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JAMES COOK
UNIVERSITY
AUSTRALIA

# THE IMPACT OF EXTREME CLIMATIC EVENTS

# ON MIGRATION FROM TWO COMMUNITIES

# IN BANGLADESH

Thesis submitted by

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**DECLARATION OF ETHICS**

The research presented and reported in this thesis was conducted within the guidelines for research ethics outlined in the National Statement on Ethics Conduct in Research Involving Human (1999), the joint NHMRC/AVCC Statement and Guidelines on Research Practice (1997), the James Cook University Policy on Experimentation Ethics. Standard Practices and Guidelines (2001) and the James Cook University Statement and Guidelines on Research Practice (2001).

The proposed research methodology received clearance from the James Cook University Experimentation Ethics Review Committee (approval number **H5096**):

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# STATEMENT OF CONTRIBUTION OF OTHERS

This thesis has been developed with contribution from many persons as follows:

- Principal advisor: Associate Professor Alison Cottrell
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# ABSTRACT

The latest IPCC Report (Adger et al 2014) identifies climate change and climate variability as important factors for human security because of the capacity to undermine livelihoods, compromise culture and identity, and increase migration. Although the predicted global patterns of extreme climatic events appear to have changed with some strong cyclones and floods already occurring; a strong relationship between extreme climatic events and climate change is not fully established (IPCC 2014). Adger et al (2014) suggest in all regions of the world, migration serves as a mechanism for adapting to extreme climatic events, be it temporary or permanent, and that our understanding of the potential influence of climate change on migration can be enhanced by an understanding of the impacts of extreme climatic events on migration. This understanding would need to include sending and destination communities, especially if there is the potential for policy interventions.

This study investigates contributions to migration in areas affected by extreme climatic events as a proxy for understanding the potential impacts of climate change on migration. That is, whether people have already started migrating as a result of extreme climatic events, or they are moving because of other factors that have contributed to migration (Adger et al., 2014).

Bangladesh, as one of the most climatically impacted countries of the world, has been selected as a case study for this research. Within Bangladesh, two communities consistently affected by climatic factors such as cyclone and tidal surges, and flood and river bank erosion are chosen as locations for this research. Semi-structured questionnaires and Focus Group Discussions (FGD) were used to collect data in both communities. Qualitative analysis was employed to elaborate the outcomes.

Consistent with the view that migration is most likely to be a consequence of complex interactions of a number of factors (Adger et al 2014), results show that anthropogenic

causes, such as government policy implementation to protect the *Sundarbans*, the largest mangrove forest of the world, and changing paddy cultivation fields into saline fish farming have contributed to migration. Additionally, natural hazards such as periodic floods, river bank erosion, cyclones and tidal surges have all damaged the territory of poor workers and/or daily labourers leading them to move to places where employment is more available. In this regard, extreme climatic events have played a fundamental and influential role with other factors in the process of migration. Results also indicate that transportation costs and social networks are fundamental requirements for migration. Moreover, a number of migrants from the riverine community have built their own strong community and business sectors in the places of destination. Nevertheless, negative consequences such as conflicts, insecurities, and threats to the migrants were also seen where the community of migrants is not strong at the destinations.

This study has contributed to filling a research gap about the relationship between extreme climatic events and migration in the coastal and riverine communities of Bangladesh and has provided a significant contribution to the theories of migration with regard to push-pull factors, intervening factors and the consequences of potential climate induced migration that can inform and facilitate the basis of local government policy and planning, and human settlement planning.

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## 1    Introduction

Climate change is an important factor threatening human security through undermining livelihoods and increasing migration. The First Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) issued in 1990 suggested that one of the greatest impacts of climate change may be on human migration. In its Fourth Assessment Report the IPCC (2007) notes population movements as a likely key consequence of climate change. This issue has been further substantiated in the Fifth Assessment report of IPCC (2014) suggesting that migration could offer a way for some people to avoid the worst impacts of climate change and could even help prevent people being forced to move later on. Globally, many researchers and research organizations and institutions are trying to estimate the expected migration due to climate change, and more particularly, environmental change. For instance, Christian Aid noted, worldwide, 250 million people are expected to relocate to new places in response to environmental changes due to climate change, including sea level rise (Christian Aid, 2012). Most of those migrants will be from the coastal areas of poor countries of the Global South; that is, in Africa and Asia (Adger et al., 2014) whose nations are less responsible for the anthropogenic causes of changes in climate.

The aim of this chapter is to frame the context for the research question, introduce the notions of migration and extreme climatic events, and how these two phenomena might be related. It begins with the overarching question that guides this research and a discussion about migration as a phenomenon of human movement. Then the discussion proceeds to issues around the influence of extreme climatic events on migration and how this may inform discussions on climate change and migration. The conceptualization the relationship between migration and extreme climatic events is then discussed in section three and a conceptual model of this relationship is presented. Finally, the chapter concludes with

identification of gaps in existing that support the need for this study and finally, the structure of the thesis.

## 1.1 The Research Context

Although the IPCC (2014) has suggested that climate change, including an increase in extreme climatic events and sea level rise, would lead to mass migration, to date the predicted sea level rise is uncertain in terms of scale, time and region or place. As a result, the contribution of sea level rise to migration cannot be definitive. Additionally, a strong relationship between extreme climatic events and migration is not established (Adger et al 2014). This is despite global patterns of extreme climatic events appearing to have changed, as evidenced by the occurrence of some strong cyclones and floods. This study investigates contributions to migration in areas affected by intense climatic factors as a proxy for understanding the potential impacts of climate change on migration. That is, whether people have already started migrating as a result of extreme climatic events or they are moving because of other factors that have already been established as causes of migration in theories of migration. Bangladesh, as one of the most climatically impacted countries of the world, has been selected as a case study for this research. Within Bangladesh, two communities consistently affected by climatic factors such as cyclone and tidal surges, and flood and river bank erosion were chosen as locations for this research.

## 1.2 Defining Migration

Migration is a very complex phenomenon that is recognized as a significant mechanism for spatial distribution of people. It is also considered an important factor of social change within a particular location where either the inflow of people may increase the population or the outflow may result in a decline of the total population. Migration can be defined as a permanent or semi-permanent change of residence (Lee, 1966). Hagerstrand defined migration as "the change of residence of an individual from one parish or commune to another" (Hagerstrand, 1969: 63). The term 'parish or commune' as used by Hagerstrand

means a spatial or geographical residential area with its own administrative or political identity. Many short moves such as changes of residences from one apartment to another in the same building, or changes of homes in the same neighbourhood or town are not considered as migration. In fact, human migration is taken to involve movement between two administrative areas (place of origin and place of destination) with demographic and occupational impact (Mangalam, 2015) . No such impact can be seen without crossing the boundary of administrative areas. This administrative boundary may be within a state/country and considered as internal migration; or between states/countries and considered as international migration. Migration can also be voluntary or involuntary; voluntary migration occurs when migrants themselves choose to move, whereas involuntary migration occurs when migrants are forced to move for a variety of reasons such as war, political instability, extreme weather or any other adverse circumstances (Qazi, 2010). For example, a number of Tamil people were forced to leave their country Sri Lanka for India following the 1983 riots (Sánchez-Cacicedo, 2014), and thousands of Syrians have started moving to Turkey and Europe since 2012 as a result of civil war (Döner, Özkara, & Kahveci, 2013; Afacan, 2014).

Along with residential changes, another important factor in the definition of migration is the time of residence in the places of destination; it can be for a long or short period of time. Hugo (2007) classifies migration as permanent and temporary, and suggests that temporary migration can be an initial step in the process of permanent migration. Arguments remain over the definition of temporary migration (Keshri & Bhagat, 2010), with no definite time period having been set for this type of migration. Mberu (2005) mentioned the general time period of temporary migration as being no less than six months. Hugo, (1982) also suggested the important condition for being a temporary migrant is that the migrant would be absent continuously from his/her place of origin. Interestingly, people who do not have a place that is considered a place of origin or a base place where they live, and who move spontaneously are not considered to be temporary migrants (Mberu, 2005). In addition, nomadic people who do not have a permanent residence and seasonal movements of some individuals who

move several places throughout the year are not necessarily regarded as migrating. Nomadism generally occurs within a specific 'traditional' territory, but may involve the crossing of internal or international boundaries followed by medium term residence elsewhere (Gilbert, 2014).

### 1.2.1 Theories of Migration

The process of migration differs through space and time and this has been addressed in a number of theories, yet a lack of integration between these theories means that a complete theory of migration is not available. Nevertheless, theories of migration remain important to demographers and others as a lens through which to explore the causes and processes of population movement within an economic and political context. Throughout the last two centuries many theories have been developed that shape our understanding of migration. These theories explain migration from different perspectives, such as social, economic, political, and others. In this section I discuss the key arguments of the main migration theories. I also discuss the extent to which each theory can contribute to an understanding of the case of climate induced migration. The theories I discuss are: Ernest Ravenstein's laws of migration, Stouffer's theory of intervening opportunities, the Lee model, neoclassical migration theory, the new economic theory, world system theory, segmented labour market theory, and social capital theory of migration.

**Ravenstein's laws of migration**

Although the process of migration is fundamental to the human history of civilization, the first theory of migration did not evolve until the end of 19<sup>th</sup> century by which time modern censuses had been put into operation. Ravenstein (1889) was the earliest known contributor to migration theory when he formulated the "laws of migration" (De Haas, 2010). Ravenstein recognised that the major causes of migration were economic, and that people could be expected to migrate from low income areas to high income areas. Most migration takes place over short distances, due to technological, transformational and

communication limitations (Ravenstein, 1889). This classic work of Ravenstein also suggests that people usually move from rural to urban areas rather than urban to rural areas. Therefore, poor rural dwellers are more migratory, moving to nearby cities that offer more opportunities. When large cities are the ultimate destination, long distance migration can occur through a series of stages. Moreover, women of low status in rural societies are more migratory over short distances because of marital relationships.

Ravenstein's "laws of migration" remain a significant milestone, having provided a starting point for other theories of migration. While most of the migration theories are described for international labour migration, Ravenstein's migration theory could be applied to migration due to climate events. Such extreme climatic events include droughts, floods, cyclones and severe storms, which destroy residences' livelihoods. Related hazards include landslides and erosion. Migration because of extreme climatic events is largely to urban destinations and initially internal (Ahsan, 2014). Moreover, and in line with Ravenstein's theory, poor vulnerable people of rural communities have a greater tendency to migrate from climatically impacted areas. this migration is mostly involuntary and is often referred to as displacement because there is no alternative for those affected than to leave the place as it is considered as a survival strategy (Adger et al., 2014).

**Stouffer's theory of intervening opportunities**

Stouffer's theory of intervening opportunities assumes that there is no obligatory relationship between mobility and distance to be travelled. As well, the volume of migration is not related to the size of the population and the specified distances to be travelled. Rather, it is much more relevant to consider the destinations of migrants. Stouffer (1940) theorises that *"the number of persons going a given distance is directly proportional to the number of opportunities at that distance and inversely proportional to the number of intervening opportunities"* (Stouffer, 1940: 846). Stouffer's theory of intervening opportunities is not applicable to the exploration of climate induced migration; distance is a very important factor in climate induced migration. During or following a disaster period,

migrants primarily chose to move to the nearest city which is not affected or slightly affected by climatic hazards (Paul, 2011; White, 2011).

**The Lee Model**

The Lee model is also known as the "push-pull" model or the "decision-making" process (Daugherty, 1995). Social, economic and environmental factors are identified as either push or pull factors, and these are attributed to both the place of origin and place of destination. Push factors are defined as the negative characteristics of the place of origin that discourage people to remain, whereas pull factors can be defined as the positive characteristics of the place of destination that encourage people to leave the origin. Therefore, a person can be encouraged or discouraged (Homer-Dixon, 2010) by these factors to move or to stay (Bowen & Pallister, 2000). Both push and pull factors have different roles in the decision making process with respect to age, gender, education, marital and socio-economic status. Lee also refers to neutral factors which have no part in the process of migration. Intervening obstacles that impede migration are also introduced within this model. Migrants need to overcome these obstacles before or during migration (Bowen & Pallister, 2000).

Lee (1966) built his theory on Ravenstein's proposition. According to Daugherty (1995), Lee's theory attempts to answer the following questions: What factors influence individuals to leave their place of origin? How do migrants select a particular destination area? And what factors influence some people who decide not to leave? Although these are simple questions to comprehend, answering them is complex, particularly in the case of climate induced migration. This theory is applicable when individuals are free to make their own choices to move. However in the context of extreme climatic events, migrants have limited freedom of choice; they move under such conditions that *compel* them not to stay (Bronen, 2010).

Secondly, some degree of rationality is involved when individuals make the decision to migrate. This 'rationality', which involves an objective before migration and the

achievement of goals after migration, is much more related to voluntary migration. In contrast, the main objective of migrants escaping extreme climatic events is how to leave the disaster affected area as soon as possible, and the greatest achievement is realised when the migrants (and their family members) feel they are now living in non-affected areas; which is totally involuntary migration. Nevertheless, according to Lee's model, disasters in the place of origin due to extreme climatic events can be identified as a great push factor which influences people to move involuntarily. Moreover, intervening obstacles mentioned in the model are apparent in the process of migration induced by climatic events.

**Neoclassical migration theory (macro and micro level)**

The neoclassical theory of economic growth and adaptation to migration was formulated and refined by Ranis, Fei and Todaro among others (Massey et al., 1993). The theory is primarily used to describe labour migration through a model process of push and pull factors. It is a macro level view that argues that human movement is allied to the worldwide supply and demand for labour. Countries with scarce labour and high demand pull immigrants from nations with a surplus of labour (Elliott & Segal, 2012). Labourers receiving low wages are attracted to places that offer higher wages and increased job vacancies. This theory is based on a linear relationship between the differences of wages and the flows of migration.

The ability to migrate is dependent on the cost of transportation. The poorest individual who fails to manage adequate funds for transportation or the poorest nation who cannot afford the cost to send its labourers are not able to complete the migration process. Moreover, the migration flow stops when there is no (or minimum) income differential between the source and destination countries (Kurekova, 2014). Even if the destination country is filled or saturated with labour migrants then job availability becomes contested and the rate of wages can fall. This results in the end of the movement. On the other hand,

the place of origin can experience labour shortages if the number of migrants become huge. As a result, the rate of wages can rise and labour stops moving from places of origin.

The neo-classical macro-level explanation corresponds to the micro-level model of neoclassical framework or the microeconomic model. This has been termed as the model of individual choice or the human capital theory of migration (Massey et al., 1993). The socioeconomic characteristics of an individual play a significant role in the process of migration. Determinants of migration, such as individuals' age, skill, marital status, gender that are conceptualized as human capital that strongly affect migration (Kurekova, 2014). Migrants of young age with education and skills have a higher possibility to be selected than aged and non-skilled individuals from the same sending regions. According to human capital theory, the skills of young energetic individuals enhance the chances of migration success (Massey et al., 1993).

The neoclassical theory is very much limited to voluntary migrations and is based on economic pull factors of the destination places; it omits other non-economic factors such as sociological, demographic, or political issues which often play a very important role in the process of migration. Migration influenced by extreme climatic events is very relevant to push factors. Social networks play a vital role in servicing this type of migration (The World Bank, 2014). In the absence of social networks, it is difficult for people to move to a new environment unless aid agencies, including the government, execute particular policies for the rehabilitation of those affected. This can be relevant for migration over both short and long distances or for short or long periods of time.

**The new economic theory**

In response to the assumptions and conclusions of neoclassical theory, the new economic theory emerged (Bloom & Stark, 1985). The key understanding of this theory is that an individual is not an isolated actor making decisions about migration. Rather, collective decisions by groups of people - typically families or households – are involved in the process

of migration (De Haas, 2010). As opposed to individuals, most families are in a situation to minimize risks to their economic well-being by expanding the budget of family members' resources, such as through family labour. While some household members can attain incomes in the local economy, others may be sent to work abroad. Although wage differentials in the receiving and sending countries do not play a vital role for migration, households can be supported with the remittances sent by the foreign migrant, which are especially useful in the case of failure of the local economy (Massey et al., 1993).

Although the new economic theory view of migration is not directly relevant to climate induced migration, a focus on group decision making could provide a new direction for analysis. The new economic theory of migration identifies decision making as a key factor for migration. It recognises that few decisions are made by individuals, even if they are a principal guardian of a family (Stojanov, 2012). Leaving a hazardous place is virtually impossible without the help of others, and additionally, settling in a new destination is also not possible without local social connections. Considering these important issues, a key member of a family includes other adult members in the decision making process; to make the choices of where to go, how to go, and when to go (Stojanov, 2012).

**World system theory**

Immanuel Wallerstein (1974) developed the world system theory in 1974 and categorized the world economic system into three levels of hierarchy: core, periphery, and semi-periphery (Mossmann, 2007: Massey et al., 1993). The dominant core nations which are characterised by high levels of industrialization and urbanization are equipped with power, technology and information. Periphery and semi-periphery nations are exploited by core capitalist countries and similarly semi-periphery countries exploit the periphery world for labour and materials (Kurekova, 2014).

Building on the work of world system theory, many migration theorists have linked migration to the new structure of the global market developed by the core nations (Massey

et al., 1993). Foreign migration has become an inevitable part of this globalization process. Although, many people in peripheral countries are being uprooted because of capitalist exploitation, strong cultural and linguistic links are established (Massey et al., 1993). As a result, international migration between nations is taking place in the expanding global markets.

**Segmented labour market theory**

Dual or segmented labour market theory identifies the importance of institutional factors in labour market segmentation and the demand for foreign labour in the lower segmented portion (Gordon, 1995). Based on stable characteristics, an industrialized labour market can be divided into two segments: primary and secondary. Primary occupations require skilled labour where wages are relatively high, jobs are secure, employment conditions are better, and a higher social status is attributed. The gap in the primary market can be filled by youth, women and minority employees with comparatively low status and minimum wages from secondary segments.

Dual or segmented labour market theory is postulated for international labour migration from developing countries to developed nations. Population migration happens from places of lower opportunities to those with better economic prospects, whether it is because of environmental factors or other conventional political, cultural, and sociological perspectives.

**Social capital theory of migration**

Hagerstrand introduced the concept of social capital to migration with the concept of migration networks (Montgomery, Stren, Cohen, & Reed, 2013). Social capital theory posits that strong social networks under-pin people's relationships resulting in a strong system that supports migration (Massey et al., 1993). Moreover, social networks, considered as a positive intervening variable, reduce the costs and minimize the risks associated with migration. Networks also allow up to date information to flow between family members

and those who have migrated. Wage differences are not seen to contribute to migration flows (Massey et al., 1993).

Although this theory does not explain what causes people to make the decision to leave their place of origin, it clearly identifies the significant relationship between social networks and migration flows. As such, migration as a consequence of extreme climatic events is aligned with the main argument of this theory (Stojanov, 2012).

### 1.2.2 Complementarity of Migration Theories

Hunter et al (2015) identified the lack of integration of environmental drivers with other drivers of migration. The principal objective of theories is to identify possible causes of migration and how these causes act on decision making by individuals and households. Research on environmentally induced migration primarily focuses on the positive or negative role of environmental or climatic factors in regard to migration.

Theories of migration are used as lenses to research the causes of migration. For instance, a methodological overview of (Piguet, 2010) reviewed six different approaches and identified how environmental issues are directly or indirectly related to migration. The study found some well-established relationships, but others that were tentative. For example, migration has always a direct link with economic, political, social factors but segregating migrants only because of climate change is difficult as it questions the role and weight of environmental factors on migration (Piguet, 2010).

Similarly, Warner & Afifi (2014) determined how climatic factors contribute to the process of migration and suggested that rainfall variability and migration is related to food security. They have studied 8 nations including Bangladesh using a wide range of data (1300 households and 2000 individual respondents) and identified varied types of migration. For instance, some households use migration as a coping strategy; while others cannot use migration and remain struggling and trapped at their place of origins. Gray & Mueller (2012a) show that for Bangladesh there is a difference between slow and rapid onset

environmental events. For example, crop failure and drought drive migration much more than cyclones and short-onset hazards.

McLeman has explicitly worked on models related to climate induced migration. For instance, McLeman & Smit (2006) have applied a model in the light of established theories of human migration behaviour. The model has illustrated that repeated crop failures in 1930 in rural Eastern Oklahoma due to drought and flooding, first household and then public decided to migrate mostly in urban areas. Through a GIS based model McLeman et al. (2010) showed how drought affected people in western Canada adapt through the process of migration. This model can be used to forecast potential future hotspot of climate related pressure on populations. Recently, McLeman, (2012) has developed the model further to show how climate related migration is influenced by factors such as risk perception, social networks, and labour market connections.

Linking climate factors and human migration has become increasingly important in recent studies. Different methodological approaches have been used in the empirical literature to link environment and migration. For instance, (Fussell et al., 2014) demographic toolkits for measuring the environmental dimension.

Migration decisions involve a complex process from individual levels to households. Climate induced migration mostly involved household migration. When people migrate they take all family members from affected areas Hunter, Luna, & Norton, (2015). This study suggested that migration is often a household strategy to diversify the risks to the household from extreme climatic events. Migration is considered one among many potential adaptation processes in the context of climate change.

Black et al., (2011) integrates many of the various theories about migration and environmental changes and their influence on decisions to migrate. The framework operates from macro to meso and micro levels. The broader theories of Black et al., (2011) are integrated in to the macro level, including political demographic, economic social and

environmental factors which act as drivers for migration decisions.  The decision to migrate is seen to be influenced by Intervening variables (political framework, cost of moving, social networks, recruitment agencies, technology) at the meso level and personal/household characteristics (age, sex, education wealth, marital status, preferences, ethnicity, religion, language) at the micro level.

## 1.3    Conceptualizing Migration Induced by Environmental/Extreme Climatic Events

Living in a safe place is one of the most fundamental needs of human beings. Over the last half century, environmental degradation due to extreme climatic events has threatened human livelihoods and security at an alarming rate. The impacts of these events are seen to be an indicator of the potential impacts of climate change. The IPCC (1990; p2) defines climate change as "any change in climate over time, whether due to natural variability or as a result of human activity". Therefore, if climate change jeopardizes livelihoods then there is a need to resettle or migrate to a new place. The available evidence suggests that anthropogenic climate change has become a cause of human migration in the last decade. This crisis has guided scientists and researchers towards an understanding of how the potential of climate change will lead to population movement (Morrissey, 2009). Migration due to extreme climatic events can be viewed as a form of environmental migration. The International Organization for Migration (IOM) (2007: 1) has defined "environmental migration" specifically as follows:

 "persons or groups of persons who, for compelling reasons of sudden or progressive changes in the environment that adversely affect their lives or living conditions, are obliged to leave their habitual homes, or choose to do so, either temporarily or permanently, and who move either within their country or abroad"(p- 1)

Furthermore, as a sub-set of 'environmental migrants', the IOM (2007) also defined "climate change migrants" to include a specific reference to climate change. It says that "climate change migrants" are:

"persons or groups of persons who, for compelling reasons of sudden or progressive changes in the environment as a result of climate change that adversely affect their lives or living conditions, are obliged to leave their habitual homes, or choose to do so, either temporarily or permanently, and who move either within their country or abroad" (Kniveton & Bernan, 2008, p-31).

The above conception of 'environmental migration' refers to the contemporary debate on the 'environmental refuge'.

### 1.3.1  Debate on the term "Environmental Refugees"

The term "refugee" and "environmental refugee" are being contested by many politicians and researchers (Findlay & Geddes, 2011). "Environmental refugee" was first formally used by Lester Brown of the World Watch Institute in the 1970s. It became more familiar through the work of El-Hinnawi (1985) and Jacobson (1988), and more recently by Black, Bennett, Thomas, & Beddington, (2011). El-Hinnawi's paper on the topic of "environmental refugees" was a starting point for the current debate on the issue (Morrissey, 2009). As El-Hinnawi says:

"Environmental refugees are defined as those people who have been forced to leave their traditional habitat, temporarily or permanently, because of a marked environmental disruption (natural or triggered by people) that jeopardizes their existence and/or seriously affected the quality of their life" (El-Hinnawi, 1985:4).

This definition of "environmental refugees" has generated two major arguments. Firstly, it has established a physical relationship between environment and human migration and as a result, developing countries which are more concerned about the effects of climate change have voiced their demands to establish equal rights for "environmental refugees" in line with other UN defined 'refugees'. For instance, at the 2009 Copenhagen Climate Summit a delegation from the Bangladesh Government stated that: "*Twenty million people could be displaced (in Bangladesh) by the middle of the century. We are asking all our*

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*development partners to honour the natural right of persons to migrate. We can't accommodate all these people"* (Grant, Randerson, & Vidal, 2009)*.* All the member States who attended the summit supported the appeal of the Bangladeshi delegates (Findlay & Geddes, 2011). Since the developed world is more responsible for anthropogenic climate change, they need to step forward to make equal the value of the terms environmental refugees and refugee.

However, the term "environmental refugees" is criticized by other groups of scientists (Kniveton & Bernan, 2008). Compared with the definition of "refugees" established by the Geneva Convention, the term "environmental refugee" is relatively meaningless. The United Nations High Commissioner for Refugees (UNCHR[1], 2012) states that a person becomes a refugee:

"owing to a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his nationality, and is unable to, or owing to such fear, is unwilling to avail himself of the protection of that country" (UNCHR:1).

Therefore, climate change migrants do not fulfil the legal criteria to claim themselves as conventional refugees. Migration due to environmental factors usually takes place within the boundaries of a country. It is mostly evident in developing countries where people are neither able to manage the cost of international migration nor meet the migration policy

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[1]"The Office of the United Nations High Commissioner for Refugees was established on December 14, 1950 by the United Nations General Assembly. The agency is mandated to lead and co-ordinate international action to protect refugees and resolve refugee problems worldwide. Its primary purpose is to safeguard the rights and well-being of refugees. It strives to ensure that everyone can exercise the right to seek asylum and find safe refuge in another State, with the option to return home voluntarily, integrate locally or to resettle in a third country. It also has a mandate to help stateless people" (*http://www.unhcr.org/pages/49c3646c2.html*)

requirements of destination countries. A methodological problem arises when researchers can only predict the number of migrants induced by potential climate change. It is essential to probe the hypothesis that people are displaced in response to the adverse effects of climate change. In addition, there is the theoretical issue of how to distinguish climate change migrants when a number of people are moving as a consequence of other causes. Humanity has always had a tendency to search for a better living place with comfortable working conditions. Therefore, along with environmental factors, social, political, economic, educational, geographical and religious factors also influence people to relocate (Castles & Rajah, 2010).

The above difficulties relating to the term "environmental refugee" is considered to be inappropriate by the report: *Foresight: Migration and Global Environmental Change*, (2011). It mentioned that each and every migrant can be motivated by multiple drivers and socio-economic conditions, and some of them can be influenced by the environmental factors including climate change. However, Hugo (2010) suggested to use of the term "environmental migrant" instead of "environmental refugee" one year prior to the Foresight report. Those affected are encouraged to stay in the affected home as long as possible to receive financial help and protection from developed countries and adapt to the situation with local means (Findlay & Geddes, 2011). For instance, at the Copenhagen Climate Summit the UK's Foreign Minister responded to the Minister of the Bangladeshi government, by calling for greater attention on supporting local climate change adaptation. The response continued:

"It's absolutely legitimate for Bangladesh and the Maldives to make a lot of noise about the very real risk of climate migration – they hope it will make us come to their rescue. But reopening the 1951 Convention (on refugees) would certainly result in tightening of its protections."(Grant et al., 2009).

Accordingly, it is arguable that environmental migrants might be more victimized than the officially recognised UN-defined refugees.  For example, a coastal settlement submerged by

sea level rise or a tidal surge which causes saline water to inundate agricultural fields causes permanent damage to fertile land can never recover. Some argue for a revision of the UN's legal definition of refugees to include environmental refugees with the aim to assist or to provide new living places to victims, especially as every day the number of environmental migrants is increasing. For instance, according to the Asian Development Bank (ADB) (2012) over 30 million people were displaced in Asia because of environmental problems in 2010, and the Norwegian Refugee Council (NRC) found natural disasters caused the displacement of more than 15 million individuals in 2011 (NRC, 2012). However these statistics are not enough to show evidence of climate change impacts on migration, and more case studies and empirical research are required to assess the impact of climate events on migration (Fritz, 2010).

### 1.3.2    The Relationship between Extreme Climatic Events and Migration

Climatic conditions have led to migration throughout the human occupation of the world, either in positive or negative ways. Sometimes pleasant weather attracts people to move to a place, and on the other hand, climatic hazards force people to leave. Moreover, climatic conditions have a strong influence on socioeconomic, political and cultural factors that may accelerate migration flow (McGregor, Marazzi, & Mpofu, 2011). Barrett (2012) classifies migration as a response to extreme climatic events as forced displacement, planned resettlement, or migration to cities (rural-urban migration).

