, NAPAs should target diversified as important actors in adaptation activities.

- Important to set up adaptation funds, according to principles of democratic governance and civil society participation to play a key role in promoting equal rights and to prioritize marginalized peoples' needs.

- Need to ensure peoples' engagement in adaptation financing mechanisms.

- Require to create adaptation finance mechanisms that support livelihood adaptation priorities of poor people, and include class-disaggregated indicators in adaptation funds for targeting and monitoring the benefits to poor people.

Others

- The traditional view of disaster is of a detrimental phenomenon to both the environment and society which must be avoided. The concept of recovery, for example, implicitly assumes that an ideal pre-disaster state exists to which society, communities, and individuals must return following a disaster event. The presupposition is that returning to this pre-disaster state is viable and desirable.

- Both mitigation and adaptation should be seen as human security imperatives in a broader sense.

- Important to bring Fire Brigade and Civil Defense under Ministry of Disaster Management instead of Ministry of Home.

- Community level research can identify specific causes of insecurity and suggest means to protect and empower people to cope with threats to their security.

- Surveillance and monitoring of weather condition for early detection of any disaster occurrence and early warning system.

- Land use regulation and law enforcement are very important for controlling land use practices in the coastal area. Prohibiting development in areas of high risks is mandatory. No major development work should be permitted in areas subject to high risk of disaster.

- Maintaining building code and standards will help to minimize damage as well as to reduce the collapsing of houses in the coastal area.

- Damage retention infrastructure may be the option. Natural retention areas should be identified and improved.

6.3   Conclusion

The paradigm of human security has evolved considerably since its inception as an alternative to a traditional state-centric security framework. Despite the various arguments against the increasing securitization of socioeconomic concerns, human security today provides the moral fiber for many foreign policies, state actions, and international interventions. The problem is further accentuated by a lack of understanding of the elements of human insecurity that are manifest in Bangladesh. Though the integration of human security with disaster management is a must, but effective interaction among these two elements is yet to be made and no integrated approach between human security and disaster management initiative is observed so far. Human security can only be achieved through challenging the structure and processes, both natural and social that contributes to insecurities, vulnerabilities and risk. Efforts will also be taken to use local knowledge in this practice to bridge cultural gaps by making local opinions and behaviors understandable to a global public. It will help to understand the differences, and more importantly the similarities, between local and global, in order to crucial intercultural understanding in the disaster management issue. Human security needs to be rethought in a holistic way, and not split into different dimensions that could be treated separately. It could serve as a conceptual tool to transform the world and bring in-depth solutions, inventing a security with a human face.

This research was aimed to contribute to the understanding of climate change induced disaster causative factors, risk profile of the affected communities and its implication for human security in Bangladesh. In considering the linkages between disaster risk

reduction, climate change adaptation and human security, it is important to recognize that human security is not simply about freedom from conflict or prevention of population displacement. Human security is closely linked to the development of human capabilities in the face of change and uncertainty. Individuals and communities faced with both rapid change and increasing uncertainty are challenged to respond in new ways that protect their social, environmental, and human rights. Considering human security as a rationale for disaster risk reduction and climate change adaptation in the face of human induced climate change emphasizes both equity issues and the growing connections among people and places in coupled social-ecological systems. Never in history has the management of threats to the environmental, social and human rights of individuals and communities been as important at local, regional and global scales, and never before have human security concerns been so closely interlinked across regions, groups, and generations.

Disasters are not homogenous. They can (and do) affect each of 7 human security dimensions. States investing in human security have more resilient societies. Consistent with the Framework, the ultimate goal is to build the adaptive capacities of women and men in their communities, increase the resilience of vulnerable sectors and natural ecosystems to climate change, and optimize mitigation opportunities towards responsive and rights-based sustainable development. Human security as a concept, represents a redefinition of traditional understandings of security and development. Human Security thus needs to be rethought in a holistic way, and not split into different dimensions that could be treated separately. It could serve as a conceptual tool to transform the world and bring in-depth solutions, inventing a security with a 'human face.' As such, it is important to ensure human security and human induced disaster management more human and sustainable. There is, therefore, a need to come up with a framework for human security intervention.

6.4   Scope for Further Research

While this study has attempted to explore many of the issues related to human security towards human induced disaster management, it does not claim to be exhaustive. The research that has been undertaken for this thesis has highlighted a number of topics on which further research would be beneficial. Since human security is a quite new concept in Bangladesh there is still a large amount of questions

regarding this subject that needs to be answered. So it is recommended to conduct similar research in a few years when the concept of human security towards disaster management will be better known and adapted further among a large number of scholars and researchers. A number of topics remain beyond the scope of this study, and could do with more research. This will add more value to them, and go a long way towards enhancing the sustainable development in their lives and livelihood.