Extreme climatic events can be categorized as sudden-onset phenomena and slow-onset phenomena (Piguet, Pécoud & Guchteneire, 2011). Sudden-onset events include floods, tropical cyclones, heatwaves, and landslides while slow-onset phenomena include sea level rise, drought, and desertification. People usually migrate internally for short periods of time when sudden-onset events impact on an area. Conversely, slow-onset events result in long term permanent migration to a more distant place (Piguet et al., 2011). Bates (2002) categorizes environmental migrants by the reason for their move, due to disaster, expropriation of the environment, or deterioration of the environment. Floods due to

glacier melt and heavy rainfall are general examples of disaster, dam building and defoliation are included in expropriation, and finally, sea level rise, drought, and deforestation exemplify deterioration (Bates, 2002).

Some studies have considered the relationship between environmental change and migration (Bates, 2002, Morrissey, 2009, Kniveton et al., 2008, Piguet, 2011, Barrett, 2012). Despite the identification of a link between climatic events and migration more than thirty years ago (Fritz, 2010), it has drawn recent concern from researchers and policy makers following the release in 2007 of the Intergovernmental Panel on Climate Change (IPCC) report of Working Group II on Impacts, Adaptation and Vulnerability (IPCC 2007). In particular, the report mentions the potential for population migration due to the increasing frequency of extreme climatic events such as tropical cyclones and droughts.

Different research findings also suggest that in the near future, environmental changes alone may lead to millions of people having to move from their homes (Myers, 1993; Myers, 2005; IOM, 2007; Black et al., 2011; Vidal, 2008; Castles & Rajah, 2010). However, only a small number of researchers have highlighted the alarming numbers of potential environmental refugees around the world. For instance, Norman Myers estimated the number of climate refugees in 1993 and then revised his estimate in 2005 to a potential number of 200 million people (Myers, 2005;  Westra, 2009). Christian Aid (2007) initially estimated two billion people would be displaced by the year 2050 and then, under the title "Our work on climate change*" (2012: 1) it revised:

"Scientists predict that at the current rate of carbon emissions tens of millions more people will go hungry in the next couple of decades as agricultural yields diminish across the globe. And if nothing is done to stem a rise of 2°C in global average temperatures by 2050 - they say - 250 million more people will be forced to leave their homes".

Hugo (2010) identifies five principal causes of environmentally induced migration: (1) sudden - onset natural disasters; (2) slow-onset cumulative changes; (3) industrial accidents

such as nuclear accidents, factory disasters; (4) development projects; and (5) conflicts. Of these, natural disasters and slow-onset causes are linked directly to climate change migration. Hugo (2010) also identifies five 'hot spots' of the world where the relationship between climate change and migration is likely to be most acute: (1) densely settled river delta regions; (2) low-lying coastal areas; (3) low-lying atolls and coral islands; (4) some river valleys; and (5) semi-arid low-humidity areas. Although Castles & Rajah (2010) argue that the rich nations of the Global-North are responsible for climate change, it is important, and also interesting to note that Hugo's 'hot spots' belong predominantly to the high population-density areas of the world; i.e. politically, the Global-South.

Despite the hypothetical links being made between climate change and migration, there have been to date an insignificant number of empirical studies on this issue. Therefore, some researchers have attempted to explain migration in relation to different types of natural disasters induced by extreme climatic events (Kniveton & Bernan, 2008; Barrios, Bertinelli, & Strobl, 2006; Care, 2009; Munshi, 2013; Bach, 2010; Gray & Mueller, 2012a; Findlay & Geddes, 2011; Rafique, 2003; Morrissey, 2009; Haque & Zaman, 1989; Lein, 2000; Reuveny, 2008; Dasgupta et al., 2010; Moniruzzaman, 2012). The following section will discuss how human migration has been linked with drought, flood, cyclone and sea level rise by the various researchers.

### 1.3.2.1 Drought and Migration

Some researchers in immigration studies argue there is no direct link between drought and migration (Findlay & Geddes, 2011; Henrey, Schoumaker, & Beauchemin, 2004) while others identify migrants in relation to drought (Care, 2009; Bach, 2010; Barrios et al., 2006; Gray & Mueller, 2012b). An investigation of Sub-Saharan African countries over a 30 year period from 1960 to 1990 found there was a tendency for groups to move from rural to urban areas during times of drought (Barrios et al., 2006). Due to the impacts of drought and high temperatures on agriculture, farmers are compelled to move to urban areas for their survival (Barrios et al., 2006). There is a link between emigration to the United States

and low rainfall in Mexico (Munshi, 2013). In the northern parts of Mexico, severe water scarcity destabilizes rain-dependent agriculture pushing rural people into urban communities. Because of the changing environmental conditions, central and southern Mexico is increasingly vulnerable to deforestation, erosion, storm surge and poverty (Care, 2009; Bach, 2010).

Ezra & Kiros (2001) present a multilevel analysis of rural out-migration in Ethiopia over the period of 1984–1994. They find that rural-rural migration played a significant role in rural dominated Ethiopia. Although the mobility of both sexes was possible through marriage, it was argued that women were more likely to move than men. More recently, Gray & Mueller (2012b) used data collected by the Ethiopia Rural Household Survey (ERHS) from approximately 1500 households from 15 rural communities over a fifteen-year period to investigate the effects of multiple measures of drought on the labour and marriage-related mobility of males and females. The results found strong evidence of a correlation between rural out-migration and drought in Ethiopia. It showed that the migration of poor male farmers increased with drought and at the same time, women's migration through marriage decreased. This occurred because during periods of drought male farmers left their place of origin for longer periods of time and the wages they earned were not sufficient to support other family members. Therefore, men restrained themselves from marrying women during these periods. Finally, the study also concluded that poor labourers are more vulnerable to drought, and migration served as a key adaptation strategy following drought conditions.

There had been a massive displacement during the Sahel drought of 1960's to 1970's (Franke, 1987), but Findlay (1994) found that migration did not increase due to drought when she surveyed Mali during the drought period of 1983-1985. Before the drought period (1983-1985) a large number of males migrated to Europe, mostly to France, and their families were supported by the remittances they sent. In her study, Findlay (1994) identified some temporary internal migration that she considered to be short-cycle migration; a kind of family supported migration that lasted less than six months. The majority of long-term

migrants moved internally within Mali, whereas approximately 25% migrated across the border to other countries in the African continent[2]. Findlay (1994) also found that additional international migration was not feasible in response to drought because of a shortage of funds and consequently, such migration was substituted by the short-term cyclical migration of women and children. Supporting Findlay's (1994) findings, Henrey et al. (2004) found that limited rainfall and high levels of land degradation reduces international migration, and that while wealthy households tended to pursue opportunities in Burkina Faso, male dominated rural-rural migration increased. Kniveton & Bernan (2008) also argue there is no direct link between drought and long distance migration. They point out that drought causes a vast number of people to migrate very short distances, particularly from rural to rural areas for short periods of time, and that drought has no impact on long distant migration or international migration. Kniveton & Bernan (2008) argue that *"the conceptualization of drought-affected people as helpless victims who are left with no choice but to flee seems to be false"* (Kniveton & Bernan 2008: p-36).

### 1.3.2.2   Flood and Migration

Floods and cyclones are sudden-onset processes that usually result in people migrating very short distances for short periods of time. Although floods make agricultural land fertile they also drive people to leave their land temporarily and/or seasonally, or in some cases, permanently (Morrissey, 2009). After a flood, permanent migration often involves long distance movements away from the affected areas whereas temporary migration occurs to nearby high lands or on roads for several weeks or months (Morrissey, 2009). Rafique (2003) discusses the seasonal migration of Murshidabad district in India, where the flood of 2000

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[2]Mali, Burkina Faso, and all of the West African Sahel are very complex. The ancient empires collapsed by the early 1600s destroying irrigated systems and triggering desertification, but culturally or linguistically people transcend artificial colonial boundaries and always moved extensively in urban networks (Franke, 1987).

affected 4.4 million people, 4.9 million buildings were damaged and about 760 persons were either missing or dead. Since the fields were damaged, Rafique (2003) argues that many of the workers had to migrate outside of the district to find jobs. Some farmers fled to the neighbouring city of Kolkata, and had to change their occupation from agricultural to non-agricultural activities (Rafique, 2003). Haque & Zaman (1989) found that flood-induced riverbank erosion in the floodplain of the Jamuna-Brahmaputra River in Bangladesh forced people to migrate as the erosion triggered damage to local habitats. The authors found that displaced people had a tendency to resettle in their original administrative area because of the exorbitant costs of long distance relocation and regardless of the fact that the area experience a net loss of land. The authors also identified that migrants had to survive without state support (Islam, 2012) and subsequently they built strong social networks among themselves. After a long period of time they collectively and permanently re-migrated to a location a long distance away (Haque & Zaman, 1989). The majority of these kinds of landless people in Bangladesh migrate to the big urban areas, particularly the capital city of Dhaka, and through this process large slums of landless people have developed (Lein, 2000). Haque & Zaman (1989) suggest that migrants driven by river bank erosion may often wait until new land is created by the river in a separate place; locally called *char*[3]. However, local leaders often occupy those infertile sandy lands and rent them to the landless poor. Nevertheless, those *chars* are more vulnerable to further flood and river bank erosion.

The nexus between flood and migration is better understood through the study of detailed models. For instance, Perch-Nielsen, Bättig, & Imboden (2008) developed a conceptual model which revealed the relationship between floods and migration. The authors use boxes-and-arrows whereby boxes represent relevant factors and arrows represent

[3]'A tract of land surrounded by waters of an ocean, sea, lake or stream' (Banglapedia, 2006).

influences. This study shows there are other causes of flooding which have an impact on migration. However, the model suggests that the various effects of floods do not lead directly to migration but rather to a variety of adaptation measures (Perch-Nielsen et al., 2008).

### 1.3.2.3 Cyclones and Migration

There are some empirical studies that focus on the dynamics of tropical cyclones and the migration behaviour of the affected people, particularly in the context of Bangladesh and USA. For example, Kniveton & Bernan (2008) argued that there is a minimal relation between tornados and migration in Bangladesh, despite tornados causing massive damage to the properties of rural people in a short span of time. Conversely, Smith & McCarty (1996) examined the demographic effects of hurricanes in Dade County, Florida, USA. Based on secondary data, they examined damage of houses, forced displacement of people, longevity of staying away from homes and the proportion of not-returned-home people. The study concluded that half of the housing units in Dade County were damaged and a large number of people from the southern wealthier part of the county left the area. It also identified that, along with temporary migration, almost half a million people left the county permanently as a direct result of Hurricane Andrew. Similarly, Hurricane Katrina hit the State of Louisiana and Mississippi in 2005 and was more devastating and powerful than Hurricane Andrew (Reuveny, 2008). It caused huge damage to houses and properties by flooding most of the areas of New Orleans and Biloxi-Gulfport and forced over a million people to leave their settlements to other states and a section of people did not return to their homes until 2007 (Reuveny, 2008).

Bangladesh experiences the effects of tropical cyclones almost every year. Some of them are remarkable in terms of severity and devastation, such as the cyclones of 1970, 2007 and 2009. The 1970 cyclone killed 300,000 people and tens of thousands of people were missing (European Union, 1998). Cyclone Sidr in 2007 and Cyclone Aila in 2009 also caused the death toll of thousands of lives, and tens of thousands of people were forced to leave their homes

(Dasgupta et al., 2010) (also discussed in the first section of this chapter). However, there are few significant studies regarding the demographic, social and cultural changes as a result of cyclones Sidr and Aila, both of which affected the southwest coastal area of Bangladesh. Moreover, people of a poor country with a high population density – like Bangladesh – have very limited choices. Unlike the USA, the Bangladeshi state can hardly provide assistance to affected people and to people who are vulnerable to tropical storms. Nevertheless, the government and other proactive non-government organisations (NGOs) have built cyclone shelters and developed alarm systems in the coastal areas, which help to drastically reduce the casualties from tropical cyclones.

### 1.3.2.4   Sea level rise and Migration

Unlike drought, floods and cyclones, the link between migration and sea level rise is much more straightforward and there is generally no solution to this environmentally induced problem except out-migration (Piguet et al., 2011). This phenomenon is considered one of the clearest causes for 'environmental migration' (Morrissey, 2009). Migration can be influenced by sea level rise both directly and indirectly. For instance, Morrissey (2009) mentions that saline intrusion reduces the productivity of agricultural land thereby influencing economic decisions to migrate. Although most of the research so far published relating to climate change has focused on the assessment of number of people potentially affected by this slow onset process, a very limited number of empirical studies have ensued (Piguet et al., 2011).

Jacobson (1988) determined that sea level rise has the most potential among all environmental factors to cause the displacement of people. A one-meter sea level rise may produce up to 50 million environmental refugees from various countries of the world (Jacobson, 1988). Myers (1993) estimates 150 million people will be environmental refugees by 2050 solely due to sea level rise.

Nowadays, modern technology, such as the Shuttle Radar Topography Mission (SRTM) and Columbia Universities Global Rural Urban Mapping (GRUMP), allows research to estimate the potential migration due to environmental disruption. With the use of such technologies, McGranahan, Balk, & Anderson (2007) estimate that land less than ten meters above sea level – considered the Low Elevation Coastal Zone (LECZ) – covers only 2% of the earth's dry land but contains 10% of the world's population – i.e. around 602 million people, of whom 438 million live in Asia and 246 million in the poorest countries of the world. Significantly, this study argues that the impact of sea level rise will most likely be experienced in developing countries, and particularly in the cities of those countries (McGranahan et al., 2007).

## 1.4 A Conceptual Framework for Understanding Migration as a Consequence of Extreme Climatic Events

This research came to focus on extreme climatic events rather than climate change *per se* because the relations hip between the two remains inconclusive. The conceptual framework, presented as a flow diagram below (Figure 1.1), is compiled from the literature review and available data. This review of extreme climatic events and migration has addressed the broader question of whether, and to what extent those types of events may impact on migration. The causes of migration include both pull and push factors. Various social, political, and economic circumstances can operate as either pull or push factors for internal migration. There is a strong perception that people are pulled to urban areas in search of a better life. However push factors are also involved, including climate change issues, which affect rural livelihoods and drive migrants to different locations. Climatic hazards such as flood, river bank erosion, cyclone and tidal surges are considered as analogues of climate change in this study. When migration occurs, it always involves multiple complex processes. Depending on the process, migration can be shaped into different patterns; it can be voluntary or involuntary, involve long or short distances, and include urban or rural destinations. All types of migration impact on both migrants and non-

migrants in the place of origin and the society of destination. It is therefore necessary to discuss the impacts of migration in both positive and negative terms. In spite of those living in the same area being affected by the same social, political, economic and climatic factors, many people do not migrate. Therefore, it is also important to investigate the intervening factors that affect migration induced by climate change and/or other factors. While the causes and processes of migration are addressed within the theories of migration, an analysis of migration due to environmental change or extreme climatic events can also make an important empirical contribution to migration theories. Moreover, migration is considered one of the major adaptation strategies to the potential impacts of climate change.
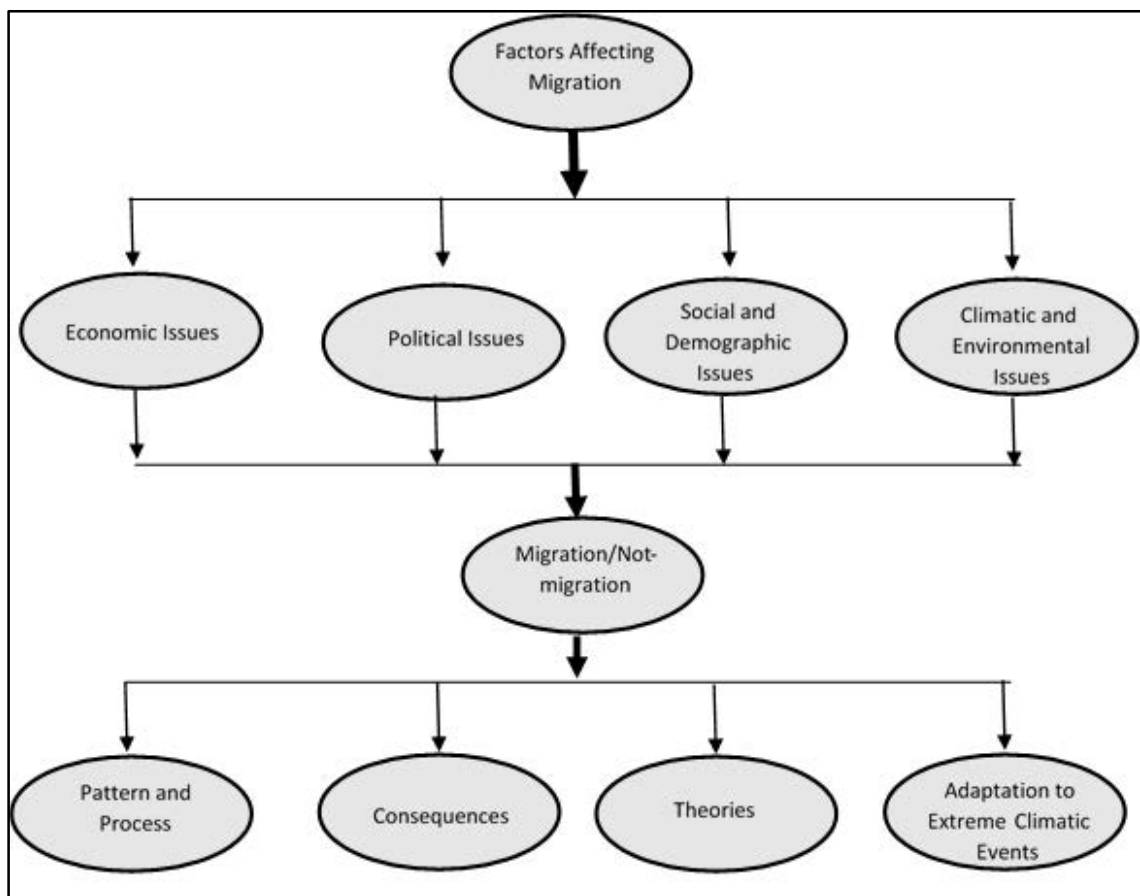


Figure 1-1: Conceptual Framework for Examining the Relationship between Migration and Extreme Climatic Events.

To investigate these issues in detail, and to try to tease out how climate events relate to other factors that influence migration, this research focuses on four major climatic factors such as cyclone, tidal surge, flood and river bank erosion, and two locations in Bangladesh.

## 1.5   Gaps in the Contemporary Research, Research Objectives and Thesis Structure

From the above discussion I have identified the following research gaps and study questions which is followed by objectives of the research:

1. Based on push and pull factors, how are climatic hazards such as flood, river bank erosion, cyclones and tidal surges interrelated with the other factors related to migration in Bangladesh.
2. What are the processes and patterns of climatically induced migration?
3. What are the reasons for deciding not to migrate from affected areas?
4. What are the consequences of climate change migration, both in the place of origin and the place of destination? What is the lifestyle in a new place after migration? Are there any conflicts with the local community or are migrants dominated by local influential individuals?
5. What are the gaps in the theories of migration with regards to climate migration induced by extreme climatic events?

**Thesis Objectives**

Objective one: to examine push and pull factors that contribute to migration in areas affected by extreme climatic events;

Objective two: to identify the process and pattern of migration from areas affected by extreme climatic events;

Objective three: to identify the consequences of migration in the places of origin and in the places of destination of migration;

Objective four: to identify those who choose not to migrate, and to examine the underlying reasons for that; and

Objective five: to present the relationship between adaptation and migration and the empirical contribution to theories of migration.

**Thesis Structure**

To address these gaps and objectives, the thesis is structured as follows:

This research is conducted in three phases. The first phase, presented in chapters one and chapter two, involve desktop research to identify and contextualize the research problem. It presents the research questions and the objectives of the study, followed by a discussion of the research methodologies. The second phase of this research involved field work in the study areas conducted in accordance with the qualitative research approach described in chapter three. In-depth interviews were carried out with migrants and non-migrants in the two study areas of Bangladesh, *Gabura* and *Natuarpara*. Focus group discussions were also conducted during this phase of the research. The third phase, presented in chapter four to eight, involved the analysis of the research outcomes from the second phase. The broader question of this research – "whether people have already started migrating as a result of extreme climatic events or they are moving because of other factors that have been established as causes of migration in theories of migration" – is addressed in this phase, particularly in chapter four, and the objectives of the study are revealed in the subsequent chapters. The research structure of this thesis is presented in Figure 1.3.
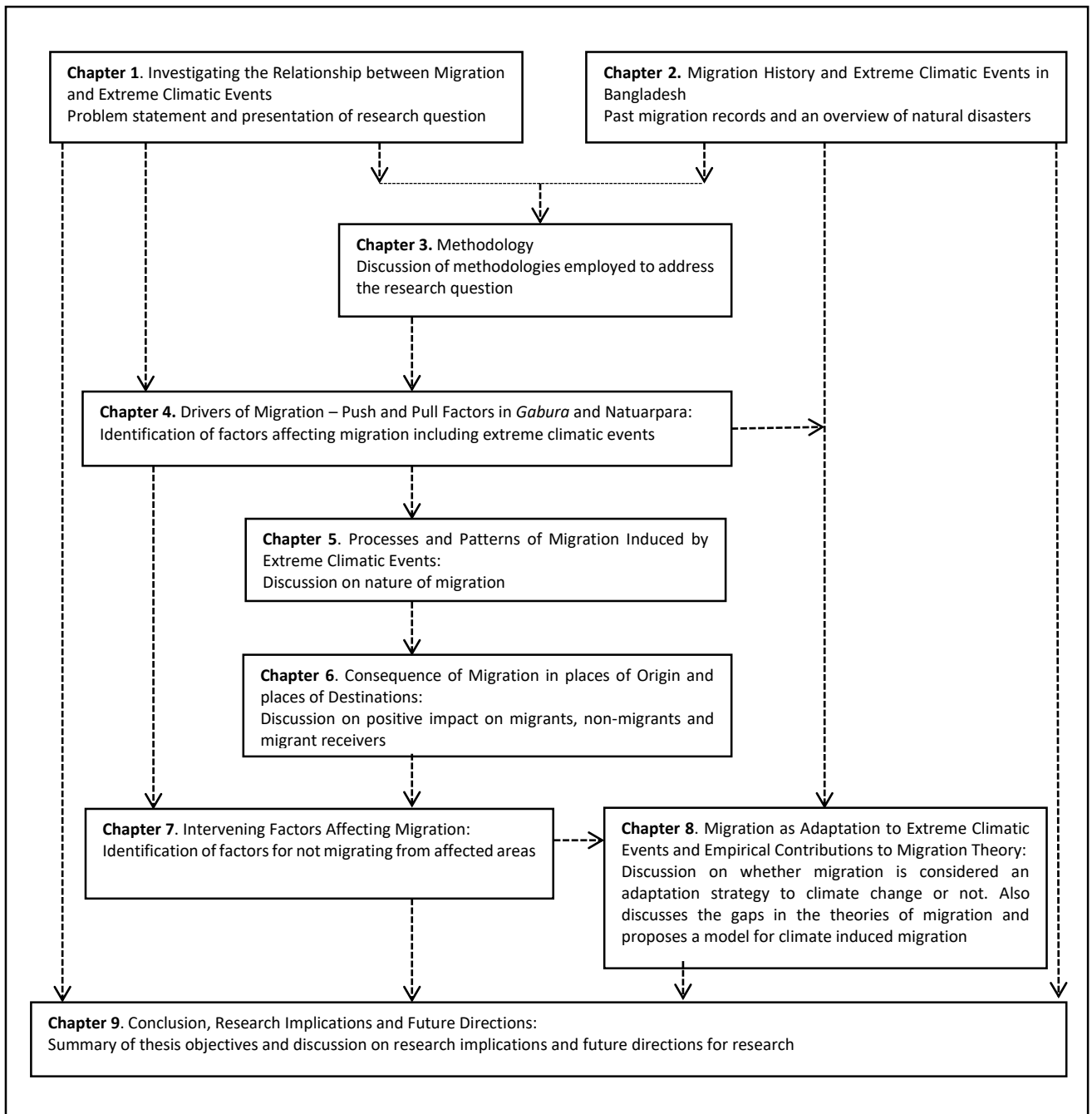
Figure 1-2: Research design in relation to research objective and thesis structure

The boxes in the figure contain the following text:

**Chapter 1**. Investigating the Relationship between Migration and Extreme Climatic Events
Problem statement and presentation of research question

**Chapter 2.** Migration History and Extreme Climatic Events in Bangladesh
Past migration records and an overview of natural disasters

**Chapter 3.** Methodology
Discussion of methodologies employed to address the research question

**Chapter 4.** Drivers of Migration – Push and Pull Factors in *Gabura* and Natuarpara:
Identification of factors affecting migration including extreme climatic events

**Chapter 5**. Processes and Patterns of Migration Induced by Extreme Climatic Events:
Discussion on nature of migration

**Chapter 6**. Consequence of Migration in places of Origin and places of Destinations:
Discussion on positive impact on migrants, non-migrants and migrant receivers

**Chapter 7**. Intervening Factors Affecting Migration:
Identification of factors for not migrating from affected areas

**Chapter 8**. Migration as Adaptation to Extreme Climatic Events and Empirical Contributions to Migration Theory:
Discussion on whether migration is considered an adaptation strategy to climate change or not. Also discusses the gaps in the theories of migration and proposes a model for climate induced migration

**Chapter 9**. Conclusion, Research Implications and Future Directions:
Summary of thesis objectives and discussion on research implications and future directions for research

# CHAPTER 2: MIGRATION HISTORY AND EXTREME CLIMATIC EVENTS IN BANGLADESH

## 2    Introduction

The aim of this chapter is to discuss past migration records in Bangladesh, and to present an overview of natural disasters in the country. The diversity and frequency of cyclones and floods in Bangladesh have been considered as analogues for climate change, especially cyclone *Sidr* in 2007 and cyclone *Aila* in 2009 along with the tidal surges, and floods of 1988 and afterwards (Habiba et al., 2013; CEGIS, 2010; Khatun, 2013). Even if these extreme climatic events cannot be directly attributed to have been caused by climate change, they can, never the less, be considered in terms of understanding how these types of climate related events can contribute to migration. The situation in Bangladesh provides an ideal case study for considering how extreme climatic events may impact on migration, with implications not only for Bangladesh, but internationally. This chapter is divided into two sections: in the first section, I present the historical background of migration in Bangladesh. In the second section I outline the impact of natural disasters in Bangladesh.

## 2.1    Historical Background of Migration in Bangladesh

This section discusses the history of migration in Bangladesh, including the contexts of both international migration and internal relocations. The section is subdivided according to the pre-colonial, colonial, separation, independence and post-independence periods, and there is a focus on the push and pull factors of migration as well as the destinations of the migrants. It also provides a preliminary discussion of internal migration in Bangladesh.

### 2.1.1    Pre-colonial Migration

Being a part of India under British colony until 1947, and Pakistan until 1971, the documentation of migration in Bangladesh has not been clearly addressed. There is ample

historical evidence that suggests that both international and internal migrations took place frequently before the British colonial period. This included the migration of Buddhists to Tibet, Muslims from Yemen to Bengal, and people from other parts of India to establish the tea plantations of Sylhet. For example, a Buddhist scholar and philosopher, Atish Dipankar Srijnan, (born in 980 AD in Vajrayogini village of Vikramapura currently Munshiganj District of Bangladesh) in 1011 AD went from Bengal to Suvarnadwipa (now Malaysia) with his 100 disciples. Later, in 1040 AD, he went to Tibet (Chaudhury, 1969; Joshi, 1977). Conversely, the history of Islam begins in the Indian subcontinent in the 13th century when Arab traders arrived and commenced business in Chittagong port (the biggest sea port of Bangladesh) and started to preach a new religion, Islam. Amongst them, Hazrat Shahjalal (R), Shah Paran (R) and other '*Aulias*' migrated from Yemen and settled in different parts of Bengal where they began to  teach Islam. Buddhist and Hindu people converted to Islam both individually and collectively. At the same time, some of the converted Bengali speaking Muslims travelled through Chittagong port to Mecca to perform the Hajj. Although some of them returned, a number stayed in the Holy place, Mecca until their death (Khondker, 2004). These patterns of international migration occurred entirely on the basis of the devotion to religion. Furthermore, Islam (2012) reports that the history of the tea gardens in Sylhet is strongly related to some tribal groups who came from different parts of India in the late 15th century. Since then, this region has become famous for tea cultivation and the indigenous people have been engaged in this industry over the last few centuries.

### 2.1.2   Colonial Migration

During the British colonial period (1858-1947) a number of impoverished rural people migrated from eastern and southern parts of Bangladesh to Calcutta, the then capital of British India, and became slaves or casual workers for British companies (Khondker, 2004;

Islam, 2012). This movement of people from one corner of East Bengal[4] to another corner of West Bengal is regarded as internal migration. In the nineteenth century many poor people worked in the shipyards owned by the British, and later they moved to England. Certainly after the Second World War when Britain faced labour shortages, many destitute and poor Bengalis particularly from the Sylhet district (now one of the seven divisional cities of Bangladesh) took the opportunity to settle in England. Before the Second World War, there was a fragile economy over the whole of the Indian subcontinent; making a living was tougher than at any other time and this compelled migration both within and outside the subcontinent. Of course, some pull factors such as employment opportunities, a better standard of living conditions, and higher incomes encouraged people to move away. As others joined family members who were already overseas, the number of migrants continued to increase. By the 1970s, the British permitted migrants to become citizens if they could be reunited with their families and relatives from the same region of Bangladesh. This trend in migration continues and it is now estimated that of all the Bangladeshis who are residing as permanent citizens or working as temporary migrants on a contractual basis in Britain, 90% are from Sylhet (Gardner, 1993). As past migrants significantly contributed to their households and communities, aspirant migrants were lured to follow and this process has continued and has spread-out over the country, resulting in a tendency for every household to maintain a chain of migration. This process of chain migration (see chapter 5, section 5.2.3) remains very active, not only in the Sylhet district but across the whole of the country.

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[4]The Partition of Bengal in 1947, part of the Partition of India, was also a religiously based partition that divided the British Indian province of Bengal between India and Pakistan. Predominantly Hindu West Bengal became a province of India, and predominantly Muslim East Bengal became a province of Pakistan which in turn became independent in 1971 after a bloody nine-month war.

### 2.1.3 Division of Indian-subcontinent and Migration

In 1947, when the Indian subcontinent was divided into two major states, namely India and Pakistan (East Pakistan and West Pakistan), there was an exodus of internal and international movement in both of the newly established sovereign countries. Thousands of Muslim people left India, and most of them settled in Pakistan (East and West Pakistan). Conversely, a considerable number of Hindu people migrated from Pakistan (both East Pakistan and West Pakistan) to India. This movement was considered as international migration due to religious affiliation. Being politicized, Hill (2004) regarded this type of movement as 'forced migration', whereby migrants were compelled to leave their place of origin due to the push factors of religious conflict combined with political separation. As a result of the division of India and Pakistan between 1947 and 1951, the estimated number of migrants ranges from ten to eighteen million people. According to the International Labour Organization (ILO), (1959: 109) this movement of people continued for many years in both countries. Data on migration suggests that in 1951, India and Pakistan received 7.3 million and 7.2 million refugees respectively, and these percentages increased to 8.8 million and 8.4 million respectively in the 1957 census.

Furthermore, from 1947 to 1970, a significant number of people migrated within and between East and West Pakistan being parts of the same country. In addition, public service employment motivated the people of East Pakistan to migrate to West Pakistan and *vice versa*. This pattern of migration was essentially internal as the two parts of Pakistan were under the same territorial boundary and political jurisdiction. Both pull and push factors (discussed/defined in the theory section – chapter 1) such as politics, religion, business, study, employment in the army and police forces, and moving to be closer to family members and relatives, induced people to migrate from one part of Pakistan to another.

In 1960, the Pakistani government constructed a hydroelectric dam (known as *KaptaiBadh*) on *Karnaphuli* River at *Kaptai* in Rangamati district, 65 kilometres upstream from Chittagong. The construction of the dam had a huge environmental impact on the

Chittagong Hill Tract (CHT) region. Approximately 54,000 acres of cultivable land was submerged and nearly 100,000 local ethnic people were made homeless and became environmental refugees. This situation forced people to migrate to the neighbouring countries of Bangladesh; 40,000 people to India and 20,000 people to Burma (Uddin 2008). However the dam provided considerable benefit as the only major source of electricity in this region and as a result, the conflict between mainstream Bengali society and the tribes of CHT came to light. This conflict was exacerbated as, with the help of the then Bangladeshi Government, a considerable number of Bengali people from different parts of the country migrated to the area with an aim to make the Bengali community stronger (Uddin 2008).

### 2.1.4   Independence Period

The war of independence in 1971 which led to the creation of Pakistan and Bangladesh as two separate countries, also led to a massive refugee migration from Bangladesh into neighbouring India. During the nine months of the war, more than nine million people, including women and children, crossed the border and became refugees inside India. However, when Bangladesh achieved independence at the end of 1971, most of them returned to their newly born country, but many adherents of the Hindu religion did not return (Khondker, 2004).

During the independence war of 1971, people from Pakistan who were living in Bangladesh and those Bangladeshi who were living in Pakistan could not return to their places of origin. Since independence, many Pakistani people, called *Biharis*, are living in Bangladesh and at the same time some *Bengalis* are also in Pakistan. There is a continuous demand by the *Biharis* in Bangladesh to repatriate to their native Pakistan (Paulsen, 2006). Given the social, political and historical context, Farzana, (2009) argues that the *Bihari* Community in Bangladesh is considered an artificial minority, despite sharing the same language and religious identity. As yet, neither Bangladesh nor Pakistan has taken steps to arrive at a common platform to resolve this problem.

### 2.1.5 Post-independence Migration

The newly born country of Bangladesh encountered substantial and unavoidable challenges which led people to move, such as food deficiencies, inadequate settlement, impoverished medical facilities, a fragile economy, a shortage of skilled workers, and limited job opportunities. As a result, people searched for jobs both within and outside the country. Consequently, some migrated within the country and some crossed the borders for a better living. When oil prices in the Middle East rose in 1973, several countries in that region developed infrastructure for industry which in turn created capital-rich but labour-poor countries (Siddiqui, 2003). Initially a large number of expatriate workers from neighbouring countries were used to fill this labour shortage. However, a later change in policies resulted in the recruitment of labour from South Asian countries such as Bangladesh, India, Pakistan, Burma and Sri Lanka. Being part of the Muslim brotherhood, Bangladesh received preference and a colossal number of semi-skilled and unskilled male workers migrated on a temporary basis to the Middle East, especially to Saudi Arabia and The United Arab Emirates (Siddiqui, 2003) (Figure 2.1). Over 7.7 million[5] workers have migrated from Bangladesh to 140 countries in the world, with more than 80% having migrated to the Persian Gulf countries. Saudi Arabia alone has recruited more than 2.5 million workers from Bangladesh over the last four decades (BMET, 2012). Figure 2.1 below constructed on the basis of data from BMET (2012) illustrates those countries receiving migrants from Bangladesh.

---

[5] This is the officially recorded figure; unofficially this number is more, potentially double.

**Labour Migrant Receiving Countries From Bangladesh (1976 - 2012)**



| Number of Migrants | |
|---|---|
| ■ | Saudi Arabia - 2595237 |
| ■ | UAE - 2073530 |
| ■ | Malayasia - 700397 |
| ■ | Kuwait - 538430 |
| ■ | Oman - 479648 |
| ■ | Singapore - 367317 |
| ■ | Bahrain - 227001 |
| ■ | Qatar - 180919 |
| ■ | Libya - 95283 |
| ■ | Lebanon - 67070 |

Data Source: BMET 2012
Author: Md. Moniruzzaman
JCU, Townsville
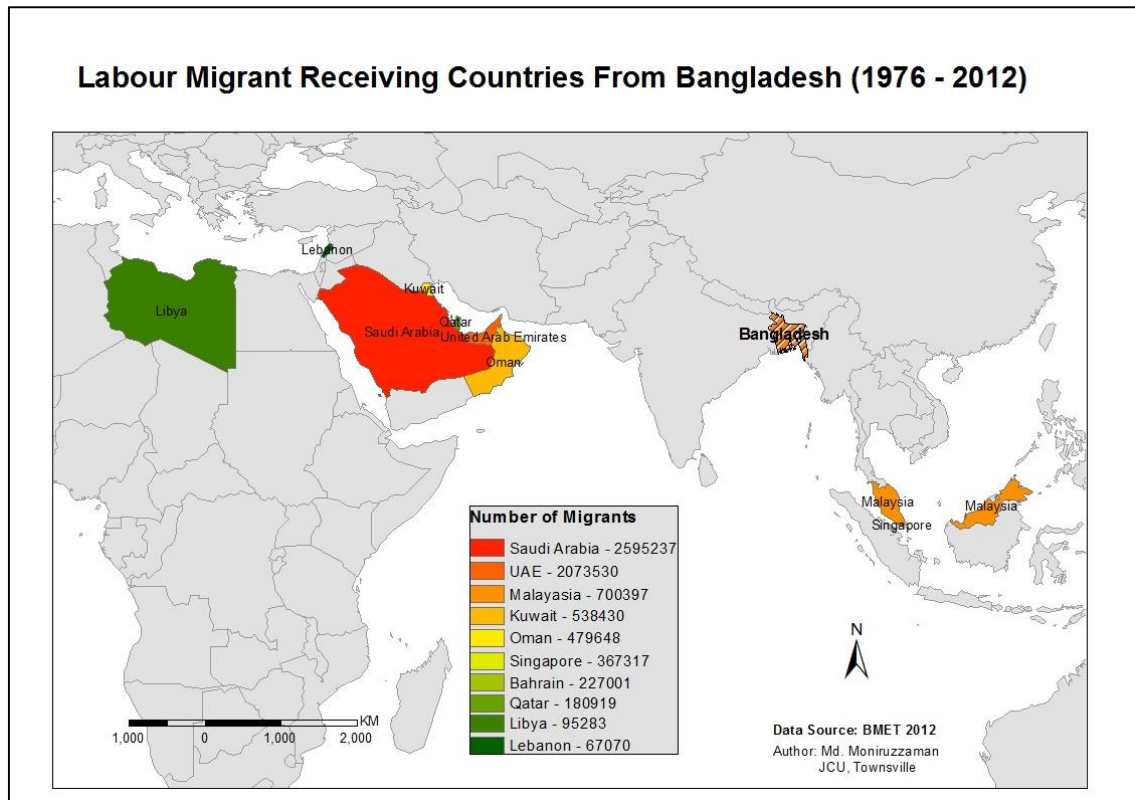
Figure 2-1: The top ten labour migrant receiving countries from Bangladesh 1976 - 2012

Further, due to the rapid economic explosion and demographic and educational changes, Southeast Asian countries, particularly Malaysia, Singapore, South Korea and Taiwan emerged as 'Asian tigers' in the late 1980s and the 1990s (Karim, Abdullah, & Bakar, 1999). Similar to the Middle Eastern countries, these Southeast Asian countries also developed infrastructure and became capital-intensive and labour-deficient countries. As a result, unskilled and semi-skilled labour was imported from labour-rich but capital poor countries like Bangladesh, India, Pakistan, Sri Lanka, Indonesia and the Philippines (Dannecker, 2013). Malaysia has become one of the biggest migrant labour receiving countries not only in Asia but also in the World. It is difficult to confirm the exact number of international labourers working in Malaysia, and the large number of undocumented migrants has made this calculation even more complex. However, it is clear that Indonesia has become the top supplier of labour to Malaysia followed by Bangladesh and that most of these migrant workers are engaged in the manufacturing, construction and plantation sectors (Chin, 1998; (Karim et al., 1999).

Like Malaysia, Singapore is a preferred destination for Bangladeshi migrant workers. Factors such as multicultural communities, modern life styles, legal protection, a systematic foreign worker recruitment policy and the opportunity for high wages attract Bangladeshi labourers to Singapore. Up to 2010, there were nearly 370,000 documented migrants working in Singapore (Khondker, 2004; BMET, 2012).

International migration in Bangladesh is also caused by environmental changes (Chatterjee, 2011). Chatterjee (2011) argues that environmental changes exert pressure on a country with limited natural resources which eventually intensify the socio-economic problems and as a result cross broader migration is induced. In this review article she also notes that Environmental impacts, such as floods, river bank erosion, cyclone, drought, sea level rise, and saline water intrusion in the southwest and middle part of Bangladesh forced people to search for alternatives to survive and as a last resort, people have started to migrate across the border to India and to other countries further away (Chatterjee, 2011). Moreover, social connection has accelerated the movement of neighbouring peoples and the relatives of migrants (Younus, 2014). When extreme climatic events become more frequent and intense, inhabitants of disaster areas become more involved in international labour migration along with internal migration. International labour migration makes an immense contribution to the economy of Bangladesh as well as to the livelihood of migrants. The continuous inflows of foreign remittances have substantially contributed to the national Gross Domestic Product; up to 14% according to the Bangladesh Bank (2014). Although substantial studies have examined international migration as it is directly related to foreign remittances and economic development of the country (discussed in the following section), internal migration remains explicitly unexplored in the literature.

Internal migration in Bangladesh is mainly rural-urban migration. The urban population is growing rapidly because of rural- urban migration (Khan, 2008; Diganta, 2009). According to the World Bank, in 1980, the urban population was 15% of the total population of the country, that became 30% by 2010, and it was 34% in 2014 (The World Bank, 2015). In this

case, Dhaka, the capital city of Bangladesh, is the main target destination for rural migrants and migrants from small cities such as district or sub-district cities.

Internal migration to the southeast Chittagong Hill Tract (CHT) areas of Bangladesh also occurred. Since the time of separation in 1947, CHT tribes have tried to establish a separate country or at least an autonomous state. However, the region became a part of East Pakistan and then, in 1971, a part of Bangladesh. Even then, the push for independence was not brought to a halt (Islam, 2003). At the time of the *Kaptai Dam*, when thousands of people were displaced and migrated to India and Burma, the call for an independent country became stronger through agitation. In order to subdue this agitation, the government of Bangladesh strategized to change the demographic character of the CHT through transmigrating Bengalis and displacing ethnic peoples (Parveen & Faisal, 2002). Almost 500,000 people were settled by the then government under sponsored programmes during the period of 1979 – 1984 (IDMC, 2009). The new landless settlers from different parts of Bangladesh received their own land, monthly rationing, establishment money, and security with the help of army personnel (Uddin, 2008). Due to this strategy of internal migration, Bangladeshis made up nearly one third of the total population of the CHT by 1984 (IDMC, 2009).

Internal migration, especially rural-urban migration, is an important factor in the process of urbanization and helps people to enhance their local economy. Rural-urban migration increases labour mobility and has helped in the process of transforming the agricultural economy into an industrial economy (Fang & Dewen, 2003). However, Khan (2008) argues that although the urban population is growing more than the rural population, employment opportunities in both the non-agricultural and agricultural sectors are not growing adequately in Bangladesh. In addition, Hossain (2008) found that the poverty rate is increasing in Dhaka due to the massive urbanization over recent decades (Musa, 2011). One of the major push factors of migration to the urban areas of Bangladesh is natural disasters

(Ahsan et al., 2016). Table 2.1 summarizes all the different aspects of migration from the pre-colonial period to the present in Bangladesh.

Table 2.1: Major migration patterns in Bangladesh at different time periods

| Time | Period | Migration Types | Push Factors | Pull Factors | Origin | Destination |
|------|--------|-----------------|--------------|--------------|--------|-------------|
| Before 1800 BC | Pre-colonial | International, internal | | Religion | Yemen Bengal, other part of India | Tibet, Bengal, Saudi Arabia |
| 1800 – 1947 | Colonial | International and internal | Poverty | Job opportunity, labour demands, better standard of living conditions and higher income | Bengal | Britain, Other parts of India |
| 1947 - 1971 | Separation | International and internal | Religion and racial conflict | Job, politics, religious affinity, business, study | India, East Pakistan, West Pakistan | India, East Pakistan, West Pakistan |
| 1971 (March – December) | Independence | International | Independence war | | Bangladesh, Pakistan | Bangladesh, Pakistan |
| 1972 to present | Post-Independence period | International and internal | Poverty, environmental disasters | Foreign remittances, jobs, study, governmental support | Bangladesh and its rural areas | Middle East, Southeast Asia, Urban areas of Bangladesh |

## 2.2 Overview of Extreme Climatic Events in Bangladesh

Migration due to extreme climatic events appears to be on the rise in Bangladesh. It is suggested that 6.5 million people have already been displaced throughout the last four decades, and another 50 million are expected to be displaced by 2030 due to different environmental hazards (Musa, 2011). Bangladesh, a low-lying deltaic country with a high density of poor population, is one of the most climatically affected countries of the world. Natural hazards such as floods, riverbank erosion, cyclones, and tidal surges are very

common in the country, affecting thousands of people almost every year. Climate change is predicted to make these disasters more frequent and more intense. As a result, the number of affected and homeless people is likely to increase (Webersik, 2010).

Climate change is considered to be having a great impact on sea level rise (Dasgupta et al., 2007). Sea level rise poses a significant and impending environmental threat to the low-lying coastal zones of Bangladesh, which cover 32% of the country (Huq & Rabbani, 2014). The southern coastal area of Bangladesh has over one quarter of the total population (more than 40 million). It is estimated that a one meter sea level rise could inundate 17.5 percent of Bangladesh's total land area, directly impacting 11 percent of the country's population. Therefore, one meter sea level rise will cause 20 million people to relocate (Karim et al., 1999).

Large scale migration due to climate change is an ongoing concern for the government and policy makers of Bangladesh. However, climate change induced migration has not been recognized by the international community, in part due to the lack of consensus about the link between climate change and migration and the scarcity of good data (Massey et al., 1993). More recently though, the issue of climate change related to migration has come to be discussed (Adger et al., 2014), especially in the context of developing countries such as Bangladesh. Indeed, along with the endeavour of affected poor countries, developing country financial partners are funding research on possible strategies to ameliorate climate change such as adaptation and resilience. In this regard, migration has become a powerful an important consideration as strategy for of adaptation (Scheffran, Marmer, & Sow, 2012).

In spite of being a minimum $CO_2$ producing country, Bangladesh is a typical example of the vulnerability experienced by low income nations to the dramatic effects of natural disasters. The nature and diversity of the current climatic hazards in the country are considered to be the consequences of climate change (Nishat & Mukherjee, 2013). However, historically flood, drought, cyclone and storm surge, river bank erosion, salt water intrusion and landslides are very common disaster events that adversely impact peoples' livelihoods in

the country every year. The geographical setting of Bangladesh, with the bordering ranges of the Himalayan mountains to the north and east, the funnel shaped Bay of Bengal in the south, the low gradient from north to south, the hundreds of rivers and the vast alluvium flood plain that covers two-thirds of the land area all contribute to the country being at risk to natural disasters, especially floods and river bank erosion, cyclones and tidal surges (Lein, 2009: Karim, 1995). The following map (Fig 2.2) shows the main disaster affected areas of Bangladesh.
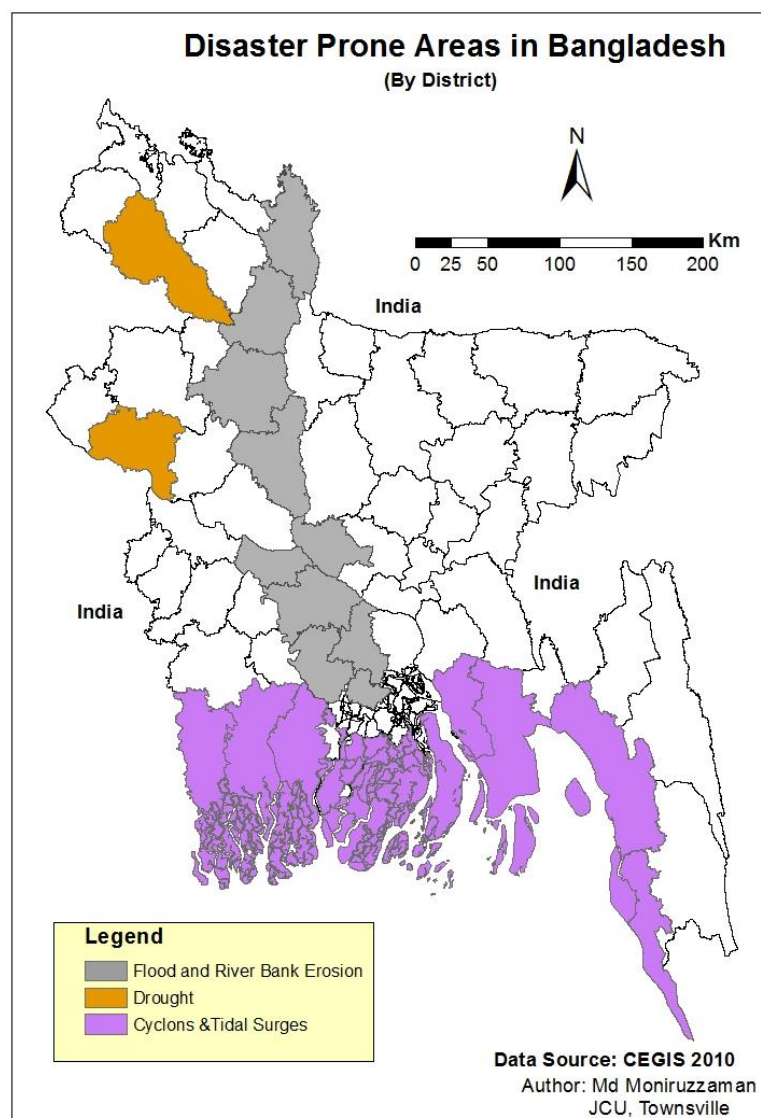


Figure 2-2: Disaster prone areas of Bangladesh

Bangladesh has experienced a large number of devastating disasters over a long period of time. More than 220 natural disasters are recorded for the country since 1980 (UNDP, 2004). The World Disaster Report of 2010 revealed that more than 154 million Bangladeshi were affected by natural disasters between 1990 and 2009 (McClean, 2010). Based on deaths by cyclones and floods, UNDP has ranked Bangladesh as the most vulnerable country to tropical cyclones and the sixth most vulnerable to floods in the world (Table 2.2). Moreover, river bank erosion, drought and salt water intrusion have gained importance due to their extent and severity (discussed in further detail below). However, in reality, the condition has improved over the last 10 to 12 years. Policymakers, planners and development practitioners have adopted different programmes with a view to decrease the loss of lives and properties (Haque et al., 2012). The Bangladesh Government and many NGOs are working with local communities in coastal areas on disaster management, adaptation and capacity building. Consequently, vulnerability to natural hazards has decreased in the recent decades (Alam & Collins, 2010). An outcome of these endeavours is that fewer deaths of people and less damage to properties are noticed in the affected areas (Haque et al., 2012).

Table 2.2: Bangladesh and other countries most vulnerable to cyclones and floods. (Deaths/100,000 people exposed to cyclones and floods)

| | Tropical Cyclones | | | Floods | |
|---|---|---|---|---|---|
| 1. | Bangladesh | 32.1 | 1. | Venezuela | 4.9 |
| 2. | India | 20.2 | 2. | Afghanistan | 4.3 |
| 3. | Philippines | 8.3 | 3. | Pakistan | 2.2 |
| 4. | Honduras | 7.3 | 4. | China | 1.4 |
| 5. | Vietnam | 5.5 | 5. | India | 1.2 |
| 6. | China | 2.8 | 6. | Bangladesh | 1.1 |

Source (UNDP, 2004)

### 2.2.1 Cyclones

The Bay of Bengal in the south of Bangladesh – the largest bay in the world – generates 5% of the world's tropical cyclones (Sarwar & Islam, 2013). Cyclones that are produced in the Indian Ocean can easily travel to and affect the southern coasts of the country because of the funnel shape of the bay. As a result, cyclones are more frequent in Bangladesh than other countries of this area. Over the last century tens of thousands of people have been killed by several disasters in Bangladesh, with tropical cyclones claiming the highest number of deaths. Cyclones of 1970, 1991, 2007 and 2009 were so devastating that millions of people were affected; hundreds of thousands of people died and tens of thousands were missing or injured (Table 2.3).

Table 2.3: Major cyclones and number of deaths recorded in Bangladesh: 1960-2009

| Year | Death | Year | Death |
|------|-------|------|-------|
| 1960 | 3,000 | 1985 | 11,069 |
| 1960 | 5,149 | 1988 | 2,000 |
| 1961 | 11,466 | 1991 | 140,000 |
| 1963 | 11,520 | 2001 | 3,064 |
| 1965 | 19,279 | 2007 | 10,000 |
| 1970 | 500,000 | 2009 | 330 |

Source: (Habiba, Rajib, & Abedin, 2013; European Union, 1998)

### 2.2.2 Riverine Flood and River Bank Erosion

The people of Bangladesh are very familiar with floods and the consequent damage that results. Every year, flooding begins when the monsoon rains start in late June. During the monsoon, higher water flows from the neighbouring countries of India, Nepal, Bhutan and China, further increase the water level of the rivers, which subsequently intensify the severity of the floods (Habiba et al., 2013). Over the last 50 years, the country has

experienced 16 large floods. The flood of 1988 affected almost 31 million people, damaging over 90000 houses in 52 districts out of 64 districts (Habiba et al., 2013; Rashid & Paul, 2014). More than 60 percent of the total land area of Bangladesh was under water for several weeks. Table 2.4 below lists the most significant floods in Bangladesh over the last 30 years. As the temperature of the atmosphere rises, the capacity for holding water vapour increases and as a result, the total amount of rain is increasing in some parts of the world. Consequently, the trend and extent of flood events in tropical countries has increased (IPCC, 2007). Based on the analysis for a 20-year floods in Bangladesh, Mirza (2002) concluded that the probability of occurrence of floods in Bangladesh has increased due to global warming and changes. Moreover, the hydro-metrological and topological characteristics of the basins of the country located at the confluence of the Ganges, Brahmaputra and Meghna rivers, Bangladesh has become very prone to flooding (Mirza, 2002). Xenarios, Nemes, Sarker, & Sekhar (2016) noted that Flood prone areas of the country are potentially more vulnerable to climate change than the areas affected by drought in the north.

Flood events and river bank erosion are highly related. As Bangladesh is situated on a large river delta and flood plain, river bank erosion takes place every year on a massive scale at the time of a flood. Both sides of the three mighty rivers, Padma (Ganges), Brahmaputra and Jamuna, consist of loosely packed sand and silt materials and are highly vulnerable to erosion (Hutton & Haque, 2003). During the rainy season when heavy rains occur, flooding accelerates river bank erosion. As a result, every year thousands of families lose their homes and land. River bank erosion also compels people to move to new locations (Hutton & Haque, 2003; Haque & Zaman, 1989).

Table 2.4: The estimate of damage and deaths by the major devastating floods in

Bangladesh: 1984-2007

| Year of Major Floods | Inundated areas (sq. km.) | Estimated Damage (US$) | Deaths |
|---|---|---|---|
| 1984 | 50,000 | 378 million | -- |
| 1987 | 50,000 | 1 billion | 2055 |
| 1988 | 70,000 | 1.2 billion | 6,500 |
| 1998 | 100,000 | 2.5 billion | 1100 |
| 2004 | 60,000 | 6.6 billion | 700 |
| 2007 | 32,000 | 1 billion | 649 |

Source: (Habiba et al., 2013; MoEF, 2009)

## 2.2.3 Salt Water Intrusion

Over the last three decades in the south-western part of Bangladesh, fertile land formed with deltaic action has become a death trap for the people. This is clearly the effect of sea level rise. The southern part of the Bay of Bengal is the mouth of several big rivers through which rain water discharges from the northern part of Bangladesh. Sea-level rise prevents the water from running off through the rivers of this region. In addition, saline water from the nearest sea is moving up river to inundate the mainland. Therefore, in the southwest coastal part of Bangladesh salt water intrusion has had a tremendous impact on agriculture, settlement, natural forest including *Sundarbans*[6], fisheries and human health. The communication and education systems have also broken down in this area (Moniruzzaman, 2012), and the availability of fresh drinking water has become a big problem. The only source of drinking water is shallow tube wells, which are either under water, or contaminated by saline water.

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[6]The largest mangrove forest of the world which is under threat to sea level rise.

The United Nations Development Programme (UNDP) (2004) notes that if Greenland ice melts by 20 percent and Antarctic ice melts by only 5 percent then the global sea level will rise by 4 to 5 meters. This will greatly affect some small islands in the Pacific, Caribbean and the Indian Oceans, countries like Bangladesh and the Netherlands, and cities and coastal infrastructure in many other countries. Saline water intrusion from the sea into adjacent coastal areas can permanently destroy the productivity of agricultural fields and the integrity of fresh water sources such as rivers, lakes, ponds and aquifers, and negatively impact coastal biodiversity, including tropical or mangrove forests. The IPCC (2007) forecasted that global warming may result in a 0.18 to 0.79 meter rise in sea level in Bangladesh by 2050. More recently, the IPCC's (2014) prediction for global seal level rise is between 26 cm to 82 cm by the end of this century and 70% of the total coastal area of Bangladesh is projected to be at risk to the maximum predicted sea level rise (CDKN, 2014). As a result, saline water will inundate the coastal areas – up to one third of the total land area of the country –  and have great importance for the inhabitants, the biodiversity and the economy.