REFERENCES

Acharya, A. 2005, *Human Security, Identity Politics and Global Governance: From Freedom from Fear to Fear of Freedoms,* paper presented at the international conference 'Civil Society, Religion & Global Governance: Paradigms of Power & Persuasion', Canberra, Australia.

Agrawala, S.; Ota, T.; Ahmed, AU; Smith, J.; and Aalst, M. Van 2003, *Development and Climate Change in Bangladesh: Focus on coastal flooding and the Sundarbans,* Paris: OECD.

Ahmed, B.; Hassan, FASM; and Islam, MT 2014, Disaster Induced Migration and Social Conflict in Bangladesh: Study on Cyclone SIDR, *International Journal of Interdisciplinary and Multidisciplinary Studies*, 1(4):11-16.

Akhter, Rasheda 2011, Approaches of Political Economy in Anthropology: An Evaluation (in Bangla), *Nrvijnana Partika*, Volume 16, Dhaka: Janhangirnagar University.

Alam, A. 2006, *Disaster Reduction Begins at Schools: Building Disaster Resilient Communities Through Education,* in the Souvenir edited by Morshed, S. M. published on the International Day for Disaster Reduction 2006, 5-17.

Alexander, D. 2002, *Principles of Emergency Planning and Management,* Oxford University Press.

Alkire, Sabina 2003, *A Conceptual Framework for Human Security*, CRISE, University of Oxford.

Annan, Kofi A.2009, Climate Change: The Anatomy of a Silent Crisis, *Human Impact Report of Global Humanitarian Forum*, p.ii.

Barnett, Jon. 2006. Climate Change, Insecurity, and Injustice. In W. N. Adger, J. Paavola, S. Huq and M. J. Mace (eds), *Fairness in Adaptation to Climate Change*. Cambridge: MIT Press, 115-129.

Beck, Ulrich. 1992. *Risk Society: Towards a New Modernity*. London: Sage Publications.

Blanchard, W. 2005, *Select Emergency Management-Related Terms and Definitions*, Vulnerability Assessment Techniques and Applications. Retrieved from http://www.csc.noaa.gov/vata/glossary.html

Bryant, R. 1998, Power, knowledge and political ecology in the third world: a review, *Progress in Physical Geography*, 22:79- 94.

Buhr, N. 1998, Environmental Performance, Legislation & Annual Report Disclosure: Case of Acid Rain & Falconbridge, *Accounting, Auditing & Accountability Journal*, 11(2):163-90.

Buttedahl, P. 1994, *Viewpoint: True Measures of Human Security,* IRDC Reports, International Development Research Centre, Canada. 22:3.

Buzan, B. 1991, *People, States and Fear: An Agenda for International Security Studies in the Post-Cold War Era*, 2nd edition, Harvester Wheatsheaf.

Canadian Delegation to OAS 2000, *"Human Security in the Americas,"* Document presented at the 30th Regular Session of the General Assembly, June 4th, Windsor, Canada.

Clark, John P. 2012, The Emergence and Development of Political Ecology, *Encyclopedia of Applied Ethics*, 2nd edition., Volume 3, San Diego: Academic Press, pp. 505–516.

Commission on Human Security 2003, Human Security Now: Protecting and Empowering People, New York.

Cooper, D. J. and Sherer, M. J. 1984, The Value of Corporate Accounting Reports: Arguments for a Political Economy of Accounting, *Accounting, Organisations and Society,* 9(2/3): 207-32.

CRED-Centre for Research on the Epidemiology of Disasters 2007, *Annual Disaster Statistical Review: Numbers and Trends 2006*, Brussels: Catholic University of Louvain.

Cuny, Frederick C. 1983, *Disasters and Development*, Oxford University Press.

Dankelman, Irene 2008, *Gender and Climate Change: Local Security in an Era of Global Environmental Change,* Nijmegen: Radboud University.

Diamond, Jared 1997, *Guns, Germs and Steel: The Fates of Human Societies*, New York: W. W. Norton.

Disaster Management Bureau 2010, *National Plan for Disaster Management: 2010-2015,* Dhaka, Bangladesh.

Dokos, Thanos (ed) 2008, *Climate Change: Addressing the Impact on Human Security,* Athens: Hellenic Foundation for European and Foreign Policy and Hellenic Ministry for Foreign Affairs.

Escobar, A. 1999a, Whose Knowledge, Whose Nature? Biodiversity Conservation and Social Movements Political Ecology, *Journal of Political Ecology*.