### 2.2.4   Drought

In the northwest part of the country eight million people are vulnerable to periods of drought (G. M. Alam & Al-Amin, 2014). The people of this area are comparatively poorer than those living in other parts of the country (USAID, 2011). A combination of low rainfall, high temperatures, long dry season, and a fall in the underground water level have a great impact on agriculture and drinking water in the region (WFP, 2012; Das, 2011). Consequently, most of the people who depend on agriculture are without jobs. Since 1971, nine drought years have been recorded in Bangladesh. The intensity of this disaster poses a severe challenge to the livelihoods of people living in the northern districts of the country (Habiba, Shaw, & Takeuchi, 2014). As the IPCC (2007) explains, in some parts of the world summer dryness and winter wetness indicate a greater risk of drought, identifying another potential climate risk for Bangladesh.

## 2.3    Chapter Conclusion

In this chapter I have discussed the migration history of Bangladesh through different time periods, and the impact of different disasters in Bangladesh. In the first section, three important time periods of migration are identified. Firstly, during the time of division of the Indian-subcontinent in 1947, India and Pakistan (east and west) were divided according to Hindu and Islamic religions. As a result, many Hindus migrated from Muslim dominated areas and, on the other hand, many Muslims moved to Pakistan to join their religious community. As a result, Bangladesh (then East Pakistan) received many Muslims from different parts of India. Secondly, there was a massive migration of people between Pakistan and Bangladesh during the independence war of 1971. Finally, as a member of the Muslim brotherhood, Bangladesh has had the opportunity to send thousands of labourers to different countries of the Middle East and to Malaysia.

In the second section, I have discussed the impact of natural disasters that has been considered in this research as extreme climatic events, and potentially as analogues for climate change in Bangladesh. The country has experienced several natural disasters such as cyclones, riverine floods and river bank erosion, salt water intrusion, and drought. Thousands of people have died in the last 50 years because of two powerful types of disasters – tropical cyclone and riverine flood. Bangladesh has been ranked by the UNDP the country most vulnerable to tropical cyclones and sixth most vulnerable to floods across the world. To estimate the potential impact of extreme climatic events on migration, it is necessary to seek the views of those people directly. Chapter 3 indicates how this was achieved.

# CHAPTER 3: METHODOLOGY

## 3    Introduction

This chapter has been divided into six sections in order to fully describe the methodology that has guided my research. In the first section, I discuss the ontological and epistemological assumptions that lead to the framework for this study. In section two, I highlight my research plan. I contextualize my fieldwork conducted in two study areas of Bangladesh in section three. In section four, I describe the research methods used for this study; predominantly observation, interviews, and focuses group discussions. Then I present the analysis procedure in this research in section five, and concluded with the ethical considerations in section six.

## 3.1    Ontological and Epistemological Assumptions of the Study

The diverse traditions of theoretical and methodological ideas that have developed over the years within social science research are referred to as research paradigms and are the result of particular ontological and epistemological assumptions (Blaikie, 2009). Ontology is a broad philosophical orientation about the world and forms the foundation for all research. Creswell (2014)  identifies this as 'worldviews'. He highlights four kinds of worldviews that researchers need to consider for social inquiry, namely positivism, constructivism, transformation, and pragmatism. According to Bak (2011), positivist reductionism is a view based on objective quantitative observation to derive statistical correlations. However, such a view can undermine the context and meanings of knowledge embedded within people's lived experiences (Bak, 2011). In contrast, the constructivists view the world as a social construct; of knowledge developed through subjective and meaningful experiences learned from the environment, and involving ongoing exploration and interpretation (Creswell, 2014). In many cases, constructivist research uses qualitative approaches, but these are not the sole preserve of constructivist paradigms. Qualitative research can be positivist or

constructivist depending on the underlying philosophical position adopted (Yin, 2003). The transformative approach is of "central importance on the lives and experiences of marginalized groups such as women, ethnic/racial minorities, members of the gay and lesbian communities, people with disabilities" (Mertins, 2003, p139-140) These approaches are particularly useful for problem solving and managing change in minority communities. Pragmatism as a worldview encompasses an understanding of knowledge as both a social construct and a reality of meaningful experiences of the world, and focuses on a problem using either/or both quantitative and qualitative approaches (Bak, 2011; Creswell, 2014).

Theoretical frameworks for migration studies adopt a particular world view regarding the philosophical orientation about the world and the way knowledge is acquired (Iosifides, 2013). Constructivists analyse social phenomenon and how they come into existence, analysing language and meaning. In this context, a constructivist approach could analyse who uses a discourse that sees movement of people as out of the ordinary, the nature of voluntary action and the sociology of the science being deployed. None of these are the principal analytical focus of this thesis.

In this study, I adhere to a pragmatic the worldview, that is, in my view (ontology) it is possible to make observations about social behaviour that are independent of the social actors concerned, but those observations are enhanced by understandings provided by the social actors concerned (Creswell, 2014; Grix, 2002). Consequently, my epistemological position tends to be positivist and that the ways we can come to know about the phenomenon of migration are varied.

Favell (2008) argued migration is a complex phenomenon; hence multidimensional and interdisciplinary approaches are widely used in the study of migration. Human migration is controlled by social, economic, demographic, political and environmental (including climate change)  drivers depending upon social transformation (Iosifides, 2013; Mertins, 2003). Both positivist and constructivist worldviews can be employed to explore the causes and consequences in the origin and destination countries of migrants (Favell, 2008). Likewise,

Findlay & Li (1999) utilise a qualitative biographical approach to investigate the consequences of professional emigration (Findlay & Li, 1999). In this study, a qualitative research methodology will be used in order to explore the root causes of migration inside the state and within the life settings of individuals. As Iosifides (2013) suggests, research to explore the root causes of internal migration may be enriched by the in-depth and detailed experiences of a particular phenomenon; specifically in this study, how climate events influence human migration.

Creswell (2014) has designed particular qualitative approaches, divided into narrative research and phenomenological research. The former approach involves exploring the life history of a particular individual or group of individuals; while the latter depends on a philosophical and psychological inquiry followed by a detailed description by the researcher of their exploration of a phenomenon as experienced by the participants. The phenomenological approach has been employed in the present study to explore climate induced migration; it is about migration as experienced by individuals from climate affected areas. This is further enhanced by grounded theory, a sub-design of the phenomenological approach, involving the use of multiple stages of data collection through observation, interviews and focus group discussions (Creswell, 2014) . For this research a mixed methods approach was taken (Neuman 2013)

## 3.2   Research Plan

Considering the intensity and frequency of disasters in Bangladesh, four major factors are considered for this study: cyclone, tidal surges, floods, and river bank erosion. As a result, I have considered two major recent cyclones, i.e., cyclone *Sidr* and *Aila*, and floods of 1988, 1998 and 2007 in this study as the indications of the impacts of extreme climatic events on migration. Accordingly, two study areas that are affected by these disasters have been selected for the cases of this study: Satkhira district affected by cyclone *Sidr* and cyclone Aila and tidal surges; and Sirajganj district affected by floods of specified years and river bank erosion (CEGIS, 2010, Khatun, 2013). One union from each district – namely *Gabura*

and *Natuarpara* respectively – are the study areas for the present work. *Gabura,* which comes under Shyamnagar Thana of Satkhira district, experiences cyclone and tidal surge affected areas. It is located in the southwest coastal area of Khulna Division[7] bordering the largest tidal mangrove forest of the world (Faridah-Hanum, Latiff, Hakeem, & Ozturk, 2013; Pramanik, Sundararaman, Das, Ghosh, & Mukherjee, 2011). Conversely, *Natuarpara* is under Kazipur Thana of Rajshahi division and is located in the middle part of the country sharing its border with the largest river, Jamuna and experiences riverine flooding. Figure 3.1 and 3.2 provides a map of the study areas in relation to Bangladesh.
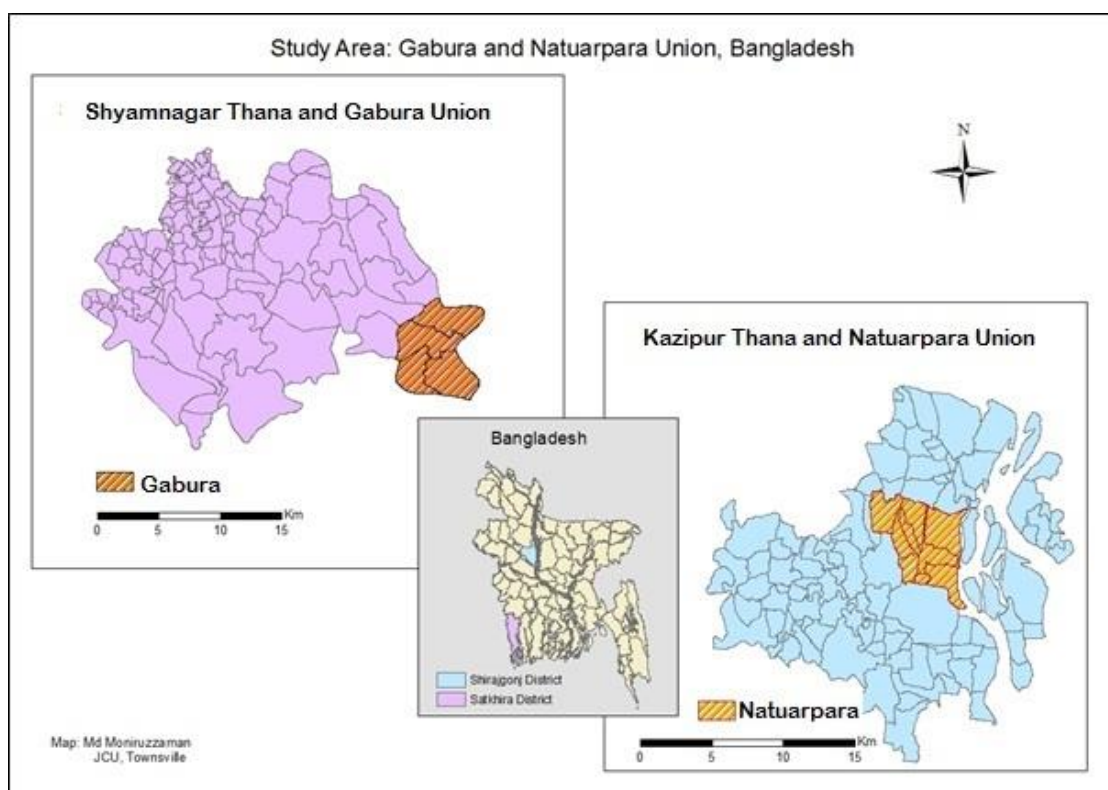


Figure 3-1: Study area

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[7] Administratively, Bangladesh is divided into seven major divisions: Dhaka, Rajshahi, Khulna, Chittagong, Barisal, Sylhet and Rangpur. Each division is then subdivided into smaller regions named districts; each district is formed by several upazilas (thana) followed by unions, and villages are the smallest administrative units of the unions (Administrative geography of Bangladesh, 2014).

Figure 3-2: Shyamnagar and Kazipur Thana

The *Kapatakh* and *Kholpetua* rivers surround the eight small villages of *Gabura* union, forming a small island. The area of *Gabura* is 37.749 square-kilometres, with a total population of over 32,000 and a literacy rate of 31% (BBS, 2012). There are fifteen mosques,

two temples, nine primary schools, two high schools, and three madrasahs within this union. *Natuarpara* union has an area of 30.91 square-kilometres and a population of over 13,000. There are eleven mosques, six primary schools, three high schools, one college and three madrasah in this union. Table 3.1 provides a demographic summary of each union.

Table 3.1: Population Information for *Gabura* and *Natuarpara* union

| Population Information | *Gabura* Union | *Natuarpara* Union |
|---|---|---|
| Area | 37.749 km$^2$ | 30.91 km$^2$ |
| Population | 32,417 | 13,341 |
| Population Density | 858 per km$^2$ | 431 |
| Literacy rate | 31% | 38% |
| Primary education | 47% | 34% |
| Electricity connection | 3.28% | 1.28% |

(Source: BBS, 2012)

## 3.3   Fieldwork Context

In formulating the methodology, it is important to understand the fieldwork context (Patton, 2002). In this section, I discuss the issues surrounding my access to people and places in the study areas – both in the places of origin and destination of migrants – and also my utilization of field assistants.

### 3.3.1   Accessing the places of origin- *Gabura* and *Natuarpara*

Both *Gabura* and *Natuarpara* are remote villages in the districts of Satkhira and Sirajganj respectively. Transportation and communication facilities are underdeveloped. Although the villagers do have access to mobile phone communication networks, most of the roads are soil tracks, and there is no comfortable or regular transportation facility for travelling.

There is small village market named *Munshiganj* between *Gabura* and *Shyamnagar* Upazila. As *Munshiganj* is located at end of a cobbled road, cars, public vehicles and micro buses

cannot go beyond this bazaar. A few hotels and restaurants have been established here to accommodate the tourists heading to *Sundarban*[8], the largest mangrove forest of the world. On my first visit to the area, I booked a hotel (and restaurant also) for a week and decided to travel to *Gabura* every day from this Munshiganj bazaar. It was very important to take drinking water with me as people of *Gabura* still did not have an alternative from using the pond's saline water for everyday life, such as drinking, washing and household activities. I rented a motorbike (run by the owner/driver) that took about 40 minutes to reach the river *ghaut* (gateway of the *Gabura* union), followed by an engine-driven boat for another ten minutes to reach to the village. While travelling to *Gabura* I had the chance to talk with the motorbike driver and the boat operator about people and their livelihoods in that area and the natural hazards they were facing. Although he did not belong to *Gabura* he was quite familiar with the village and the adjacent areas. I noted his address in my field diary and managed to contact him again during my fieldwork as he had considerable understanding about natural hazards and the livelihoods of the people.

As mentioned above, my second study area is *Natuarpara*. After three months of staying in the southwest area (including *Gabura* and different cities), my journey then took me to *Natuarpara* union. Like *Gabura*, there was no direct public transport to this union. First I went to *Dhunot More* of *Sherpur* thana. Then I took a CNG (compressed natural gas) run auto rickshaw and stopped at *Meghai Ghat* of *Kazipur* thana, and from there, I took an engine run boat to reach my destination. Indeed, *Natuarpara* is only accessible by this medium sized wooden motorboat from *Meghai Ghaut*. The boat operates between about 7 a.m. and 8 p.m.; it carries 20 passengers at a time and takes almost 40 minutes to arrive at the village.

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[8] It is the southwest coastal area of Bangladesh.

Both in *Gabura* and *Natuarpara* I had to face several challenges. In the following sections I will discuss the major challenges and the respective steps I took to continue my research in these places of origin. During my fieldwork I met a wide spectrum of people, became involved in many aspects of community life, and cultivated friendships in the places of origin of migration. Sometimes I was invited to take breakfast or lunch with families, and occasionally I had tea in the bazaar with several groups of people who were mostly busy with political discussions. In order to develop close contacts with the villagers, I cordially accepted all invitations I received. I tried to spend most of my time with them listening to their life stories. I endeavoured to make them feel comfortable and talkative by providing small gifts for the junior members of the family and by paying for snacks and tea in the bazaar. However, I also had to overcome several constraints associated with conducting research in remote villages; some constraints were generally typical of research in a village context, while others were specific to the areas and time of my research.

The transport available inside the villages was not convenient enough to move between different communities or from market to market. While limited van-pullers (human-driven three wheelers) were available in the rainy seasons, they were reluctant to carry passengers on inaccessible muddy roads. Therefore I walked bare-footed on muddy roads from dawn to dusk.

Talking to a woman alone is considered to be unacceptable in terms of cultural and religious acceptance in the village. Women did not feel comfortable participating in face to face discussions individually; rather they felt better in the presence of their husbands or somebody from their family. However, this was not always possible as I visited their houses between 9 am and 5 pm when the males were usually out of home for work. Under these circumstances, I took a female research assistant from a NGO with me; someone who was known to them. This helped me in multiple ways: firstly, the research assistants knew each and every road and house in my study area, so I had easy access to various houses. Secondly, they knew most of the village women very closely, and this provided some connection to

talk to the women there. Thirdly, female NGO employees were educated; they understood my research topic and gathered relevant and useful information from the village women while talking to them. As a response, I also informed the women about NGO activities and reported how villagers have benefited from micro credit or aid.

The village participants in my study had some expectations of receiving payments and relief. Different NGOs and Government organizations have been working for long periods of time offering relief after sudden disaster onsets, such as cyclones or floods. When they saw a new/unknown person in the village who wanted to talk with them, they were inquisitive and started to participate in the conversation. However, when they realised they were not going to receive any relief during the dialogue, they quickly lost interest. Initially, I tried to explain my research, but most of them did not understand about research and instead asked about the benefit for them. I advised my assistants to tell them that I wanted to write a book on their migration. Then many of them were convinced and got interested to talk with me without any payments and relief.

Turmoil during the national elections that are held every five years is quite frequent in Bangladesh. During this time political disorder is found almost everywhere in the country, including rural areas. On the basis of political analysis at the time, I planned to finish my first stage of data collection at least one month prior to the national elections of 2014. Unfortunately, chaos started at the beginning of November 2013, as a result of which limited buses and trains were running and there were heavy risks associated with travel. Many people (more than 200) died in political clashes and fights with the police forces. As a result I stopped my field trip and returned to my home in Rajshahi, a northwest divisional city of Bangladesh. During this period I focused on transcribing and translating interviews taken from the people of *Gabura* in the first field trip. I waited for more than one month to resume my field trip, which I made in the second week of January, 2014.

### 3.3.2 Access to the places of destination

Accessing the destination places of migrants was easier than accessing places of origin. Migration respondents were identified at thirteen points inside Bangladesh. Among those ten were city areas (thana, district and division) and three were villages. Although respondents of these places were generally too busy to manage any available time for the study, when I shared with them my familiarity with their previous villages some residents felt interested to participate. They were a bit nostalgic for their origins and were willing to share their past experiences. Women respondents were also very cordial in describing their feelings, emotions and memories regarding their origins.

Respondents of the urban areas were mostly living in the slum areas. Finding someone's address in the urban slums is time consuming and irritating because of the crowded and chaotic nature. To counter this time constraint I contacted the nearest tea stall owners or small shop keepers (multiple daily essential sellers) as most of the people of the nearest community are known to them. Certainly many urban dwellers usually come in the afternoon to the nearest tea stall to have a cup of tea and to chat with others, and women go to the nearest shops to buy their daily essentials. Moreover, as many of the respondents – or persons who know them – have a regular practice to pray at a mosque, I also received the help of Imams located in these communities.

Some migrants had a tendency to hide themselves. Some respondents were involved in different crimes, and cases were lodged against their names in the police stations. As a result, police in uniforms and in white (normal) dress often conducted raids to arrest them. Often these respondents did not disclose their names and address at my first meeting with them. Moreover, those migrants who took loans from NGOs and then shifted from their village without repaying the loan also lived in fear (discussed in chapter 4). Many of them considered me as either a member or agent of the police sent to arrest them, or an officer of the NGO sent to recollect the loan. In order to solve these complex situations in the places of destinations, I took guides with me who were known to almost everyone (discussed in

the following section), and I talked with respondents in their own language. I also received some help from the Imams and informal leaders of the communities. However, despite these efforts, I still could not manage to talk to all migrants from the place of origin.

### 3.3.3   Field assistants

During my stay at a hotel in Shyamnagar, the manager advised me to be watchful throughout my movements in *Gabura*. He said, "The place is not great for a foreigner or someone unknown and it's better to get back from the field before 5 pm every day". He prohibited me from moving alone as my laptop, money and camera "can be snatched". He also suggested I take a guide from the local village where I had to work. Thus, I called the education officer to get more direction and support. When he arrived, I asked him if there was a school teacher at *Gabura* who could guide me. The education officer located a school teacher from the *Gabura* High School who was willing. He also said that the schoolmaster would be waiting for me. After our introduction at *Gabura* bazaar, I told him about my research work and the reason for my being in *Gabura*. As he was currently on vacation/holiday for one month, he accepted my offer as a paid trip guide while I was in *Gabura*.

In *Natuarpara*, I contacted one of my friends who is a teacher in the Police Academy College of Sirajganj and requested him to look for a young man who could assist me; someone who knew the village very well and who was known to everyone. Thus, a 20-years old became my trip guide in *Natuarpara*. The guides not only showed me the way to participants' houses but also provided a friendly introduction for me with the village people.

### 3.4   Data Collection Method

Hugo (2010) suggested that research should be carried out not only with migrants but also non-migrants from the same place of origin. The study employed qualitative data collection methods which allowed me to gather descriptive information illuminating the stories of

both migrants and non-migrants from *Gabura* and *Natuarpara* villages. Qualitative methods are particularly appropriate when investigating sensitive topics within a natural setting, topics that could not be adequately explored in detail through structured quantitative methods (Thomas, Nelson, & Silverman, 2012). Qualitative data collection primarily involves three methods: observation, in-depth interviews, and group discussions (Ulin, Robinson, & Tolley, 2007).

### 3.4.1   Observation

Observation is a fundamental and extremely important part of qualitative inquiry involving a systematic noting of behaviour and events in the natural settings of the chosen study area (Marshall & Rossman, 2010).   Observation enhances the sense of understanding and enables the researcher to effectively comprehend the cause and effect relationships of the facts. Though it generally requires spending a long period of time in the natural settings, some researchers want to ensure a level of familiarity with participants and the surrounding environment before entering the later stage of data collection, such as in-depth interviews (Thomas, Nelson, & Silverman, 2012).

Observation was the initial step for data collection, particularly in *Gabura* and *Natuarpara*. As *Gabura* and *Natuarpara* are small and welcoming communities, I was able to quickly immerse myself into the lives of people in the two unions. I devoted the first ten days in each union solely to observation before conducting any in-depth interviews or focus group discussions (FGD), and I moved to every corner of both study areas. I also continued with the observation method while conducting interviews and FGD in the places of origin of migration.  I felt it was necessary to become familiar with participants so that they felt relaxed and positive during the course of my interviewing and could participate spontaneously in our dialogues. I sat for long periods of time in front of tea stalls and small shops in the bazaar where people gathered and engaged in chatting about their activities, personal and social problems, and national politics with the upcoming elections. I went to

schools, mosques and fields in order to better understand how different particular groups of people fashioned their lives.

I moved around the settlement areas and observed the impacts of floods, river bank erosion, cyclones and tidal surges. I observed the pattern and types of houses where the villagers lived; the distance of houses from the river, roads or markets; the vulnerability of houses according to locations and building materials; and how strong the roofs are in response to floods or tidal surges. I closely monitored the roads, transportation systems, and the distribution and nature of cyclone centres, especially at *Gabura*. Moreover, through the inspection of damaged vacant houses I speculated about what classes of people had migrated from the area.

Observation is uniquely positioned to consider both what people say they do and why, and what they are seen to do and say to others (Cloke, 2004). Through unstructured observation, I was able to observe what people say about the causes of migration and what are the actual causes behind migration that were related to livelihood strategies. I observed damaged agricultural fields and fish farming areas; to see what kinds of agricultural products and fishes were produced in the past and what kinds are grown today, who were the owners of fish farming areas and how they employed local labourers. I was inspired by the role of women in their families and how women helped to improve their livelihoods by participating in different jobs outside the home.

I recorded the observational aspects of my fieldwork in two ways. Firstly, from the very beginning I kept detailed field diaries with an aim to increase self-understanding (Sanjek, 1990). In my notes, I made uncontrolled observations and described the natural settings and surroundings of the communities, and the interactions among people of different small communities of the villages (Sahu, 2013). During this process, some questions became immediately apparent for the next step of data collection, namely interviewing. I used both paper notes and audio recorder during participants' interview (with their permission). Secondly, I took photos of the landscape of villages, particularly infrastructure built by

Government and Non-government organizations for the people affected by several disasters, and of people engaged in everyday activities in their respective territory.

### 3.4.2 Selecting Interviewees

To understand the relationship between migration and climate change, it was important to speak to non-migrants, NGO officers in the non-migrant areas, and migrants in the places of destinations. The major entity being analysed in this study is households. Based on the migration status of interviews of non-migrants in the place of origin and migrants in destinations, all members of a family were targeted as the unit of study. Similarly, NGO officers working in the affected areas have some knowledge of the experiences of migrant households, adding a further dimension. Hence, I tried to include as many NGOs as possible working in the places of origin and talked/interviewed to the manager of all those (14) NGOs. I was usually able to have discussions with a range of people of different ages and socio-economic classes and kept a balance between professions. Many of the residents in the study area initially approached me out of curiosity; it was unusual to see a person with laptop and a camera who was interested in the villages. During the first three or four days, many people (some who were a little bit educated) came to me with many unexpected questions, such as "who are you to ask us questions" and "how much money will you be giving us". Another group of people (uneducated individuals and labourers) also observed me from a certain distance without asking questions. So, I enlisted different strategies to get closer to them, including networking with existing contacts, participating in political discussions and talk of the national elections, hanging out in public places, and greeting people and introducing myself. Being a native Bangladeshi, I had a good understanding of the society and culture which helped me to quickly become friendly with the locals.

The number of participants in qualitative studies are not limited, but are often small; it depends on the depth of information and the variation in experiences (Hennink, Hutter, & Bailey, 2010). Hennink et al. (2010) also mentioned that the number of participants recruited for qualitative studies is guided by a theoretical principle called saturation. The

number of non-migrants I selected from *Gabura* and *Natuarpara* unions was 27 and 26 respectively (Table: 3.2). I selected both male and female respondents of different professions and ages ranging from 20 to 70 years old.

Table 3.2: Non-migrants interviewees

| Unions | Farmer | | Labourer | | Businessman | | Service | | Other | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | M | F | M | F | M | F | M | F | M | F | |
| *Gabura* | 7 | - | 6 | 2 | 2 | 1 | 2 | - | 4 | 3 | 27 |
| *Natuarpara* | 6 | - | 6 | - | 6 | - | 2 | - | 4 | 2 | 26 |
| Total | 13 | | 14 | | 9 | | 4 | | 13 | | 53 |

On the other hand, the procedure for the selection of migrant respondents was different and more complex as I had to maintain ethical issues throughout my data collection. In the first stage, while I was observing and interviewing in the villages, I asked the villagers and non-migrants about the places where migrants might have migrated. I noted down all mentioned places which were mostly neighbouring cities. In this way I was informed of the probable migrant communities by the villagers themselves. I then visited those places and declared my research subject and invited migrants to participate in my research. This was totally optional; no allurement/provocation/ force was made. Many migrants rejected my invitation, mentioning that they were either too busy or not interested to talk to me. The respondents in the destinations were sought out and chosen on the basis of them coming from the two source areas, others (migrants from other sources) were excluded. I undertook interviews with all of those approached who consented to participate. Hence, participants were self-electing. In total, 51 migrants were interviewed, among whom 26 were from *Gabura* and 25 were from *Natuarpara*. I interviewed both male and female migrants of different ages, and sometimes both husband and wife participated together in my interview. Table 3.3 and Table 3.4 provides number of interviewees and figure 3.2 shows

the places of migrants from *Gabura* and *Natuarpara* to different areas in Bangladesh. The occupations of male and female respondents were also identified. For those who migrated, the occupations are for after they migrated. During my interviews, in some cases, both males and females answered, but many times females were more talkative and had more information about the story of their households. In that case, I have considered the female as the respondent.

Table 3.3: Migrant Interviewees from *Gabura*

| Migrants | Farmer | | Labourer | | Businessman | | Service | | Other | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | M | F | M | F | M | F | M | F | M | F | |
| Shyamnagar | - | - | - | - | | - | - | - | 2 | - | 2 |
| Kaliganj | - | - | - | - | 2 | - | - | - | - | - | 2 |
| Satkhira | - | - | - | - | 2 | - | 1 | - | 1 | | 4 |
| Khulna | - | - | 4 | - | 2 | - | | - | - | 2 | 8 |
| Jhikargacha | - | - | 3 | - | - | - | - | - | - | - | 3 |
| Jessore | - | - | | - | - | - | - | - | 1 | - | 1 |
| Bagerhat | - | - | 2 | - | - | - | - | - | - | - | 2 |
| Gopalgonj | - | - | 2 | - | - | - | - | - | - | - | 2 |
| Khagrachari | 2 | - | - | - | - | - | - | - | - | - | 2 |
| Total | 2 | | 11 | | 6 | | 1 | | 6 | | 26 |

Table 3.4: Migrant Interviewees from *Natuarpara*

| Migrants | Farmer | | Labourer | | Businessman | | Service | | Other | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | M | F | M | F | M | F | M | F | M | F | |
| Kazipur | - | - | - | - | 2 | - | - | - | 1 | - | 3 |
| Sirajganj | - | - | 2 | - | | - | - | - | - | - | 2 |
| Sherpur | - | - | 2 | - | 7 | - | 1 | - | - | - | 10 |
| Dhunot | - | - | 1 | - | 1 | - | | - | - | - | 2 |
| Bogra | - | - | 2 | - | 3 | - | 1 | - | - | - | 6 |
| Dhaka | - | - | | - | - | - | 2 | - | - | - | 2 |
| Total | 0 | | 7 | | 13 | | 4 | | 1 | | 25 |
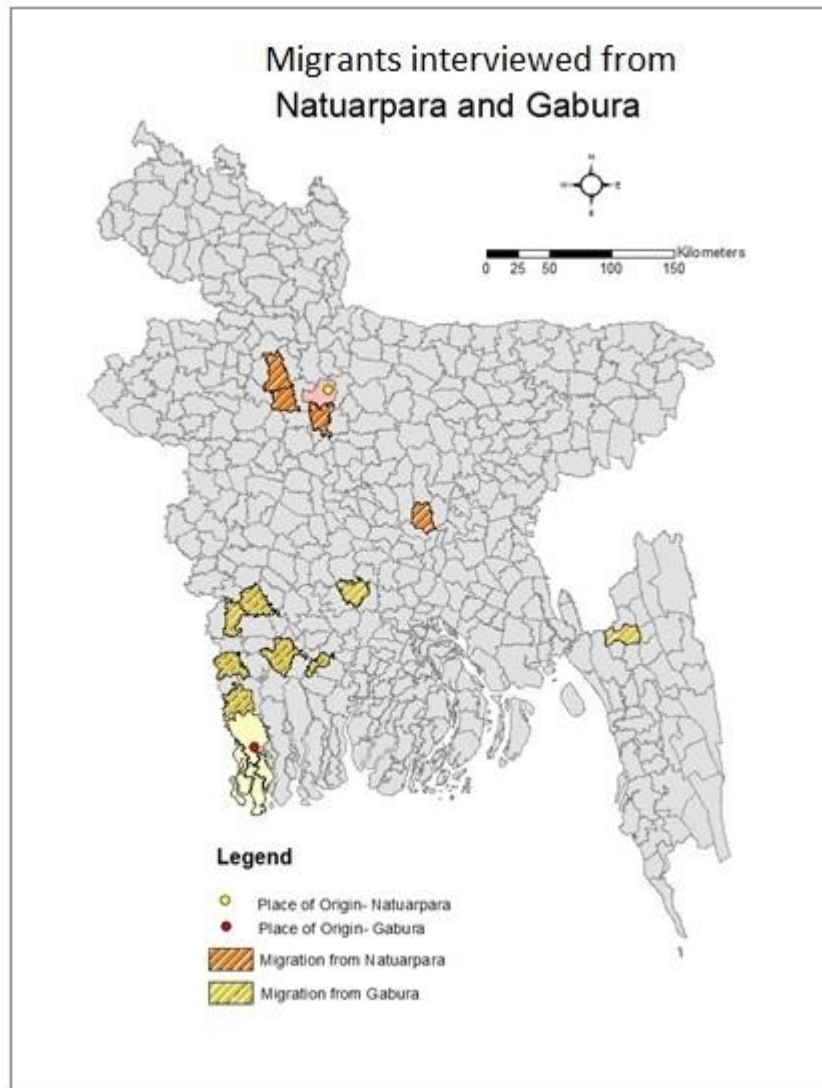
Figure 3-3: Place of respondents

### 3.4.3   The Interview Setting

Selecting the place and time for an interview is important (Devereux & Hoddinott, 1993). I conducted most of the interviews at the respondents' place of work.  For instance, I interviewed farmers in the fields, businessmen in their shops, fishermen on the bank of the rivers, teachers in the schools, and van (three wheelers) pullers on the roads. Some interviews were conducted at the respondents' homes, and in some cases, females (wife of male respondent) participated in the conversation with their husbands.

A related matter was making a suitable available time with the respondents for the interview. As I have mentioned above, most of the migrants and non-migrants were busy with their respective employment and livelihood struggles. I had to ask them if they would agree to talk with me on the issue of my research (verbal consent) and then request them to give me approximately two hours of their time at their convenience. One-third of the respondents were available for interview immediately after asking them; while others set the time for the afternoon on the same day, or on the next day. I interviewed the NGO officers at their offices, but the interview time was shorter than for the migrants and non-migrants.

### 3.4.4 Interviews

Through the interviews and the many informal discussions of varying lengths that I had with people, I attempted to gain an understanding of how natural hazards affected their daily lives, the principal causes behind the dramatic decision to either migrate or not to migrate, the reasons for choosing specific places of destinations, and the relationship (both positive and negative) with the locals (migrant receivers). As well as natural hazards, the social and economic drivers of migration, and the formal and informal politics in the place of origin of migration have also been considered.

Informal discussions were a key part of the research. Through informal chats, I was able to get a sense of the community, in particular who the powerful people of the village were, how they could help the villagers, and complaints about how they did not. I developed an understanding of the priorities that villagers sometimes felt were important to either stay in the village or to leave the village. Women were more interested in informal discussions. Such informal chats greatly contributed to the value of my interviews by providing the necessary information and the opportunity to ask more targeted questions.

All interviews were started with warm-up questions and easy queries about participants' backgrounds and general memories, following accepted etiquettes and based on getting to

know them. This made the conversation easy for me as well as giving me a sense of whether I should talk freely or whether the participant would require some encouragement. Once I got closer to the interviewee, I advanced to open-ended questions, allowing the interviewee to 'talk about the subject in terms of their own frames of reference' (Henn, Weinstein, & Foard, 2009: 186). Not all of the questions were asked of everybody according to the semi-structured questionnaire, but the key terms were covered throughout the interview. All the interviewees allowed me to write their names down in my diary. Some of the long conversations were recorded with their permission. Many interviewees felt happy when I took photographs of them and their houses.

I experienced several minor challenges while I was conducting interviews. First, most of the rural people did not know about research, so I was asked several times about what the benefit was for them; although none of them who gave time to me refused to participate in the conversation. I tried to convince them by saying that I am writing a book about their life stories. Moreover, understanding the local language was also difficult for me. In spite of being a native speaker of the Bengali language, I experienced difficulties with different terms of language and different pronunciation. This problem was more acute when the respondent was not educated at all. Sometimes I felt more interested and enthusiastic after learning the meaning of words or sentences from my research assistants.

### 3.4.5   Focus Group Discussion (FGD)

After spending some time in the field, I realized that group discussions were equally as useful as interviews for exploring different opinions. Focus groups are a common method of data collection in evaluative research. It is a dynamic process based on the interactions between multiple people, and data is generated in a group composed of the researcher and participants (Hesse-Biber & Leavy, 2010). It is also effective for exploring people's feelings, thoughts, and behaviours through triggering a chain of responses (Bloor, 2001).

I conducted nine focus group discussions in the place of origin and the destination of migration; four of them were in *Gabura*, and five were in *Natuarpara*. In line with Gideon (2012) who suggested a group can consist of between six to twelve respondents, all my focus groups included seven to ten individuals. While these groups were independent of age, no women took part in these focus group discussions. Every focus group discussion lasted from one hour and a half to two hours. The questions asked in the groups were on the same themes as for the in-depth interviews. Answers from the group interviews helped me to cross check and validate the information from households. Consent to participate was verbal.

People of several occupations contributed in the group discussions and some group members also participated in the individual interviews. Those I interviewed at farming places or at their homes took part in group discussions at the bazaar, in a relaxed and friendly environment. Other group discussions were organized in places mainly dependent on their professions. For instance, at the school and madrasa I invited participants for a discussion in their lunch/common room, where most of them take rest after having classes. In some other cases, I invited participants a couple of days earlier to attend a group discussion scheduled for a particular time and place. On those occasions I arranged for some biscuits and snacks so that the talk could be continued pleasantly.

I conducted group discussions with migrants and non-migrants, and in migrant receiving areas. In the receiving areas, I did not mix up migrants and receivers. As a result, every discussion was dynamic and lively. Moreover, the cross-checking of information was possible between individual interviews and focus group discussions, and even discussions of different groups of people. Detailed information about the number and places of the focus group discussions is summarized in the Table 3.4 below.

Table 3.5: Focus groups in *Gabura* and *Natuarpara*

| Migrants | | | Non-migrants | | | Receivers | | |
|---|---|---|---|---|---|---|---|---|
| Number of FGDs | Places | Number of participants | Number of FGDs | Places | Number of participants | Number of FGDs | Places | Number of participants |
| 1 | Khulna | 8 | 2 | *Gabura* | 7 and 10 | 1 | Jhikargacha | 8 |
| 2 | Sherpur | 12 and 7 | 1 | *Natuarpara* | 8 | 2 | Sherpur, Kazipur | 9 and 8 |

## 3.5   Data Analysis

In qualitative research, data analysis incorporates meaningful stories through the presentation of the lives and experience of interviews (Grbich, 2012). This demonstration involves systematic searching for and arranging transcripts, field notes and other materials collected as data from the research field. In order to present and share the important message in an understandable manner, the researcher needs to break, organize, reshape and synthesise the data.

In the same way, Dey (2003) suggests that Qualitative analysis is a circular process of describing, classifying (categorising), and connecting data. Therefore, the core of qualitative data analysis lies in the process of describing phenomena, classifying them, and seeing how our concepts of the data interconnect (Dey, 2003). Likewise, Boeije, (2009: 93) explains that

"Qualitative analysis is the segmentation of data into relevant categories and the naming of these categories from the data. In the reassembling phase, the categories are related to one another to generate theoretical understanding of the social phenomenon under study in terms of research questions."

In this study, I transcribed all recordings and transcriptions collected from interviews and focus group discussions into English (from Bengali). Then I grouped data according to the

respondents, e.g., migrants, non-migrants, and migrant receivers. Using computer assisted software NVivo (version 10), I categorized all data from all groups that corresponded to a certain theme and research question. This categorising process of coding is referred to as nodes in NVivo. Different names were used for each separate node that helped me to analyse different themes.

I have presented the results of the analysis data in the chapters 4, 5, 6 and 7 of this thesis. During analysis, I used parts of dialogue from the interviews relevant to the corresponding themes, or sub-themes. I have also used an annotated term for each the interviewee whose dialogue is being used. For instance, INT_GAB_MIG (Interview_*Gabura*_Migrant), INT_NAT_MIG (Interview_*Natuarpara*_Migrant), INT_GAB_NMG (Interview_*Gabura*_Non-migrant), and INT_NAT_NMG (Interview_*Natuarpara*_Non-migrant). Moreover, when I have used names for interviewees, those names were pseudonyms.

## 3.6   Ethical Considerations

Ethics is an important part of human research which ensures that the researcher does not exploit or deceive participants. Since I conducted my research with human participants, and outside Australia, I had to conform to the 2007 National Statement on Ethical Conduct in Human Research.  The James Cook University Research Ethics Committee (HREC) reviews all research and teaching applications in accordance with the National Statement on Ethical Conduct in Human Research, 2007. This research project was approved by the HREC under the project **H5096**, dated 22/09/2015. During my research the following significant ethical aspects were ensured:

**Informed consent**

The fundamental requirement to the researcher's introduction is informed consent. Participants should be informed about the nature of the research and they are expected to be involved as part of the research (Boeije, 2009). They may choose whether or not to participate. Participants should also be informed about the direction of the research (Wiles,

2012). During my fieldtrip, I introduced myself and explained about the research. Then I invited potential participants the opportunity to be interviewed. I also gave them the right to withdraw their participation at any time of the interview. All consent was given verbally because participants were the most comfortable with that way.

**Privacy**

Privacy refers to control of the passing of information of individuals or institutions to others. Without consent of the participants no personal or institutional matter should be disclosed to anybody that could be sensitive (Mauthner, 2002). In fact, privacy should be guaranteed by the researcher for written or other communication (Boeije, 2009). Moreover, managing privacy of participants is not only ethically important, but also a moral obligation of the researcher. In this research I kept maintaining this ethical privacy rule strictly. During data collection, I did not disclose to the participants what others (maybe their relatives and neighbours) said. For example, in the consequence of migration section, there were objections of some groups, such as, migrant and migrant receiver respondents. Moreover, I have not hyperlinked the recorded conversation in my thesis to anywhere.

**Confidentiality and anonymity**

Confidentiality ensures the privacy in terms of data handling in the research that should be dealt with in the informed consent statement. It is also connected to anonymity which ensures that a participant's name, identity and specific address will not be attached directly to the data (Boeije, 2009; Wiles, 2012). Therefore, any publication will neither use the real name of the participants nor refer any identification that may lead to direct identification of the said person. Only the researcher can identify participants during the analysis of data using a code book. Once the research is done, data materials and the code book should be stored in a locked cabinet; if it is in digital form then a strong password should be used to protect the file. To ensure anonymity, I have used pseudonyms throughout the thesis.

## 3.7    Chapter Conclusion

In this chapter I have described the methodological approaches that I used in the research. In the first section I argued that a qualitative research methodology is important for migration studies in order to understand the root causes of the movement. Then I have set my research study areas in Bangladesh affected by extreme climatic events; *Gabura*, situated in the southwest coastal areas in Bangladesh affected by cyclone and tidal surges, and *Natuarpara*, affected by flood and river bank erosion situated in the middle part of the country. In the next section I described how I entered my study areas and how I developed a rapport with the villagers. I also relied on research assistants to get closer to the respondents and to understand their local terms of language. I discussed the methods I employed for collecting data, namely observation, interviews, and focus group discussions. Using NVivo software, I classified data into several sections and subsections. I used part of dialogues of interview relevant to the corresponding themes, or sub-themes for analysing the data I obtained. I have also followed the ethical rules in doing research in Australia and conformed to the 2007 National Statement on Ethical Conduct in Human Research. The following chapter will be the first to present the results of the data analysis.

# CHAPTER 4: DRIVERS OF MIGRATION – PUSH AND PULL FACTORS IN *GABURA* AND *NATUARPARA*

## 4    Introduction

The purpose of this chapter is to examine the factors that contribute to migration. Within the literature, these factors are broadly divided into two categories – push factors and pull factors – which are examined in relation to both the origin and destination places of migrants. Push factors are those which contribute to decisions to leave a place, whereas pull factors are the conditions that attract people to a particular location (Lee, 1966; Schoort, 1996). Basically, all negative factors are identified as push factors; such as poverty, lack of employment opportunities, political or religious persecution, and environmental problems. Conversely, all positive factors, such as the demand for labour and the opportunities for  higher wages, better living standards, political and religious freedom, family reunion, and comfortable weather operate as pull factors attracting people to particular locations (Lee, 1966; Parkins, 2010). People do not migrate until they are affected by negative factors or influenced by positive factors. These factors help people to take the decision to move, but not all affected people migrate. Moreover, the context of sending and receiving places or countries are also important determinants for the process of migration. For example, if the place of origin or sending countries' economic condition is far better than the receiving countries, and sending countries have demographic pressures then migration flows may start (Timothy J Hatton & Williamson, 2002). In this case, analysis of costs and benefits by each individual decision maker play a significant role in the decision to migrate. (Amin & Mattoo, 2007). This chapter is presented in two parts; part one deals with the push factors in the places of origin, and part two addresses the pull factors operating at places of the destination.

## 4.1   Push Factors

The push factors discussed in this chapter are subdivided into three sections; economic drivers, social factors, and climatic hazards. Each of these sections is expanded through further subdivision into more specific factors. In the section on economic drivers, discussion focusses on loss of livelihoods in the *Sundarbans* area, loans provided by NGOs, damage resulting from fish farming, the decreasing fish population in rivers, and the lack of job opportunities. Robbery and abduction, political conflicts, crime and corruption, and house looting during hazards are considered as social factors. Flood, river bank erosion, cyclone, and tidal surges are included in the section on climatic hazards.

### 4.1.1   Economic Drivers

Economic drivers have a direct impact on migration. Wage differences between regions, especially the differential of expected wages in the place of origin, drives migrants from rural  to urban areas (Lilleør & Broeck, 2011). The following discussion addresses the economic drivers that have been found to impact on people in *Gabura* and *Natuarpara*:

#### 4.1.1.1   Loss of Livelihood in the *Sundarbans* Area

The *Sundarbans*, the largest mangrove forest in the world, has historically provided one of the main sources of income for local people living in close proximity to the forest. In the 1990s, the people of *Gabura* who were living around the *Sundarbans* faced economic challenges when they lost their income from this forest. Some respondents, who were more than 40 years old at the time of interviewing, discussed the limitations on entering the forest:

> INT_GAB_MIG_17: … I used to do 'jungle' (used to go to the forest for wood, honey etc.) for many years, but then the government decided not to allow us to enter there … I moved to Jhikargacha after stopping 'jungle' in 1995.

INT_GAB_MIG_10: … Officers take bribes; it is hard to benefit from this illegal activities… Even the woods of the *Sundarbans* are no longer being used like they were.

INT_GAB_NMG_3: … A house made of *golpata* is not sustainable. People are using other materials which can resist cyclones.

INT_GAB_NMG_4: … The government and other NGOs have stopped us from entering the *Sundarbans*. Though fewer are involved in forest activities; it is not profitable now … Many moved from the place after becoming jobless.

The *Sundarbans* was the source of livelihood for many villagers. They used to go to the forest for multiple reasons: collecting *Sundari* and *Goran* timber and *golpata* (Nipa Palms) (figure 4.1), hunting deer, gathering honey, and fishing in the rivers. As in south-western and other parts of Bangladesh, there is a demand for *Sundari* and *Goran* wood for making furniture. As a result, *Sundarbans* villagers used to cut down trees and collect wood illegally from the forest; they even collected fuel wood to sell. Similarly, *golpata* was also in demand as the main material for building houses in the coastal areas. Many people of *Gabura* would go to the forest and return with a boat full of *golpata* to sell in the local market. This was one of the main sources for their livelihoods.

Illegal logging/cutting of wood continued in the *Sundarbans* for many years. As a result, the larger trees disappeared and some parts of the forest were cleared. This coastal mangrove forest provides protection from the severe damage of powerful cyclones that occur in the south-western part of the country (Smith & Mansur, 2012).  In response, various steps were taken by the government, NGOs, and international agencies such as UNESCO and the World Bank to protect the biodiversity of the forest and to prevent illegal logging. It has been also recognized as an internationally important Ramsar site (Getzner & Islam, 2013). Subsequently, it became more difficult for villagers to illegally cut trees and collect timber from the forest.

Furthermore, the demand for timber from the *Sundarbans* decreased because individuals or companies throughout the country were planting many trees for timber production, including Mehogoni, Rain tree, Sal, Teak etc. As well, *golpata* collection was also reduced because the durability of houses made from *golpata* is very limited; such houses cannot tolerate even a mild storm.



Figure 4-1: Golpata in the Sundarbans

Honey was also collected from the forest. A group consisting of eight to ten people would go in a large boat to the mangrove forest of the *Sundarbans* to collect honey. Many bee hives can be seen in the big trees and bushes in this forest. The honey collectors create smoke by setting a fire and then collect the honey from these hives. Every group used to stay 30-40 days in the *Sundarbans* and collected up to 100-150 kg honey. This honey was in high demand throughout Bangladesh. However, the constant collection of honey by people of *Gabura* and some other areas created heavy pressure on it. Subsequently, the production of honey has decreased because people could no longer collect the quantity that they needed. Therefore, many left this occupation and started looking for alternative livelihoods.

In 2002, Mofizul Islam came to Khulna from *Gabura* and to work at soil excavation for making buildings. Before this, he used to work in the forest, that is to say he was

part of a team or group. That group used to go to the forest by boat to collect timber, and sometimes honey. Because of the difficulties in the forest work in *Gabura*, he moved to Khulna in search of new job. In 2005, he married in *Gabura* but did not take his wife to Khulna from *Gabura*. He used to go to *Gabura* fortnightly to see his family and used to stay there four or five days. One day, when cyclone *Aila* came along with a tidal surge, Mofizul went to *Gabura* with a hired trailer and took his wife and only child to Khulna, and since then, they have lived in this divisional city. Like Mofizul, many have come from *Gabura* and its surrounding villages to Khulna and settled in a small suburb named Mohammadnagar. Some of them came before *Aila*, and many of them after *Aila*. There is a social bond between these families. They help each other and share their happiness and woes. When Mofizul Islam brought his family to Mohammadnagar, he rented a house with the help of a family who were also from *Gabura*. By this time his second child was born. This family does not want to go back to *Gabura*. In response to the question about his return to *Gabura* he said, "There are many types of jobs in Khulna, if I return to *Gabura*, how will I feed my wife and children"?

In addition to those factors mentioned above, the collection of timber and honey in the *Sundarbans* is unsafe because of the presence of the Royal Bengal Tiger in this forest (Inskip et al., 2013). Many people have been killed by this dangerous animal, and many others have been injured, even suffering permanent paralysis.

INT_GAB_MIG_10: Every three months we (team of five to seven people) used to go to the *Sundarbans* for three to four times for gathering honey. One day, one of our members was attacked by a tiger (Royal Bengal Tiger) and he was killed; two others were seriously injured. We came back immediately. Then my wife did not allow me to go there ... I brought all my family here (to Khulna).

INT_GAB_NMG_11: … My uncle was found dead in the jungle. He was the only earner of his family … Tigers like human flesh. They can sense human presence from a long distance.

INT_GAB_MIG_8: … Oh! Lots of problems in *Sundarbans*! Royal Bengal Tiger, Robbery and even the forest officers …

Besides the presence of tigers, atrocities committed by robbers are another difficulty faced by the villagers of *Sundarbans*. Indeed, many people blame robbers for their loss of livelihoods from the *Sundarbans* forest. The robbers are reportedly increasing their activities day by day; kidnaping hardworking labourers from the *Sundarbans* and demanding huge ransoms for their return.  In some situations, poor families have had to sell their homesteads to rescue the victim, and in extreme circumstances where the ransom has not been paid the victim has been killed. This is a major livelihood hurdle experienced by the people of the *Sundarbans*.

INT_GAB_MIG_5: … I was forced to pay to the robbers in the *Sundarbans* in 2004. My family sold all our belongings and managed the 25,000 taka to pay the ransom. I started living like a beggar. Then I came alone to Satkhira city and managed a job as a mason. After cyclone *Aila*, I brought all my family members here.

INT_GAB_MIG_16: There are many robbery groups in the jungle (forest). All the time they ambush us. Once we are caught, they call our family by mobile phone to demand a high amount of money.

INT_GAB_MIG_8: Last time I had to pay twice to two different groups. First time my wife paid 5500 taka, and the second time 1600 taka. I was also captured for more than three weeks. Since then, I have stopped going there.

The people of *Gabura* identified several reasons for needing to find another source of living. Despite the potential to derive livelihoods from this rich natural resource, in the

*Sundarbans*, the threats identified forced them to find another source of income. Alternatives included fishing in the local areas or working in the agricultural fields. However, subsequently these choices were also destroyed and led to people being displaced.

### 4.1.1.2  Loans from NGOs

Taking loans from NGOs is a very common practice in the coastal areas, especially in *Gabura*. While migrants from *Gabura* did not acknowledge getting loans from NGOs, officials claimed that many people took loans from their organizations between the cyclone events of *Sidr* in 2007 and *Aila* in 2009 and that many of these people then permanently left the village after cyclone *Aila*.

> A Manager of an NGO: … We distributed loans among 122 families in *Gabura* Union. Out of them, around 65 families have disappeared (migrated) after *Aila*. Many of them took loans from other NGOs as well.

> Manager of another NGO in *Gabura*: … In some families, both husband and wife took the loan. They even went to maximum NGOs without disclosing their loans from other organisations.

> Likewise one NGO officer:

> We attempted to figure out where they have moved. But the success rate is really low. Now, we have virtually closed this chapter.

Poor people of *Gabura* took loans because of cyclones *Sidr* (2007) and *Aila* (2009) ranging from 30,000 to 50,000 taka. Some men used their wives' names for further endorsement from the NGOs where they had already used their own names to access loans. Doing this repeatedly resulted in a large liability which they were either unable to return or simply failed to make the regular instalments. When cyclone *Aila* came in 2009 they lost their houses and subsequently moved away to different locations. NGO officials claimed that people did not return because of the loans.

### 4.1.1.3 Transforming Agricultural Land to Fish Farming

Bangladesh is dominated by agricultural products where 19.6% of the country's GDP (Gross Domestic Product) is contributed by agriculture, and approximately 63% of the total population is involved directly or indirectly with agricultural businesses (Habiba, Abedin, Hassan, & Shaw, 2015). Rice is the staple food and is heavily cultivated throughout the country. As a result, a major portion of rural workers are involved with this cultivation. However, in many places across the coastal areas of Bangladesh, people are changing their agricultural practises resulting in fewer workers being needed and more benefits gained. Consequently many rural workers are losing their occupations. For example, six-migrant respondents from *Gabura* explained how they lost their employment during their time in the village. The transformation of agricultural lands to fish farming is a major cause of such unemployment:

> INT_GAB_MIG_18: … We came here (to Jhikargacha) about fifteen years ago. We were jobless as people started doing fish farming.

> INT_GAB_MIG_2: … Land owners were doing cultivation of white gold (shrimp) and I lost my job … I was working in paddy fields.

> INT_GAB_MIG_3: … Shrimp cultivation has spoiled a lot in *Gabura*. Like me, many people lost jobs.

> INT_GAB_MIG_6: … Shrimp cultivation requires fewer workers, but it is a large profitable business. It makes you a *lackopoti* (millionaire) within a couple of years.

> INT_GAB_MIG_1: … *Gher* (fish farm) has destroyed our arable lands. They connected their *gher* through cannels to the river for saline water for shrimp cultivation. Now the lands have become unfertile; rice cultivation is not possible.

> INT_GAB_NMG_13: … The rich came from Satkhira city and hired land in our area. They turned the use to *gher* with saline water and we became jobless.

Before 1995, paddy cultivation, especially of *Aman* rice and *Boro* rice varieties, was a major activity carried out by farmers in *Gabura*. While some farmers had their own lands, others were cultivating paddy by taking lands on lease from others. Many landless farmers worked as labourers on these farms to earn their livelihoods. As rice cultivation and processing requires many day labourers, most of the poor were able to get work in the paddy fields. Sometimes the land owners experienced labour shortages during the *Boro* rice season from February to April, and women would also work in the paddy fields beside their men.



Figure 4-2: Fish farms in *Gabura*

Like other areas of the South-western region, fish culturing in *Gabura* began around 1990 with much of the agricultural land being converted into fish farms (figure 4.2). As fishing was a profitable business, not only did influential local farmers transform their agricultural land into lowlands to allow the saline water of the sea to enter, but many businessmen also took the agricultural lands of the local farmers of *Gabura* on lease for fish farming. As a result, within two to three years approximately three-quarters of all arable land was converted into fish farms and the people associated with the paddy fields lost their jobs.

Irrespective of the many environmental problems, fish farming became popular with the people of the coastal areas of Bangladesh (including *Gabura*) because of four reasons. Firstly, rice farming requires much more effort and labour than fish farming. In fact, fishing requires less than one-quarter of the labour required for agriculture. Secondly, it ensures a profit of at least five times greater than rice production. For instance if production is good, the profit from rice farming is 20,000 to 25,000 taka per acre whereas the net profit on the same land via fish farming can be at least 100,000 taka. Thirdly, unlike in the rice trade where the net payment is mostly via debt schemes, in the fish trade net payment is in cash. Finally, while paddy requires further processing after farming, fish farming has no such processing; when fish are ready the dealers are responsible for catching the fish themselves and then paying the fish farmers.

Many businessmen entered *Gabura* from the nearby cities, including Satkhira and Khulna and leased acres of land from the local farmers to cultivate fish. Local land owners were enticed to lease their land as they received handsome amounts of money without doing any work. Land prices in *Gabura* increased three to four times, and poor labourers not only lost their jobs but also lost their hope of buying a piece of land. Thus they became relatively poorer and the only option left for them was to migrate.