Fagan, Brian 1990, *The Journey from Eden: The Peopling of Our World*, London: Thames and Hudson.

Fetzer, JH and Almeder, RF 1993, *Glossary of Epistemology/Philosophy of Science*, New York: Paragon House.

Forsyth, T. 2008, Political ecology and the epistemology of social justice, *Geoforum*, 39(2): 756-764.

Fouinat, Francois 2004, A Comprehensive Framework for Human Security, *Conflict, Security and Development*, Volume 4, issue 3, 289-297.

Galle, WB 1962, Essentially Contested Concept, Black, M. (ed), *Importance of Language*, Princeton Hall, Eaglewood Cliffs.

Gasper, Des. 2005. Securing Humanity: Situating 'Human Security as Concept and Discourse" *Journal of Human Development* 7(2):221-245

GECHS. 1999. *Global Environmental Change and Human Security (GECHS) Science Plan*. IHDP Report No. 11, Bonn, Germany: IHDP.

Gonzalez, ET and Mendoza, LM 2010, Mainstreaming Human Security in the Philippines: Options and Prospects for Non-State Actors in Light of the 'ASEAN Way', *ASEAS - Austrian Journal of South-East Asian Studies, 3*(2):211-240.

Guha-Sapir, D. et al 2011, *Annual Statistical Review: Numbers and Trends 2010,* Brussels: CRED.

Gusfield, J. 1989, Constructing the ownership of social problems: Fun and profit in the welfare state, *Social Problems*, 36(5):431–441.

Habib, Nusrat and Bijoy, Mizanur Rahman 2009, *Impact of Climate Change in Bangladesh: Especially in Coastal Areas*, PRODIPAN, Khulna, Bangladesh.

Hamson, Phem Osshler 2000, Security, Poverty Alleviation and Sustainable Development: Changes for New Millennium, *Madness in the Multitude: Human Security and World Disorders*, Ottawa: Oxford University Press.

Haq, Mahbub Ul 1995, "New Imperatives of Human Security" in U. Kirdar and L. Silk (ed), *From Impoverishment to Empowerment*, New York: NYU Press.

Haque, AK Enamul 2015, Economics of Climate Change, *The Financial Express,* Op-Ed, November 28.

Hampson, FO; Daudelin, J.; Hay, JB; Martin, T. and Reid, H 2002, *Madness in the Multitude: Human Security and World Disorder,* Ottawa: Oxford University Press.

Harmeling, S. 2011, *Global Climate Risk Index 2012: Who Suffers the Most from extreme weather events? Weather-related loss events in 2010 and 1991 to 2010*, Briefing Paper, Bonn: Germanwatch.

Honasan, Gregorio and Castillo, Michael Eric 2002, A national security framework for the Philippines, *National Security Review*, 20: 4.

Huq, S., Karim, Z., Asaduzzaman, M., and Mahtab, F. (ed) 1999, *Vulnerability and Adaptation to Climate Change for Bangladesh*, Kluwer Academic Publishers, Dordrecht/ Boston/London.

IASC 2012, *Operational Guidance for Coordinated Assessments in Humanitarian Crises.*

IPCC 2012, *Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation*, A Special Report of Working Groups I & II, Cambridge University Press.

IPCC 2007, *Fourth Assessment Report: Climate Change*, Geneva.

JAICA 2010, *JAICA's Human Security Approach: Features and Case Studies*, Tokyo.

Jimba, Masamine et al 2011, Human Security Approaches for Disaster Recovery and Resilience, *JMAJ*, 54(5): 338–341.

Khagram, Sanjeev; Clark, William C., and Raad, Dana Firas 2003, From the Environment and Human Security to Sustainable Security and Development, *Journal of Human Development,* 4(2): 289-313.

King, David; Schrag, Daniel; Dadi, Zhou; Ye, Qi; and Ghosh, Arunabha 2015, *Climate Change: A Risk Assessment*, London: Foreign and Commonwealth Office.

Kniveton, D.; Rowhani, P.; and Martin, M. 2013, Future Migration in the Context of climate change, *Climate Change Related Migration in Bangladesh*, Briefing Paper No 3, Brighton: Sussex Centre for Migration Research and Dhaka: Refugee and Migratory Movements Research Unit.

Leaning, J. and Arie, S. 2000, *Human Security: A Framework for Assessment in Conflict and Transition*, New Orleans, LA: Tulane University.

Lister, Ruth. 2004. *Poverty.* Cornwall, UK: Polity Press.

Marx, Karl and Engels, Fredrick 1970, *The German Ideology*, New York: International [Original edition, 1846].

Mészáros, Isván 1970, *Marx's Theory of Alienation*, London: Merlin Press.