### 4.1.1.4   Lack of Fish in Rivers

Another economic factor affecting migration is insufficient fish in the rivers that flow through this region. Many people expressed their concern about the availability of fish in the rivers close to *Gabura*, and both those who remain and those who didn't migrated claimed that many fishermen had stopped fishing in the rivers over the last ten to twelve years. Villagers and migrants claim:

> INT_GAB_MIG_18: … Running my house was difficult with fishing. I tried to get a job in a fish farm, but failed.

INT_GAB_MIG_20: … In a day we did not get even one kilogram of fish. Rivers of this region have become more turbid and saline. I changed to being a day labourer in the agricultural fields which was also scarce and irregular. Then I shifted to here (Jessore).

INT_GAB_NMG_17: … How will they get fish in the rivers? It seems fishermen are more than the fishes in the rivers. Mother and child fishes don't even get to escape from their hands. They don't think about the future impact.

INT_GAB_NMG_8: … Many people who were involved in small-boat and net manufacturing became jobless. Many of them moved to other options, but some have left the place.

There are many small and large rivers in the coastal areas. Fishing in these rivers is an important livelihood for the people of *Gabura*. They sell the fish they catch from rivers every day to the local markets. A group of people trade these fish from the local market and sell them to city areas for a high price. Fish is an important everyday food item and river fish has an additional worth to the people of Bangladesh both in taste and in nutrition. A profound change has been noticed in this work over the last decade, such that today fishing is inadequate to support a family.  The increased turbidity and salinity of the water, along with over-extraction has resulted in the deficiency of fish in the rivers. This shortage of fish has negatively impacted three types of occupations: fishermen, fish traders, and boat and net manufacturers. Although fish traders are nevertheless involved with the business of fish farming, many fishermen and boat and net manufacturers have had to change their occupation. Some of those who could neither maintain their previous jobs nor adopt a new situation in *Gabura* have thus migrated.

Figure 4-3: Shrimp spawn collection in a river of *Gabura*

Moreover, *Gabura* is famous as a supplier of shrimp spawn. Collecting shrimp spawn from the rivers is an additional business for the people of *Gabura*, especially the women and children (figure 4.3). Shrimp export to foreign countries plays an important role in the national economy of Bangladesh (Afroz & Alam, 2013). Thousands of shrimp farms have grown up in the coastal belt of the country. The demand for marine shrimp spawn is enormous and many people are involved in collecting spawn to supply the shrimp farms. However, high-levels of human traffic along the banks of the coastal rivers have damaged the territory of the shrimp. As a result, few spawn are now collected from the day-long effort, and this has an indirect impact on migration.

> China Hor is a 36 year old woman. Her husband is involved in the making and selling of fishing nets in the local market. She helped her family by collecting shrimp spawn and selling them to the farms. Her neighbour, Putul, was her helper in shrimp collection. But seven years ago Putul left the village with her husband to move to Satkhira. As China said, 'days are getting more difficult now. We (Putul and herself) used to make up to 80 taka per day each. But her fisherman husband took her to

Satkhira. Now when I go with my eleven year old boy some free days for fishing (in the river), we can only earn a maximum of 50 taka per day'.

### 4.1.2 Political Factors and Crime

Political factors such as political instability and crime, often identified as push factors, have a direct effect on migration. The illegal exercise of political power within a particular region can cause the breakdown of law and order and this can lead to internal displacement. Moreover migrants, who may be within the state or outside the country, recognise the negative impacts of local conflicts on migration (Black, Adger, et al., 2011). In this section I discuss conflicts, corruption and house looting patronised by politics or local leaders in the *Gabura* area and *Natuarpara* union.

### 4.1.2.1 Political Conflicts and Corruption

Political conflicts and corruption are common practice in Bangladesh. Political leaders or activists get undue priorities and opportunities to earn money and become rich in a short time. There are many conflicts across the country and losing candidates sometimes need to leave the place of their activity. In both *Gabura* and *Natuarpara*, political conflicts are identified as a cause for migration and as a contributing factor to the dishonesty in relief operations. Elected chairmen recruited young local boys as gangsters who were then used to take possession of *chars* (new lands inside the rivers). According to interviewees:

> INT_GAB_NMG_7: … Village politics is horrible; local politicians try to be elected forcefully during elections. They cultivate many unemployed young boys for illegal operations in the polling centres.

> INT_GAB_NMG_5: … The gangsters of the present and past chairmen are actually dangerous. They control voting centres and relief goods.

INT_GAB_MG_14: I was having good relations with the Chairman. After *Aila*, when I became jobless, I joined his gang. I used to receive money and relief regularly. Soon I realized, my involvement is getting more and more dangerous. He gave me a weapon and made me the leader of his gang. I even led some looting of opposition houses. My mother told me to leave. I said to my mother that they would kill me if I left. One night, I left the village with my family and came to Khulna where my brother lived.

INT_GAB_MG_5: … We were victimized by village politics. Our Chairman did not like us as we favoured the previous chairman (another candidate) during election. As a result, our names were never being listed, and we couldn't get any help or receive any aid.

INT_NAT_MG_7: … We got new char land (land that reappears inside river) in the river; legally it belonged to my father and uncles. Another group of villagers claimed the same land. We had a big fight. The Chairman went against us and we lost. Afterwards, we left our village.

INT_NAT_NMG_11: … People of char areas are always ready to fight; many deaths have been reported in such fights to occupy chars. The losing group has to leave the area; many of them can be found in *Sherpur* Thana.

In addition, political violence and conflict were common in *Gabura* and *Natuarpara*. Local elected Chairmen and members of the union council were actively involved in this violence. Indeed, the increased frequency of political turmoil during the election time was instigated by these local leaders. Being a supporter of a leader of the ruling party is a lucrative position enabling a person to benefit from the distribution of relief goods, government lands and resources. As revealed above, jobless youth would join the team of hoodlums. However, after having committed crimes or being involved in other incidences, such people used to

be scared and would move to different areas to hide themselves. Sometimes, parents and other family members would also migrate with them, if he/they are the earners of families.

Some poor people have left the area and some remain. The aid provided by the NGOs and other organizations is confined to the poor and middle class families. It is found that the same person or family was receiving relief/aid from different NGOs or donor organizations in different ways. Several elected chairmen or council members compile a list which includes the names of their relatives, known families, and persons who belonged to his/their party. Staff from the various organizations make initial contact with these elected members and chairman and then they provide aid according to the list. As a result, the same family benefits from aid/relief received from different organisations. The relief may include cash, food stuffs, or building and construction materials. On this basis, certain families received materials and were re-established under better conditions than before the event. On the other hand, the non-receiving group became helpless and migrated.

### 4.1.2.2  House Looting During Hazards

Some respondents of *Gabura* were victims of house looting during natural disasters. When they left their houses to take shelter in a safer place, looters and thieves stole all of their valuable belongings.

> INT_GAB_NMG_9: … I lost rice and everything when I was in the cyclone shelter.

> INT_GAB_NMG_14: … Some young boys, who had a bad reputation in this village, found the opportunity to steal and loot things and goats from affected houses.

With the sudden onset of a natural disaster such as floods and tidal surges, people take shelter either at a distant place or close to their homeland. They keep their valuables and usable belongings in the house or in a locked room in the house. When nobody is at home, looters and thieves entered the houses to steal these items. When people returned to their

houses many could not find their belongings from the pre-disaster period. This in turn causes migration.

'My house was looted on day after *Aila*', said Sokhina Begam. Along with her husband, she used to live in the southern part of *Gabura*. When the tidal surge came, they took shelter on the roof of their house which was made of straw. In the evening, five young males came with a boat and entered into their house. At first, they thought, they were coming to rescue Sokhina and her family. At the end, they took two-bags of rice, money and Sokhina's ornaments. Sokhina's husband recognised two of them, but he did not report anywhere. They said, 'we got scared and felt insecure about living in the village. Later, we took the decision to move to Khulna'.

### 4.1.3   Climatic Hazards

As mentioned earlier (chapter 1 and chapter 2) Bangladesh is a typical example of natural or extreme climatic hazards of the world. In this section I have analysed how extreme weather events contribute to the displacement of affected people from the two study areas. In my study area, four significant drivers related to extreme climatic events were considered for migration; floods, riverbank erosion, cyclone, and tidal surges. *Natuarpara* is mostly affected by flood and river bank erosion, whereas *Gabura* is affected by cyclone and tidal surges.

### 4.1.3.1   Flood and River Bank Erosion

In this section I argue that people of *Natuarpara* have migrated because of flood and river bank erosion. As mentioned in Chapter four, *Natuarpara* is the area in Bangladesh most affected by flood and river bank erosion. Therefore these two hazards are considered together in this section in relation to *Natuarpara* and the other study area, *Gabura,* is excluded. Interviews with migrants from *Natuarpara* who moved to different locations, including rural and urban areas, and non-migrants at *Natuarpara* are analysed. This analysis

considers how people were affected by flood and river bank erosion and afterwards, how they made the decision to migrate.

Migrant interviews reveal a repetitive response to the effect of flood and river bank erosion. Irrespective of different time frames and a person's occupation, during their life span migrants experienced having to shift their house ten to fifteen times within the village before finally migrating.

> INT_NAT_MIG_6: I lost everything in the flood of 1988. I brought my family here (in *Sherpur*). Since the flood of 1988, many people have left the area and a notable portion of them has come to *Sherpur*.

> INT_NAT_MIG_14: In *Natuarpara* I was working as a carpenter. I used to make wooden chairs, tables, etc. I had a small shop there and I was well off. I built my house on my parental land which was eroded five times. Being disappointed I left *Natuarpara* and moved here (*Sherpur*). Now I have a business processing rice.

> INT_NAT_MIG_22: I used to work as a revenue collector in a small city close to Dhaka. It was a government service and salary was very minimal. I had a permanent residence in *Natuarpara* where my family members used to live and I used to visit to my family in every two or three months. But the house was shifted five times inside my village because of river erosion, which was very difficult for me to maintain the shifting process being a service holder at another place. Then I decided to migrate to a place where I could live without anxiety.

> INT_NAT_MIG_16: Erosion mainly started just after 1970. My forefathers lived here also, but they were never a victim to erosion. They did not need to shift their house.

Flood and river bank erosion is a continuous process in *Natuarpara* village. Indeed, the villagers have to face floods – which may become fatal – four to five times every year. As the village is very close to the Jamuna River, sometimes riverbank erosion is an added

element to the flood. While normal flood waters run off within a few weeks and villagers are not particularly worried, some big floods, like the floods of 1988, 1998, 2004 and 2007, were large enough to damage houses and farms. People informed me through focus group discussion, if river bank erosion coincides with these big floods then the situation becomes even more dangerous and villagers have no other option but to leave the place without their belongings. Initially they select other places within the village or in nearby villages. Following another similar disaster, they will again choose the shortest distance to safer places. This cycle continues until they fail to find a safer place. Feelings of anxiety increase and one day they make a final decision to move to a place a long distance away; to either another rural area or to a city area.

Four respondents from *Natuarpara* said they used to work in different cities. However, during their working life they did not take their families (wives or children) with them because of the expenses associated with living in those cities. Finally, after their retirement, they took their families from *Natuarpara* and settled in other cities.

> Shahjamal, a 65 year old man, came to Bogra from *Natuarpara*. His house was on Jamuna's bank which receives floods very frequently. In 1988, he was working in a jute mill at Khulna and his daughter was taking her Bachelor examination at *Natuarpara*. On one Thursday he came back to *Natuarpara* from Khulna, his workplace, as they were planning to visit his daughter's expected groom on the coming Saturday. But a night before the planned day, the coastal embankment was swept away; the water level rose dangerously until the roof of houses and the whole area was submerged. This flooding badly affected their house as well as their social lives such as their daughter's marriage. Siddique, Shahjamal's brother-in-law, was a BSc engineer and the manager of a Government housing project at Maldinager in Bagra. After hearing the flood news he came with a boat to rescue them. Since then Shahjamal's family shifted to Bogra and settled permanently after his retirement in 2000.

Similar to the migrant interviews, there was a consistent repetitive answer from the non-migrant respondents. Certainly, almost all respondents said that floods and river bank erosion were the primary cause of migration. However, there were two responses that indicated a different cause; INT_NAT_NMG_4: '… It (migration due to floods and river bank erosion) was the reason before, but now more people are moving towards Dhaka for job purposes'. INT_NAT_NMG_10: '… You will see many people of this village who are working in the garment factories in Dhaka city. During Eids (religious festivals), most of them visit this village; take away more young male and female labourers with them. We have two garment factory owners from this village'.

Here, villagers are benefitting in two ways: firstly, Dhaka city – where most of the garment industries have been established – is not too far away from *Natuarpara* and secondly, two garment owners who were settled in Dhaka were born in *Natuarpara*. These owners, who have more than one garment factory each, reportedly, have a great sympathy for the poor villagers and recruit most of their labourers for their factory from this area. Moreover, labourers who were working in this sector have provided assistance to the villagers. As a result, many affected families who did not migrate earlier have more recently been provided with a job in the garment factory. Conversely, there were affected migrants who did not benefit because they did not have contact with either the labourers or the owners. Despite the limited opportunity for employment, the number of migrants who have moved due to flood and river bank erosion is substantial, and this can be understood through the discussion of the following non-migrants' interviews.

> INT_NAT_NMG_5: … Difficult to say how many people have lost their houses and how many people have left this area.

> INT_NAT_NMG_9: … Many people have migrated because of river bank erosion and flood. But most of them didn't go permanently; they came back to the village after three to four months.

INT_NAT_NMG_6: … The effect of flood and river bank erosion was stronger five to seven years ago, but now it only floods; little river bank erosion is seen. At present I don't have any land or resources left, everything was taken by the Jamuna River. But some *Char* area is seen in the place where we used to live, but that is unfertile sand only; still we cannot cultivate any crops there.

INT_NAT_NMG_17: … Flood and river bank erosion are the main environmental hazards in this area. Their impact is severe. Floods force people to leave their houses, but it is temporary. River bank erosion takes every single thing into the river which is permanent … People cannot cultivate in the sandy char areas. In total, everything is beyond description. But river bank erosion is now less than before; the situation has improved, now only flood affects us.

INT_NAT_NMG_3: … At the time of flood, if you look around you will find only water, water is everywhere. Everything of ours just floats away or goes down into the river. River bank erosion is more dreadful. It makes us so anxious and depressed when we understand that we are not going to get back anything; we are not able to rescue anything. We can only take our body from these hazards and move to other places with no hopes and certainties. Although over the last two to three years the effect of river bank erosion is less.

Flood is a distinct disaster; every year it comes during the period of the rainy season. During a flood, water remains stagnant for weeks and the village becomes isolated as all means of access remain closed. River bank erosion is related to floods; although all floods do not cause river bank erosion. Most of the non-migrants who are living in the village have also experienced the effect of river bank erosion on several occasions which has forced them to shift their houses inside the village. Successive shifting of houses in conjunction with the loss of homelands and farmlands is a cause of permanent migration.

### 4.1.3.2 Cyclone and Tidal Surges

This section discusses how cyclone and tidal surges lead people to migrate from coastal areas to different locations in Bangladesh. Given there is no impact of tidal surges and only minimal impacts from cyclones at *Natuarpara* (which is not enough to work as a push factor), this section focuses only on *Gabura* village as one of the study areas located in the coastal range of the country.

### 4.1.3.2.1 House Damage

One of the main problems that led some respondents to leave *Gabura* was the damage to houses and property due to cyclones and tidal surges. In response to the question "why did you migrate", most of the affected interviewees claimed that cyclones *Aila* and *Sidr* as well as tidal surges from the southern sea (the Bay of Bengal) had destroyed their houses, blown away the schools, damaged trees and vegetable gardens, and killed their domestic animals (cattle, goats, ducks, chicken, etc.).

> INT_GAB_MIG_13: … Well, just the fact that … it's hard to explain. We had a well-organized home; vegetable garden in the yard, and three goats and some hens were part of my family which helped me to earn additional money. Now, I have nothing; everything was swept away with the giant tide.

> INT_GAB_MIG_16: … It is unbelievable. If you go now to where we used to live, you will not believe that once there were some houses in that place. There is no trace of our houses which was made with mud and straw. After a lot of trouble, we took shelter at a cyclone centre and then managed to come out here (Khulna).

> INT_GAB_MIG_12: … First we took shelter on the roof of our house then we were two days on a boat. In the meantime, *Aila* destroyed our house. Then we took the decision to come to Binerpota, Satkhira where we stayed two months and then came here to Khulna.

Most of the houses in *Gabura* were made with mud, straw or tin, known as *kacha* houses. Cyclone *Sidr* and *Aila* destroyed not only the *kacha* houses of *Gabura* village, but also the schools and many of the small business shops. Many people, men, women and their children, had no place to live immediately after the cyclones because their tin shacks were flattened and their *kacha* houses destroyed. After taking shelter in different places, including cyclone centres and on the roof of houses, they returned to their houses to find them either totally unusable or no longer in a position where they could re-build. While some kept waiting for better conditions to re-build, others saw no hope and left the area for different destinations.

### 4.1.3.2.2  Frightening Situation

Some women (the wives of interviewees) who witnessed dead human bodies, including those of children, were frightened by the cyclones and forced their husbands to leave the place. Cyclone *Sidr* hit the coastal area in 2007, followed two years later by Cyclone *Aila* and a tidal surge. Many of the people of *Gabura* started to think that this kind of disaster would increase in frequency and continue to impact on their lives, including their children.

> Shanewaj is 43 years old. He came to Khulna just a day after cyclone *Aila*. Seeing the pathetic condition of women and children he was very frightened. He helped many women and sixteen children to traverse by boat as he was working as a member of a rescue team. He said, "I rescued about ten dead bodies from river and canals. I had a picture with them on the daily newspapers published at that time. I do not want to remember those things again. It has a great impact on my mind and I got sick mentally. Three months I did not have normal life. My wife does not want me to go back again from here (Khulna) to *Gabura*.

Many women felt responsible for losing their children as a result of the tidal surge during Cyclone *Aila*. The tidal surge hit the village during the day while the men were at their work place. As a result, the women were at home alone with their children. When the wave came

over the land from the south, many women felt helpless; they could not protect their children. INT_GAB_MIG_9 explained:

> … I could not protect my second daughter. She was six years old. Along with my first daughter who was eight, she (the lost daughter) held my neck and I took my three year old son with my hand. The level of water was up to my shoulder. When a big wave of severe current hit us she was taken from my shoulder and disappeared away forever. I found a tree to hold on to for one day until a boat found and rescued us.

### 4.1.3.2.3  Loss of Livelihoods

Cyclones and tidal surges caused the loss of livelihoods in *Gabura*. Many migrants and non-migrants experienced losing their jobs after Cyclone *Sidr* brought saline water onto the land as a result of the tidal surge. Indeed, migration was mostly livelihood related. Many migrants argued that they had lost their occupation and subsequently tried to manage jobs outside the village.

> INT_GAB_MIG_2: … I lost my job when saline water damaged our agriculture field.

> INT_GAB_MIG_7: … Not only rice, trees cannot develop on saline land. All types of trees and vegetation died because of stagnant water for months, even years in some places.

> INT_GAB_MIG_12: … Fishes floated away into the rivers which lost millions of taka (Bangladesh currency). All fish farms, agricultural lands, and settlement areas came together under a single body of water. For a long time, people had no jobs. Some got help from NGOs and other left the area. But now many people have gone back as there is now water … But I did not go back.

> INT_GAB_NMG_10: … Two or three years we did not cultivate our land. Saline water made the land infertile.

INT_GAB_NMG_5: … Soil of the whole village has become saline. Still we cannot cultivate rice like before. Fishes are affected with unknown viruses. Only a few groups of fish traders remain.

Many people became jobless as a result of the big tidal surge that accompanied Cyclone *Aila*. Saline water entered the village and destroyed all the croplands and fish farms. Since the saline water remained stagnant for three years, most of the arable lands became saline and crops were hard to grow. Moreover, the water of the fish farms became heavily saline and the fish, usually cultivated in mildly saline water, all died. As a result, many people who were affiliated with the above two sectors lost their jobs, and eventually some of them decided to move to other places where jobs were available.

Migration is also related to loss of domestic animals and the increasing costs of daily essentials. Some respondents claimed they were no longer able to raise domestic animals, and some also complained about the climbing prices of medicines and other essentials.

INT_GAB_NMG_15: … Lots of problems we have in this village. We don't have any goats or cows. Grasses cannot be grown; what they will eat? People haven't drunk milk for a long time.

INT_GAB_NMG_18: … We all have stomach problems. We used to drink pond water, but now it is polluted with the saline water. Still we are drinking this saline water; our kids are too … Medicines are expensive here; we need to travel a long time to go to the city in case of emergency. Life has become so difficult in this village. The people who have shifted from here did well.

INT_GAB_NMG_12: … Living in the town for me is boring. In the village I had some goats and hens, from which I could earn some money for my own. Now, every time I have to ask my husband to give me some money.

Most of the people in the village keep animals at home, such as lambs, goats, cows, hens, and so on. These animals provide additional recreation for women and children and helped them to pass the time. Moreover, it is a source of meat and additional income for the family. Indeed, these domestic animals provide the meat for when relatives visit, and are the only source of milk in the village; cow's milk is used for family members and is sometimes sold in the local market. This tradition of keeping domesticated animals for meat and milk production was affected by the saline water that damaged grasses in the village of *Gabura*. Still today, grass cannot be grown because the soil has become saline and as a result, few families now keep domestic animals. Significantly, this has also resulted in the decrease of a supplementary source of family income.



Figure 4-4: Drinking water collection from ponds in *Gabura*

In addition, drinking fresh and healthy water has become a problem in the village. The selective ponds that were used for drinking and domestic purposes only (Figure 4.4) were polluted with saline water during Cyclone *Aila* in 2009. As a result, the villagers could not use water from the ponds as they had done in the past. While some people have access to costly alternatives such as rain water storage systems (discussed in chapter 8), others are still using polluted saline water from the ponds and this is causing health problems. Both migrants and non- migrants mentioned these issues.

## 4.2    Pull Factors

As mentioned earlier in this chapter, migrants primarily select destinations that offer certain benefits; that is, they respond to pull factors (Lee, 1966b). The availability of employment and land, and the possibilities for education and a better life style are three pull factors that were identified in *Gabura* and *Natuarpara*, and these are discussed in more detail below.

### 4.2.1    Job Availability

The main target for migrants was to increase their level of income and reduce their poverty. Subsequently, employment opportunities were one of the most significant pull factors for migration. Migrants from both *Natuarpara* and *Gabura* discussed the availability of work in the areas they migrated to, and indeed when I asked "why did you migrate?" most responses were job related. Furthermore, a distinct difference in the earning potential of the family was clearly evident between the destination and the home place.

> INT_NAT_MIG_8: … I moved here (*Sherpur*) to do rice processing. It needs hard labour, but is not bad. At least we can give food to our children.

> INT_NAT_MIG_13: … My brother-in-law offered me to be a business partner and brought me here (*Sherpur*). We have a rice processing business and run our family smoothly, whereas I was almost unemployed in *Natuarpara*.

> INT_NAT_MIG_4: … When we lost our lands and houses in the river, we moved many places in and nearby our village. But finally, we decided to come here (Sirajganj) as it is a suitable place for our chilli business. We buy red chillies from this region and sell to nearby cities. There are five families here; two of us from *Natuarpara*.

> INT_GAB_MIG_6: … I got a job in newspaper distribution in this city and I left *Gabura* temporarily in 2005, but I brought my family to Satkhira after *Aila* in 2009 and

settled permanently. I was running a fish farm in *Gabura* where I lost all my money and investments.

INT_GAB_MIG_13: … I pull vans (three wheelers) in this city (Khulna). Sometimes I take passengers, and sometimes I bring vegetables on it. I earn every day almost 300 taka … I came here after *Aila*.

This relationship between job availability and migration deserves special attention from researchers as it is important for the economic growth of migrant families, as well as for the country as a whole. Despite the push factors mentioned earlier, such as climatic hazards and political or economic reasons, migrants were already in search of new income opportunities in nearby cities and villages; people planned to shift to new places once reasonable work was found. For instance, villagers of *Natuarpara* mainly migrated to the areas of *Sherpur*, Bogra and Sirajganj (discussed in chapter seven) where they are engaged in different businesses, including rice processing. In contrast, people of *Gabura* village migrated to the cities of Jessore, Khulna, Jhikargacha and Satkhira (will be discussed in chapter seven) and are mainly employed as day labourers.

Easin Dhali is a 26 year old young man of *Gabura*. Like his elder brother, who was a construction supervisor who had left the village for Satkhira on the day after cyclone *Aila*, he was searching for a job outside the village. First he went to Khulna and got a job as a security man for a private house. After three months, he lost the job but did not go back to *Gabura*. He shared his friend's slum in that city for some time. Meanwhile, one of his friends in Jhikargacha helped him to get a job in a vegetable market there. He is loading and unloading vegetables from vans to different shops.

### 4.2.2 Land Availability

In certain cases, migration was influenced by the potential to become a land owner. In this research, I found that many people migrated in order to own a piece of land at the place of destination. This is particularly true for migrants from *Natuarpara*. Most migrant

respondents in *Sherpur* who were from *Natuarpara* built houses on their own land that was purchased from local villagers. This is further evidenced by *Sherpur* locals who argued that while land prices were initially very low, after the intake of migrants from the region affected by river bank erosion (in Sirajganj) the price increased by up to ten times. Furthermore, the chilli businessmen in Sirajganj (discussed in the above section) also bought land in a safer place where they would not be affected by river bank erosion. However from *Gabura*, only three respondents bought land and built houses; one in Satkhira, one in Khagrachari, and one in Jhikargacha.

> INT_NAT_MIG_9: … My brother-in-law and I bought this small portion of land which we divided among us. (You see) each of us have built our houses in a corner of this land and the rest we have prepared as a rice processing zone. This is more than enough when I think that many people of *Natuarpara* do not have even what I have.

> INT_NAT_MIG_10: … I had nothing in *Natuarpara*. I came here seven years ago and bought this land which was very cheap. The land owner told me to buy more, but I did not. Now, I think, that was a mistake. I can never buy again at the same price.

> INT_NAT_MIG_15: … I am very lucky . . . I did not wish to move here and my mother also wanted to see all her seven sons and three daughters together in the same place in *Natuarpara*. At last my elder brother convinced her and helped to buy (this) twenty decimals of land in this busy area which was very remote at that time. Its price has gone up to ten to twelve times. . . After ten years, I built a house on bought land and settled here.

> INT_GAB_MIG_26: … We came here (Khagrachari) and bought a small hill at a cheap price from Chakma (a group of aboriginal/indigenous people). Now we can grow some crops and fruits.

Migrants of *Natuarpara* clearly value becoming an owner of a piece of land; it is seen as a great achievement in life. Owning land in the destination place is important because it

addresses the vulnerability of having lived in a place threatened by river bank erosion and flood, and provides for a permanent shelter for themselves and their children. Significantly, respondents of *Natuarpara* not only use their purchased land as their home, but also as a source of income. For instance, all rice processing zones were established on their land in front of their houses (Figure 4.5).



Figure 4-5: Houses and rice processing zones of migrants in Sherpur

Many retired persons did not return to their village in *Natuarpara*. After the completion of their employment, some (three respondents) bought their land in the city areas and chose to stay there for the rest of their lives. They did not want to go back to a place that was frequently impacted by natural hazards.

> Aslam Hossain came to Sariakandi, Bogra in 1999 after his retirement. He had three
> acres of land in *Natuarpara* which was often submerged by flood and affected by
> river bank erosion. He decided to live in Bogra when he retired. At first, he searched
> for land in the city centre, but the desired land was not available; either the price

was too high, or it was complicated by legal documents or too many owners. Then his brother-in-law, who had been living in Bogra, helped him to buy ten decimals (1 Decimal Land = 435.5 Sq ft) of land in Sariakandi Thana of Bogra district which was not far from Bogra city.

### 4.2.3   Education and Better Life Style

Migration is often related to educational opportunities (Arce & Alvarez, 1983), especially for children, and more broadly to the potential for a better life. Middle and upper class families from rural areas can decide to move to urban areas in order to improve their lifestyle options and provide quality education for their children. Five respondents – representing both of the study areas – explained how education was a part of their decision making process in relation to migration; three responses were very similar:

> INT_NAT_MIG_23: … Among many reasons, my children's education was one. (You Know) schools in villages do not maintain a high standard of quality education; it is even very hard to find a good home tutor. Comparatively, many good quality schools are here and I can choose any one of them. … I hope they (the children) can make a good base from their present school.

> INT_NAT_MIG_21: … I don't say my son will be a doctor or engineer, but at least we expect a bright future, a better job, and afterwards a better life. I don't have money so that he (son) can have a business in future. I tried all my best; I even brought my family here to give him (son) a better education. Now, it's up to him…

> INT_GAB_MIG_15: … I can go back to my village, but my wife and I have decided to stay here only for our daughter. Schools are better here (Satkhira) and being a good student my daughter is receiving additional attention from her teacher.

Some families migrated only because of their children's education. While village schools have many shared problems in terms of the quality of education and the availability of

facilities, the problems faced by schools in disaster affected areas are more acute. For example, schools in these areas remain closed for long periods of time following disasters, and are often used as disaster shelters. Moreover, many schools have been washed into the rivers and others have been damaged by either cyclones or floods; many schools were also stripped of tables and chairs and other student resources Although many parents had the capability to endure the stress and tension that results from different climatic hazards, and their financial circumstances were not adversely affected, they worried about their children's education and their future. As a result, they migrated to city areas where their children can access better schools.

## 4.3    Discussions and Conclusions

This chapter focused on the factors that drive migration and in so doing, meets the first objective of the research. From the analysis supported by the data, it was clear that both push and pull factors were influential in the study areas. Migration from *Natuarpara* is directly related to river bank erosion, very few other push factors of migration such as economic and political factors were found in this community. Conversely, in *Gabura*, over a long period of time (around thirty years) livelihoods have been adversely impacted by a number of factors. Firstly, people of *Gabura* who used to collect timber (*golpata)* and honey from the *Sundarbans* for trade have been hampered by multiple reasons, including government policies, decreased demand for timber and *golpata*, tiger attacks, and kidnappings associated with the demand for huge ransoms. To mitigate coastal cyclones, Government and other national and international NGOs were preventing the *Sundarbans* from being entered by local people who were dependent on their livelihoods. This prevention severely impacted their livelihoods which in turns led to people being displaced into different locations after cyclones.

Secondly, rural people took high interest loans from NGOs working in the area. As they became progressively poorer these people migrated to other areas – especially to big city areas - in order to avoid the demands for loan repayments. Thirdly, when rural livelihoods

became increasingly vulnerable due to the above circumstances, the impact of natural disasters made everyday life even more fragile. For instance, as cyclones (cyclone Sidr in 2007 and Aila in 2009) and tidal surges (during Aila in 2009) became more powerful in *Gabura*, and floods and river bank erosion (in 1988 and 1998) became more intense in *Natuarpara*, many people migrated to different locations.

As well as providing an examination of the push factors operating in *Gabura* and *Natuarpara*, this chapter has also identified three pull factors which influence the migration of people from these areas to different cities and villages of Bangladesh. Firstly, people migrate to different city areas or villages because of better job opportunities. Generally, migrants of *Gabura* who were not skilled in any specific profession moved to city areas to work as day labourers, whereas people from *Natuarpara* migrated to village areas where rice processing jobs are available. Secondly, some migrants of *Natuarpara* settled in *Sherpur* where land was available at a reasonable price. Finally, some families moved to the city areas which provided better educational options for their children.

Extreme climatic events make weak livelihoods weaker and supplement other drivers of migration. This impacts on people who are landless, daily labourers and/or their income depend on naturally occurring products such as honey or wood collection, fishing etc. Conversely, people with strong livelihoods and land owners are less impacted by the extreme climatic. This situation was evident in *Gabura* where few land owners and fish-farm owners migrated. This result can be compared with some other findings which suggested that extreme climatic events impact on livelihoods and incomes of poor people and as a result they migrate. For instance, Lilleør & Van den Broeck, (2011) argued that climate change and climate variability impacts on people according to income variability in the Least Developing Countries which results migration. Similarly, internal migration was correlated with wealth both in rural and urban areas in Nicaragua after hurricane Mitch (Carvajal & Pereira, 2009). Warner, (2010) suggested that different environmental factors in different

countries such as flooding in Mozambique and Vietnam, desertification and sea   level rise in Egypt contribute to migration through the effect on livelihoods.

The next chapter will address the process and pattern of migration that took place because of push and pull factors mentioned in this chapter from *Gabura* and *Natuarpara* to different places in Bangladesh.

# CHAPTER 5: PROCESSES AND PATTERNS OF MIGRATION INDUCED BY EXTREME CLIMATIC EVENTS

## 5    Introduction

Migration always involves multiple complex processes. Depending on the process, migration can be shaped into different patterns (Koser & Martin, 2011). This chapter considers the nature of migration induced by extreme climatic events. This aligns with the second objective of the research- to identify the process and pattern of migration from areas affected by extreme climatic events. The chapter is divided into the two major types of migration: forced/involuntary migration and voluntary migration. Both these categories are further subdivided on the basis of the themes identified from the research interview data. I have openly coded forced migration into short distance migration and return migration, and voluntary migration into long distance migration, urban migration, and chain migration.

## 5.1    Forced or Involuntary Migration

According to the International Association for the Study of Forced Migration (IASFM), forced migration refers to the movements of refugees and internally displaced people due to conflicts, development projects in the areas of previous residence, and disasters (IASFM, 2014). People are forced to flee from conflict regions (civil war, generalised violence; and persecution on the grounds of nationality, race, religion, political opinion or social group) where the state is unwilling or unable to protect them. People are also forced by governments to migrate from an area where development projects are planned, such as airports, roads, parks, industrial sites, universities etc. (Zhou, 2014). Moreover, people also flee from an area damaged by severe and frequent natural disasters. In this section, I focus on forced migration in relation to situations where people make decisions to migrate either during or immediately following a cyclone and river bank erosion. Under these

circumstances, people chose to migrate short distances and sometimes returned to their places of origin.

### 5.1.1 Short Distance Migration

Migrant respondents from *Gabura* and *Natuarpara* mentioned that they had left their villages immediately after a disaster. Most are now living close to their previous place of residence, with migrants from *Gabura* generally living within a distance of ten to fifteen kilometres and some migrants from *Natuarpara* living even closer at a distance of five kilometres.

> INT_GAB_MIG_1: On the day after cyclone *Aila* I left my village and came here (Shyamnagar Thana city). I am working in this restaurant as a cook. Each day I usually come at dawn and start cooking. The owner does not behave well, but I have no other options to this.

> INT_GAB_MIG_7: I thought of going to Khulna. But it was unknown to me and there was no one from my own circle. At that time I did not even have enough to pay for the bus fare and food. Later, I came here (Satkhira city) by sitting on the top of a bus. The fare collector of the bus got annoyed because I didn't pay him. But later relented when he saw tears falling down my checks. I told him that I hadn't had food for the previous two days. When the bus parked at the bus terminal he gave me a loaf of bread with a piece of banana. While talking he asked me about my plans from there and I told him that I have nothing to do at the moment. He introduced me to a fat manager, and I ended up selling tickets to the passengers for the buses. They offered for me to sleep some nights inside the bus terminal. They also arranged a job as bus washer every morning and evening with pay. Now with that job, I also shout on the road, calling for passengers. I yell to them the destination of buses and departure times…

INT_GAB_MIG_10: My sister and her husband who were living in Satkhira invited me to live with them, when my mother and I were at a cyclone centre. Fortunately my wife was not in the village. I lost my house and all belongings in a minute; nothing was left there after the cyclone (*Aila*) and water from the south (tidal surge) took away everything. Next day, me and my mother left the village and joined my sister. Latter I brought my wife here… Now I have rented a room, but my mother has to sleep on the veranda, outside the room, where I have fixed a bed for her.

INT_NAT_MIG_3: If you visit the place where I used to live, you will find nothing. You cannot understand how once we had houses over there. The mighty river ate everything in one miserable night. It was a great nightmare for us and we fled here (to a village seven kilometres away from *Natuarpara*) with my family. I did not go a long distance, because I wanted to get back my land again one day. As well, I know many people here.

INT_NAT_MIG_2: It was a rainy season and we were living in the danger area close to the river. My wife and I could not sleep two nights thinking about our three children. Then I took decision to move here (in Kazipur thana city). My house was swept away just two days after shifting.

Often, either during or immediately after a sudden disaster event, people tended to shift to nearby locations such as roads, highways, dams, bridges, shelter centres, and the houses of relatives, all within about three kilometres distance from the place of the disaster. If it is deemed possible to recover from the impact of the disaster, then many people return to their houses during the following week. However, some move to more distant places that are about ten to fifteen kilometres away. This decision to move depends on two major factors: firstly, whether a person feels that their place is recoverable from the damage wrought by the hazard, and secondly, whether they have enough money for long distance travel or have relatives in more distant places who can provide them with support. Short distance migrants tend to keep visiting their places of origin in order to meet with relatives

and neighbours. However, as one non-migrant respondent of *Gabura* complained, sometimes those affected by the disaster do not come back intentionally, because they want to receive relief from NGOs and other support organisations. Figure 5.1 below identifies the places of destination form *Gabura* and *Natuarpara*.
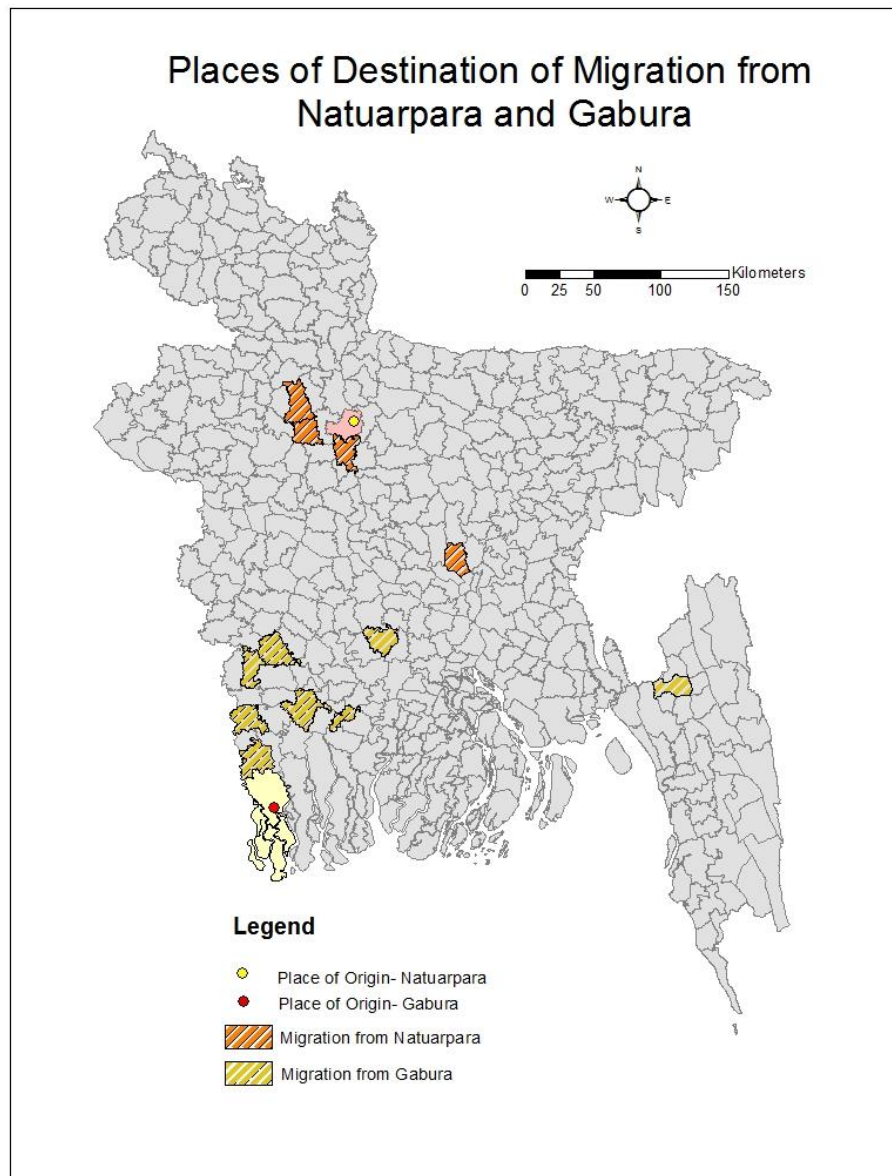


Figure 5-1: Places of destinations of migrants from *Natuarpara* and *Gabura*

### 5.1.2   Return Migration

Some respondents who moved short-distances during or following a disaster returned to their villages within one to six years. This tendency was noticed primarily among people who were forced to migrate immediately in order to save their lives. For instance, some of the people who migrated to the villages closest to *Natuarpara* came back after three to five years. Two respondents from this study area commented:

> INT_NAT_MIG_24: When the Jamuna river took my homestead, I moved to Meghai (around three kilometres from *Natuarpara*) where I stayed for around five years. I was waiting for the reappearance[9] of my land too. I returned in 2002 and rented this land including a two-room house at a yearly rate of 5500 taka (bdt). Since then I am here with my other family members. Meantime, my land has reappeared, but is not yet suitable for building a house. I am cultivating corn and chillies there.

> INT_NAT_MIG_25: I stayed three years in Kazipur thana town in a community of migrants from different parts of Sirajganj. Until then, I was unmarried. Six years ago, I got married and return to *Natuarpara* again. My father-in-law is actually my uncle. We all living here, but I have a separate room to live with my wife.

Migrants who move short distances from *Natuarpara* always try to gather information about their lost lands, with an intension to re-take possession if their land ever reappears. In such cases, people will sometimes return to their land if they feel the situation is favourable; otherwise, they hand over the responsibility for the land to their relatives or neighbours (will be discussed in chapter 7). While returning to the reappearing land lost to the river bank erosion takes a long time in *Natuarpara*, some migrants from *Gabura* were

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[9] When the main channel of a river changes, the silted land that appears inside the river looks like a small bar or island known as a char. Appearing and disappearing of chars in the big rivers is very common in Bangladesh.

able to return within two to three years. As evidenced by two migrant respondents from *Gabura*, some migrants who have returned have managed to rebuild their houses:

> INT_GAB_MIG_4: I was in Kaligonj for two years. I used to live with my brother-in-law who helped me to move there during the danger period of cyclone *Aila* (in 2009) when I lost my properties including my homes. I came back in 2011. I visited the Chairman (now former) several times and requested some help to rebuild the house. At last, he managed to get some money from a NGO who helped endangered people at that time. After borrowing some money from my brother-in-law, I was able to rebuild this small house.

> INT_GAB_MIG_5: It's difficult to stay here….yet we are. I moved to Satkhira at the time of *Aila* and I stayed there for three years. But living in the city is not comfortable for villagers like us. Unlike in our village, nobody knows each other there. Life is tedious and boring there, so I came back again. But life is not easy here (in *Gabura*) too. The most damaging effect of *Aila* is saline water intrusion. No one can grow crops and grains; you can see there are no trees. The village has turned from green to white. I have started working in a *gher* (fish farm) like before.

> INT_GAB_MIG_7: When cyclone *Aila* destroyed us, I went to Tala Thana in search of work. I was working in a brickfield close to the Kopodakko River. After seven months I returned to my homeland because my father did not want me to stay away.

People who migrated short distances during the big cyclone (*Aila*) have sustained an attachment to their villages. While many have resided permanently elsewhere, some have returned to their vulnerable villages because they could not improve their lives in the new places, or could not survive in a seemingly hostile environment. Most of the returned migrants received support from NGOs (will be discussed in chapter seven) and have started their lives again. However, they remain afraid of future potential disasters.

## 5.2    Voluntary Migration

Voluntary migration, based on one's free will and initiative (Zhou, 2014), is influenced by both pull factors and push factors which direct movement from developing areas (or countries) towards comparatively developed places (or countries) (Goddard, 2004). Voluntary migration is sustained by well-developed networks that link the supply of labour with the demand of businesses for both highly skilled and unskilled workers (Martin et al., 2006). It is also influenced by security issues from both natural and man-made hazards, and other benefits such as access to education and health facilities. In this study, voluntary migrants are identified as those people who moved from *Natuarpara* and *Gabura*, not as an immediate response to the sudden onset of disaster, but rather through a decision making process to choose a place where they want to move. While the sudden onset of disaster and other vulnerable conditions concerning the loss of jobs have acted as push factors, there are also many pull factors responsible for the decision to migrate (discussed in chapter 4). Although distinguishing between voluntary migration and forced migration is difficult in practice ( Martin et al., 2006), I have identified voluntary migrants as those who have moved more than twenty kilometres from the place of origin. The processes involved in different patterns of voluntary migration are discussed in the following sections.

### 5.2.1    Long Distance Migration

Most voluntary migration involved the movements of people over long distances; from *Natuarpara* migrants moved to Sariakandi, Dhunot, Bogra, Ishordi, and Dhaka and from *Gabura*, people migrated to Jhikargacha, Jessore, Bagerhat, Gopalganj, and Khagrachari. Furthermore, the interviews revealed that voluntary migration was generally made possible through the support of social networks. Indeed, as evidenced in chapter eight, many people failed to migrate because of inadequate social connections.  The following are migrant responses to questions about why and how they managed to travel to such distant places:

INT_NAT_MIG_14: I was not willing to come here (*Sherpur*); for two years my brother-in-law requested me, my sister-in-law (wife's sister) also tried to convince my wife. All of them were pestering me by saying "what are you going to do there in the future, jobs are being squeezed day by day because of river bank erosion", and finally I took the decision. Now we two families are engaged in a rice processing business.

INT_NAT_MIG_11: I sold out my small shop where I used to make wooden furniture. I had some cash in my pocket. I knew many people from *Natuarpara* came here many years ago, and still there is a trend to migrate here. Before taking the final decision, I visited the place (*Sherpur*) twice. I had a chat with some of my relatives who had already moved here. They suggested that I buy a piece of land and I started searching with their help. Finally, I bought this small plot of land and shifted here.

INT_GAB_MIG_23: For years, we used to come here for our jobs. Every year in April-May, as a team from *Gabura*, we used to come here for rice processing. Deals with local land owners are finalised upon a condition that one fifth of the total processed paddy will be provided to us as wage. In such cases, land owners receive processed and cleaned paddy without any effort. Doing this every year, we build up a nice relationship with the land owners, as well as with the locals. When we lost everything in *Aila*, we started deciding whether to move here permanently. The locals of Gopalgonj helped and welcomed us here.

INT_GAB_MIG_19: When people started cultivating white gold (shrimp) many of us lost our jobs. Like many, I also left *Gabura* with my family twelve years ago. I knew some of our relatives who shifted here (Jhikargacha) 20/30 years ago and used to visit the village often. After *Aila*, they told me that there was some unused land owned by the Government along the railway line. We two brothers moved here and build these two small rooms in this slum area.

Social networks are an important factor when choosing to migrate over long distances (Martin et al., 2006). It contributes significantly to people being able to find the gateways for migration (C. Brettell, 2003). Furthermore, the likelihood for successful migration is enhanced as the number of people from the place of origin known increases (Budde, 2005). Migrants can also develop the confidence and courage to travel when jobs and accommodation have been ensured by host individuals, and when they have access to information about the direction and minimum costs of travel. The following description is yet another example of long distance migration from *Gabura*:

> Siddik Gazi used to fish around *Gabura* and the *Sundarbans*, sometimes in the river in front of the house, and sometimes in the dense forest. Whilst fishing in the dense forest he used to join some other people by boat. However, restrictions on entering into the *Sundarbans* (discussed in chapter 4) broke up the team. Although after they had grown up, Gazi's sons used to drive vans (manual three wheelers), Gazi did not leave his occupation. Somehow the family managed on the earnings from fishing and van driving, but they had no extra savings. The earnings were substantially reduced after *Aila*. They were also concerned that if disasters such as the floods of 1988 and 1998 and the cyclones of *Sidr* and *Aila* attacked even once again, there would be no alternative but death for them. So Gazi started to think about moving from that place. At last he found a connection in Khagrachori, hilly tracts in the south eastern part of Bangladesh dominated by aborigines. He and his sons received information that two migrant families from the neighbouring village of *Gabura* were looking for a third family to share the price of a small hill to buy from local tribal people. Gazi sold his house cheaply as it was already ruined by *Aila*, and migrated to Ramagar thana of Khagrachori district with family members.

### 5.2.2    Urban Migration

A majority of migrants from *Gabura* and *Natuarpara* took residence in the urban areas of Bangladesh including divisional, district and thana cities. The results from this study reveal

that 18 out of 26 migrants from *Gabura* moved to urban areas, with Satkhira and Khulna the preferred cities, and 13 out of 25 *Natuarpara* migrants also moved to urban areas, especially to the cities of Bogra and *Sherpur*. In both cases, job related issues were the primary reason given for this decision to move to urban areas.

> INT_NAT_MIG_23: Though Bogra is a district city, it is developed like a divisional city. Some of the educational institutes are very famous, especially Bogra Cantonment Public School and College; my daughters are studying there. The distance from *Natuarpara* is only two hours, so I can go to my village at any time if I wish. From here, I can keep an eye on my relatives who are looking after my lands in *Natuarpara*.

> INT_NAT_MIG_18: House rents in Bogra city are higher than any other city of Rajshahi Division. Even land prices have increased ten times more than they were ten years back. One year, after the flood of 1988 I shifted here, built a house and bought some more lands in 1996. Now I am supporting my family with the rent I am receiving every month from my house. I feel happy when I think about the current high price of my land in the fringe area of Bogra city.

> INT_NAT_MIG_12: My uncle supported me here in *Sherpur*. He has given me job in his shop (department store) and if I move anywhere, I will lose my job which I don't want to.

> INT_NAT_MIG_10: We are four brothers and we all moved to *Sherpur*, but I moved again to this city (Dhaka) twenty years ago. My other three brothers are still in *Sherpur*. I know a lot of people from our area (*Natuarpara*) who came here to Dhaka and work in garment factories. But since they are not permanent; they can't bring their families here; which I don't like. In the day, I pull rickshaw (very easy to get work) and in the evening I join my family at home (in the slum), and enjoy life.

INT_GAB_MIG_14: …I was not willing to leave *Gabura*. I tried my utmost to stay there, since (as I told you) I have been involved with some illegal activities after *Aila* (discussed in chapter seven), I was supposed to leave my village. I came to Khulna and started living in an old house bought by my father … Still I don't have any job, but I am trying, and I hope I will get work. Even if I fail to get anything, I can work as a tutor for school students which provides a good earning in a big city.

INT_GAB_MIG_12: … I ate almost nothing for two days after cyclone *Aila*. That *gher* (fishing farm/pond) where I was working as a labourer was completely destroyed by the waves of *Aila*. Then I decided to come here to Khulna where my father and step mother were living.

INT_GAB_MIG_6: I started my business here in 2005 (Satkhira city), which was before *Aila* and *Sidr*. But I did not leave *Gabura* until *Aila* hit us. After that great disaster I moved here permanently. Now I can look after my business well… … I don't have any plans to go back to *Gabura*.

INT_GAB_MIG_18: My decision was absolutely job related. At first, I moved to Khulna and was unlucky in getting a permanent job there. But here in (Jhikargacha) my labouring on vegetable loading-unloading is a fixed source of income. I made some good friends here. I hope, I will marry here into a family from *Gabura* who migrated a long time ago.

Since the country achieved independence in 1971, the process of urbanisation in Bangladesh has been accelerating along with population growth (Khan, 1982). High birth rates are not the only cause of population growth and overcrowding in the urban areas; migration from surrounding areas to the cities has accelerated this process. Since urban areas provide the hub for many of the job opportunities (Drakakis-Smith, 2012), people's movement towards urban areas has become a regular pattern in developing countries such as Bangladesh. Certainly, the early prediction made by Ravenstein in 1889 in his laws of

migration (discussed in chapter 1), is still in practice and remains relevant for this country. However, the movement of displaced people as a result of natural disasters has also become a significant part of urbanization in Bangladesh. Climate induced migrants living in urban areas are generally marginalised, taking shelter in the slum areas. Almost every city in Bangladesh has a large portion of slum housing. Migrants struggle to establish their own communities in these slum areas; they invite other migrants (induced by climate events or other factors) from their own place of origin to join them in the slum in order to make their community strong.

### 5.2.3 Chain Migration

The process of chain migration is more complex than all other types of migration (Yu, 2012). Social networks are the key factors involved in this process, and for this reason it is also known as "network-mediated migration" (Brettell & Hollifield, 2013). According to Macdonald & Macdonald, "Chain migration can be defined as that movement in which prospective migrants learn of opportunities, are provided with transportation, and have initial accommodation and employment arranged by means of primary social relationships with previous migrants" (Macdonald & Macdonald, 1964:84). Yu, (2012) identified three phases of chain migration: initiation phase, family unification phase, and family reproduction phase. Primary migrants (immigrants) begin the process through being sponsored by employers or the government. These non-family entities then sponsor family members, friends, and communities based on existing kinship ties and the willingness of individuals in both the origin and destination places. The last stage of the chain migration process is the settlement stage of the immigrant family, during which the next-generation is born in the destination place and contributes significantly to the population size of the migrant community (Yu, 2012).

Chain migration from *Gabura* and *Natuarpara* is in evidence at three places; Jhikargacha and Khulna cities selected by the people of *Gabura*, and *Sherpur* chosen by the people of *Natuarpara*. Migration to Jhikargacha thana began on a small scale immediately after the

independence period. A few labourers went there by boat from a village named Patakhali (near to *Gabura* of Shyamnagar thana and began working in a jute store. When they were settled in this city they brought their family members to live with them, including their wives. Later, as jobs became available, they invited more people from their previous communities. It is assumed that two or three families from *Gabura* came to Jhikargacha during that time. This process continued in subsequent years, and many children were also born and grew up within the new community. When I interviewed a man of 60 years old, he said that he came alone around 40 years ago with the help of his uncle and worked at jute drying, processing and storing in a buyer's shop close to the Kopothakko river. Then he married and brought his wife from *Gabura*. He had four daughters who were all born inJhikargacha. He also knew two families who came after Cyclone *Aila*.

Jhikargacha, a thana city, is a long distance from *Gabura*; until twenty years ago the only transportation was by boat. In contrast, Khulna is a divisional city closer to *Gabura*. Mohammadnagar, a locality within Khulna city, has a large community from *Gabura*; about 80 families have moved from *Gabura* and its surrounding villages over a long period of time. This community originated in the beginning of the 1990's when people started to lose their jobs due to the transformation of agricultural lands into shrimp farms. In the following years, more and more families were sponsored and their families and relatives were brought up and resettled at this location. The following two interviews establish the process of chain migration:

> INT_GAB_MIG_6: I left *Gabura* 24 years ago and I stayed some months in Dumuria with my sister and her family. At first I thought of starting a small business, but I could not start due to the lack of sufficient capital. Later I saw a van puller on the road, I knew him, as he was from Munshigonj (of Shyamnagar thana and close to *Gabura*). I came to Mohammadnagar on his advice and was introduced to three or four persons working in road making. Since then I am here and working on roads… There were few houses when I came here, and the roads were inadequate. Then

people, mostly from Shyamnagar area, started coming here every year, and now seven of every ten persons are from that area. The population is increasing with the new generations and people moving in.

INT_GAB_MIG_12: I didn't live with my father and stepmother who moved here in Mohammadnagar 15 years ago. Although I did not have much contact with them when I was in *Gabura*, but several times I used to travel here before *Aila* to visit other relatives and friends of mine who settled here during or after my parents did. I did not have any problem after *Aila* while shifting here with the help of those relatives and friends.

Mohammadnagar is a special place in Khulna city for the newly migrated community. Today multiple storey buildings have been built here, rather than the small houses with one or two rooms. There is a strong relationship among community members who also maintain a connection with their places in *Gabura* and its adjacent areas. This community has established a small school for their children and a mosque for prayers; the teacher and the imam were both appointed and brought from *Gabura*.

Chain migration is also evident from *Natuarpara*, and is more clearly organised than that from *Gabura*. Their choice of destination is mostly Sherpur. *Sherpur* thana city and its surrounding areas are dominated by people who have migrated from places impacted by riverbank erosion, mostly from Sirajganj district including villages of *Natuarpara* union. The process of chain migration has taken place over almost half a century. When I asked migrant respondents in *Sherpur*, why and how many of them have come here from *Natuarpara*, they answered:

INT_NAT_MIG_7: It was about 40 years ago when the government allocated free land in this area. I heard from the radio and immediately came here and applied. I was allocated five acres, but only received a little bit more than two acres. Many came here to get land but few received it. The interesting thing is that many of non-

receivers did not go back to *Natuarpara*. They stayed here and started working on others' land, or hired others' land for cultivation. Some of them also managed to buy land at cheap prices from the people who had an allocation from the government. Many people were brought in by people originally from *Natuarpara* and other regions in the subsequent periods.

INT_NAT_MIG_15: My elder brother convinced me to come here. I brought two of my nephews; one of them is working in a brickfield, and the other is working in a grocers at *Sherpur* thana bazaar. Financially they are not in good condition, but a lot better than what they were in *Natuarpara*. Their house was totally ruined by the flood in 1988.