Mendoza, Merlie B. and Taylor, Victor M. (ed) 2010, *Challenges to Human Security in Complex Situations: The Case of Conflict in the Southern Philippines*, Kuala Lumpur: The Asian Disaster Reduction and Response Network.

Michel, James 2005, Human Security and Social Development Comparative Research in Four Asian Countries, working paper on *"New Frontiers of Social Policy: Development I a Globalizing World"*.

Mitchell, Tom; Tanner, Thomas; and Lussier, Kattie 2007, *We Know What We Need: South Asian Women Speak Out on Climate Change Adaptation,* Johannesburg/London: ActionAid International.

Mitchell, Jerry T. and Cutter, Susan L. 1997, *Global Change and Environmental Hazards: Is the World Becoming More Disastrous?* Washington, DC: Association of American Geographers.

Naidoo, S. 2001, *A Theoretical Conceptualization of Human Security and Conflict Prevention in Africa*, proceedings of the UNESCO-ISS Expert meeting held in Pretoria, South Africa from July 23-24.

Narayan, D.; Patel, R.; Schafft, K.; Rademacher, A.; and Koch-Schulte, S. 2000, *Voices of the Poor: Can Anyone Hear Us?* New York: Oxford University Press.

Nasreen, Mahbuba 2008, Disasters and Disaster Research: A Case Study of Floods in Bangladesh, in Samir Dasgupta (ed), *Understanding the Global Environment,* Pearson Education.

Nef, Jorge 1999, *Human Security and Mutual Vulnerability: The Global Political Economy of Development and Underdevelopment*, International Research Development Centre, Canada (2nd edition).

Nepal Institute for Policy Studies (NIPS) 2014, *Internal Security of Nepal: Challenges and Solutions,* 4(1):1-20.

Nussbaum, MC 2000, *Women and Human Development: The Capabilities Approach,* Cambridge: Cambridge University Press.

O'Brien, Karen and Leichenko, Robin 2009, *Human Development Report 2007/2008: Human Security, Vulnerability and Sustainable Adaptation*, New York: UNDP.

Ortner, Sherry 1984, Theory in Anthropology since the Sixties, *Comparative Studies in Society and History*, 26 (1), 126-166.

Oscar, A. and Gomez S. 2011, Introducing the 'Human' into Philippine Security Discourses: Convergence or Dialogue?, *Kasarinlan: Philippine Journal of Third World Studies*, 26 (1–2): 153-182.

Oxfam 2005, *Gender and the Tsunami,* Oxfam Briefing Note, March, Oxford: Oxfam.

Paris, R., 2001, Human Security: Paradigm Shift or Hot Air, *International Security,* Volume 26, Number 2 , pp.87-102.

Pauchauri, Rajendra K. 2009, Climate Change: The Anatomy of a Silent Crisis, *Human Impact Report of Global Humanitarian Forum*, p.62.

Ponting, Clive 1991, *A Green History of the World: The Environment and the Collapse of Great Civilizations*, New York: St. Martin's Press.

Rashed, T. and Weeks, J. 2002, Assessing Vulnerability in Earthquake Hazards Through Spatial Multicriteria Analysis of Urban Areas, *International Journal of Geographic Information Science,* 17(6): 547-576.

Rawls, John 1971, *A Theory of Justice,* Oxford: Oxford University Press.

Sen, Amartya 2000, *Why Human Security?* Text of presentation at the "International Symposium on Human Security" in Tokyo, 28th July.

Sen, Amartya. 1999. *Development as Freedom*. New York: Anchor Books.

Smith DA, 1996, *Third World cities in global perspective: the political economy of uneven urbanization*, Boulder, Colorado: Westview Press.

Smith, K. 2001, *Environmental Hazards: Assessing Risk and Reducing Disaster,* Third Edition, London: Routledge.

Taleb, Nassim Nicholas 2010, *The Black Swan: the impact of the highly improbable* (2nd ed.), London: Penguin.

Talisayon, Serafin. N.d. "*The framework of national security*".

Taubenbock, H.; Wurm, M.; Netzband, M.; Zwenzner, H.; Roth, A.; Rahman, A.; and Sech, S. 2011, Flood Risks in Urbanized Area – Multi-Sensoral Approaches Using Remotely Sensed Data for Risk Assessment, *Natural Hazards and Earth System Sciences,* 11:431-444.

Thomas, Caroline 2000, *Global governance, development and human security the challenge of poverty and inequality,* London and Sterling, VA: Pluto Press.

UNEP 2002, *Assessing Human Vulnerability due to Environmental Change: Concepts, Issues, Methods and Case Studies,* Nairobi.

UNDP 2004, *Reducing Disaster Risk: A Challenge for Development: A Global Report*, New York.

UNDP 1994, *Human Development Report,* New York: Oxford University Press.

UNDRO 1980, *Natural Disasters and Vulnerability Analysis*, Report of Expert Group Meeting of July 9-12, 1979, Geneva.

UNISDR 2009, *UNISDR Terminology on Disaster Risk Reduction.* Retrieved from http://www.unisdr.org/files/7817_UNISDRTerminologyFrench.pdf

Upreti, Bishnu Raj; Bhattarai, Rajan; and Wagle, Geja Sharma (ed) 2013, *Human Security in Nepal: Concepts, Issues and Challenges*, Kathmandu: Nepal Institute for Policy Studies and South Asia Regional Coordination Office of NCCR (North-South).

Yeasmin, Sabina and Rahman, Khan Ferdousour 2013, Climate Change Governance towards a Sustainable Development in Bangladesh, *BPDM Journal of Research,* 1(1).

APPENDIX I

QUESTIONNAIRE – HUMAN SECURITY TO DISASTER MANAGEMENT

Section 1: Localization
1.1 Day/Month/Year of Interview: _____/_____/2015

1.2 Place of Interview:	1.3 Name of the Interviewee:

Section 2: Socio-Demographic	
2.1 Name & Address of the Interviewer:	
2.2 Gender:	2.3 Age:
2.4 Marital Status	2.5 Highest Level of Education Completed

Indicators: Lower level of Income, Rising Unemployment, Persistent Poverty

Section 3: Economic Security	
3.1 Profession: Agriculture/Fishing/Small Biz/Day Labours/Others	
3.2 Which issue related to disaster affects your community?	- Increase of Poverty - Increase of Unemployment - Decrease in Purchasing Power of Households - High Cost of Living

Indicator: Lack of quantitative and Qualitative Access to Food

Section 4: Food Security	
4.1 Do disasters affect access to the sources of food?	- Yes - No - Don't Know

Indicator: Environmental Degradation and Decrease in Ecosystem Services

Section 5: Environmental Security	
5.1 How community is affected with effect of disaster?	- Pollution of surface water - Erosion and degradation of agricultural land - Loss of biodiversity (Flora & Fauna) - Others

Indicators: Spread of waterborne diseases, physical trauma

Section 6: Health Security	
6.1 Which disaster effect affects your community?	Psychological trauma

	• Water-borne diseases (diarrhoea, cholera, dysentery etc) • Vector-borne diseases (Malaria/Dengue fever) • Others

Indicators: Individual physical threats and/or personal violence due to disaster

Section 7: Personal Security	
7.1 Which personal security problems related to disasters affect your community?	• Building collapse • Drowning • Increase of crime

Indicators: Loss of community traditional values and relationships

Section 8: Community Security	
8.1 Which security problems related to disasters affect your community?	• Collective migration • Social exclusion • Lack of social cohesion

Indicators: Abuse of fundamental human rights, democracy, participation rights

Section 9: Political Security	
9.1 Which political security affects your community in case of disaster?	• Inequitable access to aid • None consulted with affected populations • Violation of women dignity • Others

GENERAL OBSERVATIONS/COMMENTARY
Human Security Questionnaire

1. List three human security risks and threats which, according to your opinion, is pertinent to Bangladesh in relation to climate change	a) Air pollution b) Anarchic urbanization c) Chemical pollution

induced disaster?	d) Climate change e) Deforestation/Desertification f) Ecosystem dysfunction g) Energy-related issues h) Food insecurity i) Freshwater pollution & scarcity j) Gender discrimination k) Health-related threats l) Human rights violations m) Loss of biodiversity n) Loss of cultural diversity o) Marine pollution p) Natural disasters q) Natural resources depletion r) Ozone depletion s) Sea level rise t) Social exclusion u) Waste disposal
2. Which approaches and policy tools do you think can best address human security risks and threats?	a) Normative approach b) Precautionary approach c) Ethical approach d) Interdisciplinary approach e) Human security indicators f) Alert system g) Advocacy h) Education i) Training
3. Who are your main partners in the field of human security?	a) Individuals b) Institutes c) International Organizations d) Governmental Institutions e) NGOs f) Networks
4. Do you think enough work is being done with the aim of anticipating future risks and threats in the field of human security?	a) Yes b) No c) I don't know
5. Do you think that MDGs/SDGs are tackling major human security risks and threats efficiently?	a) Yes b) No
6. The best anticipate human security risks and threats through:	a) Prevention b) Preparedness c) Standard-setting d) Advocacy e) Post-disaster activities