INT_NAT_MIG_11: When I came here and started my rice processing business, I realized that I need a hand. Then I went back to my village (*Natuarpara*) and brought my sisters and younger brother. Now my sisters are married but still live here with their husbands who are also from *Natuarpara*.

INT_NAT_MIG_8: My brother-in-law helped me to move here (*Sherpur*). He gathered all the information about the location and price of the land that we bought together.

INT_NAT_MIG_6: We two brothers are working in the grocery store owned by a man of *Natuarpara*. He went to our village, brought us here, and has given us a position in his business.

The migration process from *Natuarpara* to *Sherpur* started 40 years ago when the government initiated a resettlement project at *Sherpur*. When people of *Natuarpara* affected by natural hazards consider migration, the very first place they think of is *Sherpur* because of the availability of irrigated land, the opportunities to work in rice processing, and the help provided by the old migrants. As a result, a strong bridge has been built between these two places. Moreover, migrants of *Sherpur* remain connected to their

village, visiting there on a regular basis, and this has made migration easier for the new migrants.

## 5.3    Discussions and Conclusion

The chapter has discussed the patterns and processes of migration induced by extreme climatic events which can be both voluntary and involuntary. Involuntary migration, also known as forced migration, is shaped primarily by the movement of people to places a short distance away, and often for short periods of time. Conversely,, voluntary migration tends to involve long distance movements, and mostly to urban areas. Migration related to different environmental events can be both long- and short-term (Hunter, Luna, & Norton, 2015). Findlay (1994) noted that drought stressed households in Mali (in 1983 – 1985) sent family members to short distant places for short-term to reduce household food demand. Findlay (2011) also suggests that labours from slow-onset areas such as drought, desertification and land degradation, temporary migrate to a short distant destinations.

In Gabura and Natuarpara, although some people stay permanently at new places, generally those affected by climatic hazards wait until the end of the emergency period and then return to their ruined or destroyed homes. Similarly, Tacoli (2011) found in Bolivia, Senegal and Tanzania that seasonal mobility and migration increases to improve livelihoods in fragile environments. In Bangladesh, extreme climatic events are a major reason for rapid growth of urban populations (Ahsan et al., 2016).

The most important factor in these migratory processes is social connections or interactions. Voluntary long distance migration rarely happens without being connected to other people, such as relatives, neighbours and family members. When affected people consider moving to a new location they think deeply about the places they could move to; firstly, how they will travel there, secondly, what kind of jobs will be available and are they suitable, and finally, how much security they will have from social, political and cultural instabilities. All of these issues can be addressed by interacting with people who have

already migrated, or who have been living for a long time in those locations. Nawrotzki, Riosmena, Hunter, & Runfola (2015) suggested that social networks can facilitate climate change adaptation in the form of migration in rural Mexico.

Moreover, a good bridge between the place of origin and the place of destination is further established through chain migration. In Mohammadnagar and Sherpur, settled migrants who require further assistance to enhance the scope of their own businesses prefer to employ people known from their place of origin *Gabura* and *Natuarpara* respectively. Once these new migrants are settled, they also try to bring more people from their former communities. Following this chain process, more people from affected places are given the opportunity to move into a new community which, as a result, becomes a bigger and stronger community. The next chapter will present the consequence of migration in the places of origin and the places of destinations.

# CHAPTER 6: CONSEQUENCES OF MIGRATION IN PLACES OF ORIGIN AND PLACES OF DESTINATION

## 6   Introduction

Migration has far-reaching impacts on both migrants and non-migrants in the places of origin and  destination (Joseph, 1988). Migration obviously impacts on economic growth, social security, and population structures at places of both origin and destination (Zachariah, Mathew, & Rajan, 2003). The present chapter discusses the effects of migration from *Gabura* and *Natuarpara* and the implications for internal migration in Bangladesh. It deals with job creation in the business sector, the lack of skilled labour in the place of origin, the impacts on children in the place of destination, voters' rights, and conflicts and insecurity. The section on the impacts on children will be further subdivided into the lack of social networks, limitations of schooling, the increasing rate of dropping out of schooling, child labour, and harassment.

## 6.1   Job Creation in the Business Sector

Migration has considerable impacts on the economy, both negative and positive, and in both the place of origin and place of destination (Nijkamp et al. 2012). When specialized skilled people leave an area, the community as a whole directly experiences the loss (discussed in the next section). These highly qualified people often become employed in comparatively low wage jobs in the place of destination. As a result, there is an increasing possibility that existing workers at that place of destination may lose their jobs (Nijkamp et al.. Conversely, when migrants establish businesses in their new locations it has a significant positive impact; supplying goods and providing work that results in areas becoming more dynamic. While only a few migrants from the coastal area (*Gabura*) were involved in a business, some people from *Natuarpara* were well established within different business sectors, especially in *Sherpur* (Figure 6.1). Some have department stores or seasonal crop

storehouses, while others have small rice processing industries at home. Interviews conducted at *Sherpur* bazar reveal the following:

> INT_NAT_MIG_11: … Four young boys are working permanently in my two department stores - three of them are from *Natuarpara*. They (migrants) are more active, hardworking and reliable than the locals. I am proud of being owner of this big department store and a supplier of all types of daily essentials among the people of *Sherpur* thana, but 20 years ago I started with a tea stall when I came from *Natuarpara*.

> INT_NAT_MIG_9: … I brought my storekeeper from *Natuarpara*, he is the most energetic and loyal person I have ever met. He looks after all sides of my business including buying crops from villagers, stores in the house and sells during slow periods when price goes up.

> INT_NAT_MIG_19: … Not only me, but also 80 percent of the people who have come from Sirajganj District due to river bank erosion are involved in rice processing businesses. I am doing this business with the family of my sister-in-law (wife's sister), but sometimes we employ local poor women when we need to process huge amounts of rice (paddy).

Migrants who settled a long time ago (at least 20 years) have established small businesses, with some of them developing even bigger concerns. In *Sherpur* bazar, almost all of the types of businesses are being controlled and dominated by a number of migrants from Sirajganj district who were affected by river bank erosion. Consequently, this bazar has turned into an economic hub for this area. Besides local workers, many affected people from different parts of Sirajganj district, including *Natuarpara*, were being appointed to jobs and this process is on-going. In most cases, business owners employ their own relatives or the relatives of their workers who are from their place of origin, and this continues the migration process.

Figure 6-1: Manual rice processing in Sherpur

INT_NAT_MIG_20: … I came here with my uncle (the owner of the department store) and I brought my younger brother. We are both working at the same store.

One local (migrant receiver) woman in *Sherpur* says:

I work here three - four days a week, I get food in the morning (for breakfast) and in the noon (for lunch). The money I receive every day from my job helps my husband. They (owners of the rice processing business) give me a shari (dress) every year.

Likewise another local woman states:

To make rice from paddy manually is not easy. Working under the sun makes us sick. But we poor people have nothing to do other than this. At least they (migrants) came here and developed this business, and we (female) have got jobs …

Mass migration to *Sherpur* has created numerous employment opportunities, particularly for many of the local women. Women only feel comfortable working inside the house; they do not want to go outside the home. As such, manual rice processing has offered them good work prospects; they can also do work for their own households in the evening and early mornings. On the other hand, many businessmen have brought neighbours and relatives from their own village of *Natuarpara* and have kept chain migration alive. Businessmen prefer to employ workers from their own village for two reasons: firstly, they believe that people from the river bank affected area are hard workers, and secondly, they believe that new migrants are faithful to business owners. Every year the people of the erosion-affected areas have to battle with natural disasters to survive. When they come to *Sherpur* and get a job they feel they need to work hard to satisfy their employer and to have the opportunity to stay and settle. Therefore, they take their jobs very seriously. The business owners believe that because they have helped those new migrants they will not engage in any corruption or disrupt the job.

## 6.2    Lack of Labour in the Places of Origin

The migration of highly-skilled or semi-skilled labourers can be the cause of a labour shortage in the place of origin (OECD, 2012).  When a number of people from the same occupation migrate from an area then this poses a particular problem that was noticed both in *Gabura* and *Natuarpara*. Non-migrants complained:

INT_GAB_NMG_7: After *Aila* we did not find any labourers for our work, they all left.

INT_GAB_NMG_8: For a long time we did not have any workers in our village, those of us living here had to make do on our own.

INT_GAB_NMG_11: When *Aila* ruined our houses, we needed masons to rebuild them, but we did not have any masons in this area. All masons and their workers left for Satkhira. They have not come back yet as they are getting high wages in the cities. New masons have trained up by themselves but their work quality is not as good as those before.

INT_NAT_NMG_14: Labour shortages are very common here. All the young are drawn to *Sherpur*. The young have a tendency to move as they are paid well.

INT_NAT_NMG_15: I had to pay high wages for my rice (paddy) harvesting as sufficient labourers cannot be found here. Now women have started working as labourers which has been very unusual here.

When people left the villages of *Gabura* or *Natuarpara* because of natural disasters, many labourers or workers from different occupations also left for other places, mainly in Satkhira district city and *Sherpur*. First of all, work team leaders found employment offering minimum wages; they then called their team together and started working in the city. Initially the team leaders accepted low wages in order to secure work. Once they were well recognised and settled in their new places they were able to make jobs available for other workers in their team. However, at times the team leaders required even more workers and as a result, they again called upon labourers from their villages using mobile phones. Many workers were moving to the city areas to receive higher wages. Although the migration started in response to natural disasters, many people continued to move even at times when there were no disasters. Thus, chain migration is still active in *Gabura* and *Natuarpara*, which has resulted in labour shortages and the need to employ poor women to work in the fields during harvesting periods.

## 6.3   Impacts on Children

According to international standards, children are defined by the UNICEF in article 1 as "individuals below the age of 18 unless the laws of a particular country set the legal age of

adulthood younger" (UNICEF, n.d.:1). According to the Labour Law of Bangladesh 2006, children are defined as being not more than 14 years of age (Hindman, 2011). Children represent an important component of the migrant population. Migrant children often experience maltreatment in the place of destination, including suffering from social isolation, dropping out of school, child labour, and harassment (ILO, 1996). This section analyses how children are impacted by being a member of a migrant family. It discusses the loss of friendships during and after migration to unfamiliar environments, the limitations of schooling, child labour and the harassment of girls from families that have migrated from *Gabura* and *Natuarpara*.

### 6.3.1   Lack of Social Networks

Children can become isolated after migrating to a new place. When they move to different locations they lose their former mates who were very important to them socially. Migrant children need a long time to rebuild their social networks, developing new friendships within a new environment. This suffering is most apparent when single families migrate to city areas. Three families of *Gabura* claimed:

> INT_GAB_MIG_12: … Very soon my elder son is going to be a Hafez[10] in Quran. He wants to go back to *Gabura*. He claims all his friends are in the village. We usually visit two or three times a year to *Gabura*. But still he is not satisfied.

> INT_GAB_MIG_13: … She (seven years old daughter) cried for months when we came here first. We had big trouble with her.

> INT_GAB_MIG_6: We have rented one room in this slum area and have been living here for the last five years. This room is not sufficient for us and our children. They

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[10] A person who can memorize the whole Quran and can recite without looking at it.

cannot play or run. It is like a prison cell. But we didn't lack for anything in our village except we were poor. Our children enjoyed it a lot.

In urban areas of Bangladesh the population pressure is very high. A substantial portion of the urban population lives in slum areas where all members of a family live in one room. Those migrating because of extreme climatic events (and also other types of poor migrants) often live in these slum areas. Children who have moved from a village environment find it difficult to adapt to the slum environment which is without friendships and playgrounds.

### 6.3.2 Limits to Schooling

One of the major problems faced by migrant parents was their children's schooling. Many of the migrants from *Gabura* with school aged children who moved suddenly after cyclone *Aila* to the urban areas were faced with this kind of problem. In particular, they (interviewee) talked about the difficulties surrounding school admission, the lack of affordability of uniforms, safety and security, and so on.

> INT_GAB_MIG_16: … One year I could not send my daughter to school here (in Khulna). Paying high tuition fees to the school was not possible for me. She was admitted in the following year to the same grade in a low quality government primary school. She lost one year from her life. Even though, it was far from the area where we live.

> INT_GAB_MIG_4: Here (Satkhira city) the education system is totally different from our village *Gabura*. It is difficult for poor people like us to afford uniforms, tutors and high tuition fees. Even though my son wants additional tuition like his other friends here, I cannot afford it.

> INT_GAB_MIG_5: … My daughter was very meritorious and positioned at the top of her school in *Gabura*. She used to go to school every day by herself. We did not need to take to and from school. But here (Satkhira) we have problems when we need to

send and bring her from school regularly. This is a new place and we have to think about her security. I don't have time as I go to work every day. As a mason, I have to search for jobs from builders and have to manage workers/labourers who are working under me. Her mother is pregnant and can't go out with her.

Migrant parents who want their children to go to school in the new environment face four kinds of difficulties. Firstly, it is not an easy decision for parents to select a school; secondly, admission to a school in the middle of the session was challenging; thirdly, tuition fees, new uniforms and books are more expensive in the city areas; and finally, parents do not let their children go to school alone in the city areas for security reasons. Either one of the parents or a close relative usually goes to school with the child/children and brings them home at the end of the school day.

### 6.3.3    Dropping out of Education and Child labour

Children who have migrated due to a natural disaster or extreme climatic events can face serious challenges within developing countries where child protection laws are not available or are poorly implemented. In these situations, child migrants are at a high risk of discontinuing their education or are vulnerable to child labour  (ILO, 1996).  Some child migrants from *Natuarpara* and *Gabura* ended up working in agriculture, department stores, bus cleaning, and welding shop.

> INT_NAT_MIG_9: Both of my sons are working with us (husband and wife) in rice processing. Initially I sent them to school, but I could not afford books or clothes to continue, as I came here (*Sherpur*) empty handed when the river eroded my lands. Now I need them as workers and they are also helping me.

> INT_NAT_MIG_2: My daughters can't go to school alone. We are a three person family and moved here (Kazipur) from *Natuarpara*. We feel insecure to live here, how we can send her to school as she is growing up. She helps us in my chili business at home. We will wed her in the next two years.

INT_GAB_MIG_16: We are not sending our son and daughter to school. We don't have money to buy clothes and pencils. I (female) work in a house and get food for my children. If I take my children to school every day, I will lose my job. What will we eat then?

INT_GAB_MIG_13: My son studied up to class three in *Gabura*. But when we came here (migrated to Khulna) we did not send him to school. Now he is working in a department store.

The economic conditions faced by poor migrants can be worse in the new places. At the new destinations, migrants struggle for their basic living requirements, including food. As a result, they are not able to consider the education of their children or are not financially capable of funding study expenses. Parents under such financial stress always consider it is better for their children to earn some money to help the family. Moreover, children can be trained in their job, which can be helpful in building a career for the future. The following case from this study is also supportive of this:

Akram, a thirteen year old boy, has been living with his mother and his other two younger brothers. When he came here to Khulna city (from *Gabura*) with his parents, he was only 8 years old. He does not go to school. As his mother said, "he used to go to school for two years, but when my husband left us I could not afford their food and clothes. He (Akram) left the school and started working". When I asked about her husband, she said, "I don't know where he has been. But I have heard that he got married again and is living with his new wife". Akram was working in a small welding shop for the last two years. He has learned many things from the owner of the shop and wished to become an owner of a welding shop like this. "I get food every day with 50 taka (less than 1 AUD)," Akram said.

## 6.4    Harassment of Women and Girls

In some cases, females in public places or on roads in Bangladesh experience harassment by young boys (Nahar, van Reeuwijk, & Reis, 2013). Many school-going girls have committed suicide because of this 'eve teasing' (The Hindustan Times, 2010). Certainly, girls from migrant families experienced harassment (known as 'eve teasing' in Bangladesh) and threats when they travel to school or walk across the roads alone. One migrant family from *Natuarpara* and two migrants from *Gabura* expressed their concerns:

> INT_NAT_MIG_22: One local boy often teases my daughter when she goes to school. The boy never goes to school. All the time he waits until my daughter goes to school and verbally abuses her. We can't say anything as we are not strong enough. So she has stopped going to school.

> INT_GAB_MIG_13: My wife used to continuously receive bad language from a neighbour when we took a house at Shibgonj (a place of Khulna city). He abused my wife and threatened her. I left that area and came here (Mohammadnagar of Khulna city). Now there is no problem as many people who are living here are from our area.

'Eve teasing', or sexual harassment, has a negative psychological impact on girls and their parents. When migrant families live within another society in the urban areas they receive this harassment from local young people. Migrant families are also afraid to try to prevent this harassment or to make a complaint to the police station; if they do, more threats and physical assaults can occur. Victimised families generally try to remigrate to different places where people from their own community already live together, or they send their daughters to relatives living in other places. The following related case study of people from *Gabura* supports this as an issue.

> Mukter Mali lives near to the Sonadanga bus terminal of Khulna city. He came here with his wife and two daughters from *Gabura*. His elder daughter is thirteen years old

and was a student in class seven. Local young boys harassed her very much on her way to school. Every day she used to cry after her return from school. He said, "I complained to the local aged people, but got no help from them as we are the only family from *Gabura* living here. The situation got worse, local youth threatened to abduct my daughter. I know many girls in Bangladesh are abducted and raped this way. We were so afraid and sent her to my younger brother who is living in Chuknagar (around 25 kilometres away from Khulna City). She is not going to school anymore, but helping them to do their housework".

## 6.5 Voters' Rights

Bangladesh has been practising democracy since 1990. Every five years people have the opportunity to cast their votes and elect the government. During election time people all over the country enjoy a festival like atmosphere. My data collection for this study happened just before the national election at the beginning of 2014. Some new migrants from *Gabura* and *Natuarpara* complained about their rights to cast a vote in this election.

> INT_GAB_MIG_23: Three years ago I came here, but still I am not a voter in this region. I could not go to the centre to cast my vote.

> INT_GAB_MIG_18: My name is not on the list. No leaders are coming to me. They will not give me any money or clothes. I don't have any value here.

> INT_GAB_MIG_7: Last time (election time) I got money from leaders just before the day of the election in *Gabura*. As I am not a voter here, I will not receive anything this time.

> INT_NAT_MIG_3: I used to enjoy the day of the election. I would go to the school (vote centre) with our community people and stand in the queue, and cast my vote. I feel very insignificant here (Kazipur) as I am not a voter. Nobody is coming to see how I am living.

During the time of the election, candidates who are former ministers or important people of the government visit voters' house to house in the rural areas. They talk directly to the locals, witness their poor lifestyles, and make promises for future development. All voters desire this and enjoy the situation whereby some important person of the Government or opposition is begging for their votes. Another important practise during the last week prior to the election is the trading of votes. Candidates, including their leaders, extend their reach to the voters through local or community leaders. With the help of these community leaders, candidates buy votes from each family member either by cash or clothes. Poor voters from the villages know that once the candidate wins, they will never see them again; so this is the time to gain something from them. However, when migrants settled in new locations they were not able to cast their votes because they were not registered to vote in those places. It is a very complex and time consuming endeavour to include names on the voter list. Therefore, migrants of *Gabura* and *Natuarpara* lost the opportunity to receive money or clothes from candidates; they think this has occurred only because of migration.

## 6.6    Conflicts and Insecurities

Large-scale migration is considered one of the foremost potential security risks resulting from anthropogenic climate change (Vollmer, Tanzler, & Warnecke, 2010). Migration as a consequence of extreme climatic events shows that communal tensions may increase internal conflict, and damage the harmony of social cohesion in the receiving areas (Ware, 2005). Resource competition, ethnicity and cultural differences, and religious practices are the main factors which lead to the violence between migrants and receivers (Vollmer et al., 2010). As discussed in this section, this study also argues that resource consumption, ethnicity and competition are majorcauses of conflicts in the receiving areas.

While conducting this study I received conflicting information mainly from two receiving communities: *Sherpur*, where migrants came from *Natuarpara*, and Khagrachari, where migrants came from *Gabura*. I interviewed both migrants and receivers on this issue, and found different situations. In *Sherpur*, migrants complained that receivers were not well

behaved whereas receivers alleged that migrants wanted to dominate every sector of the society. According to the migrants:

> INT_NAT_MIG_7: They used to call us *Chorra*[11] as we came from char (river land) region.

> INT_NAT_MIG_10: For a long time, they did not behave well towards us. They did not talk to us when we met and called us *Chorra* and other slang language.

> INT_NAT_MIG_13: Once they behaved like we were thieves. They didn't call us to work with them, even now. But many of them are working in our businesses. We have built a nice mosque here, but they are not interested to come.

For the people of *Natuarpara*, *Sherpur* is the first priority for migration. At the beginning stage of migration, the people of *Sherpur* did not behave well towards the migrants. In every sector they tried to dominate, and they abused and insulted migrants in their local language. If anything was lost, migrants were blamed irrespective of who committed the theft. Many locals engaged in fraudulent acts when migrants bought land from them; they took the money but did not register the transaction. Even when they sold land to another person/migrant they did not return the money to the first person who had already paid.

On the other hand, locals of *Sherpur* made a number of allegations against the migrants. I conducted two focus group discussions with local participants in *Sherpur*. They complained that the place is full of migrants from *Natuarpara*. These migrants have captured every segment of business. They have bought a maximum area of land at very low prices; only small areas are left for the locals. The locals said that the prices are very high now and are beyond their buying capacity. Migrants are dominating the locals completely. According to

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[11] Char is the small new land created by rivers Bangladesh. It may be on the bank of the rivers, or inside the rivers. People who come/live in these lands are informally called by *Chorra.*

the locals (I was informed through focus group discussion), "they (migrants) are mean and low minded, could not change their *Chorra* behaviour. All the time they are ready to fight us. Our boys can't play with them in the playground; their boys are so united and fight with local boys. We also avoid going to their mosques". The initial situation when the number of migrants was small has changed, with the population of migrants now greater than that of the receivers. However, I saw a different situation in Kazipur where only three families had migrated from *Natuarpara*. They said, "We don't have freedom in this village. We cannot eat any fruits from our trees; everything is stolen at night when it is ripe. You can say it is a kind of torture. We tell our children don't get into conflict with locals; all judgment will go against us. We have to abide by their rules and what they impose on us".

Migrants in Khagrachari district have a security problem. As discussed earlier (chapter five), these migrants came from *Gabura* to Khagrachari, which is a part of the Chittagong Hill Tract (CHT). Many ethnic communities live there alongside Bengalis (local tribal people). There has often been conflict between Bengalis and non-Bengalis which has sometimes resulted in deaths. Along with two other families, Siddik Gazi and his family came all the way from *Gabura* to Khagrachari in 2009 after cyclone *Aila* had destroyed all of their belongings. Together the three migrant families purchased a small hill from a local *Chakma* tribe (non-Bengali); they built houses and started to cultivate rice together around their houses. Although they were economically better off than they were in *Gabura*, they did not feel socially secure. In the region, non-Bengalis have established quite a large organization named "Peace Batallion" or "Shanti Bahini". The purpose of this organisation is to form a sovereign state; they have heavy weapons and do not tolerate the infiltration of the CHT region by any Bengali at any cost. All the time Mr. Gazi and the other families were being pressurized to leave the area. Sometimes, Shanti Bahini came with a team of armed people (ten to fifteen people) and threatened them. Often they demanded a 'subscription' that needed to be paid. Mr Gazi said, "Every moment we feel we want to go back to *Gabura*, but where we will live. We have sold everything that we had. We are afraid of cyclones and the

big tides of water. Here (Khagrachari) there are guns and there is *Ban*[12], we have no peace in our lives". Shanti Bahini also reached a consensus and made a deal that migrants would give a portion of their produce; this is given unwillingly by Mr Gazi in order to maintain the security of his family.

Conversely, local Chakma tribes expressed revengeful behaviour and indicated their anger towards Bengali migrants. During a discussion with two of them, one said, "The whole of the hill area belongs to non-Bengali tribes. Every year new people are coming here and building new houses. They are increasing day by day. We complained to the Government, but they are doing nothing, rather they are helping them. It seems the Government is following an Israeli-like settlement programme".

Chittagong Hill Tracts is a region where the population density is lower than other parts of the country. Until thirty years ago, only tribal people were living there. However, for the last three decades people have migrated to the area from all over the country; people who are environmentally distressed or are poor and landless. As a result, the population density has increased, and the proportions of Bengali people and tribal people are almost the same. The tribal person also expressed, "Since the portion of Bengali and non-Bengali is same, many leaders are being elected from Bengali community. These leaders never see our interests".

Moreover, the beauty and stability of the hilly areas is being eroded; in particular, the hilly forest is being destroyed by the development of new settlements. As a result, the degree of landslides has increased and many die in the rainy season. In addition, the uniqueness of tribal communities is going to be lost; they are going to lose their cultural traditions. Biplob

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[12] *Ban* is local language of *Gabura* – which means high tide.

Chakma complained, "If this continues, we will be lost among the Bengalis, our cultural and religious heritage will go to museums".

## 6.7    Discussions and Conclusions

This chapter has discussed the impact of migration induced by extreme climatic events. Both positive and negative impacts were expressed by migrants and receivers in the places of destination. Negative aspects of migrants in the destinations and non-migrants in the places of origin are documented clearly in the consequence of migration discussed in this chapter. The main cause of less positive impacts documented here is that respondents tended to focus on the negative aspects. They possibly thought that they could be helped by the government or non-government agencies knowing about their miserable situations. However, people who migrated 10 to 15 years earlier have strengthened their position and financial situation in the society. They are well established in the business sector and employ new migrants who are from their previous location. Many migrants have ample scope for jobs in the urban areas. Most migrants live in safety; they do not need to be afraid of river bank erosion, floods, cyclones and tidal surges. But the conditions for current migrants are different. These migrants are forced to migrate because of extreme climatic events. They were only able to bring very little of their belongings with them and they need time to recover from the shocks they received from extreme climatic events.

The negative impacts found in this study were different from other types of migration. Although all migration has some common negative impacts such as population pressure, social, political, economic, cultural and religious problems (Nijkamp et al., 2012; Hatton & Williamson, 1998), Migration because of extreme climatic events makes people more vulnerable in labour markets, lacking in a secure identity, and lacking in safety for family members, especially for women and female children (Afifi & Jäger, 2010; McAdam, 2010). Major problems faced by migrants in this study included the adverse impacts on their children. Children who migrated with their parents lost their friendship networks and became isolated in the new places. Some of them faced problems with schooling, such as

admission problems in the middle of the academic year, the high cost of tuition fees, and the lack of proper security on the way to school.  Some children had to drop out of school and partake in different kinds of jobs to earn money for their families. School girls faced harassment from local young boys and in some cases, had to stop going to school altogether. The migrants were deprived of their voting rights in the new places, often having to wait for five years. The migrants also experienced security problems if they were not living within big communities of migrants.

Conversely, members of the receiving communities were concerned for a number of reasons. When the number of migrants increased, the locals felt dominated in their own places. Also, migrants have bought most of the agricultural lands and places for settlements which has resulted in high prices that limits the ability of local people to buy land. Mass migration into the hill areas, where mostly tribal people live, has threatened the cultural heritage and aboriginal of local tribes.  Chapter seven will present the intervening factors in *Gabura* and *Natuarpara* that contributeto decisions not to migrate.

# CHAPTER 7: INTERVENING FACTORS AFFECTING MIGRATION

## 7 Introduction

This chapter addresses the fourth aim of the research: to discover the underlying factors that affect the process of migration in the areas affected by extreme climatic events. As discussed in chapter four, push-pull factors are important for migration, but the migration process can be more completely understood through the identification of factors that are termed en-route factors, or 'intervening obstacles'. As Lee (1966) identified, the intervening obstacles that discourage people from migrating from one place to another include: the cost of transportation; distance between two places; landscape features such as rivers; and laws at the place of destination.

Intervening obstacles can be viewed as either internal constraints or external constraints (S. E. White, 1980). Internal constraints depend on an individual's characteristics, such as their willingness to migrate, whereas external constraints refer to the spatial characteristics or physical barriers associated with different locations (White, 1980). Drawing on the notion of intervening obstacles, this chapter discusses both internal and external barriers to climate induced migration (discussed earlier as a push factor for migration). Through a thematic analysis of the interviews conducted for this research, the following intervening obstacles were identified in the place of origin: lack of financial capital; attachment to place; need to protect land resources; and demographic factors such as age and disability. At the place of destination, these factors included: social linkages; information about the availability of work; and the provision of support by government and non-government organizations. Whereas attachment to place of origin, age and physical disabilities, and ownership of land are considered internal constraints, the remaining factors can be categorized as external constraints.

## 7.1    Attachment to the Place of Origin

Attachment to place of origin is the affective bond between a person and a geographical location (Manzo & Perkins, 2006). Despite mobility and globalization processes, places continue to be objects of strong attachment (Lewicka, 2011). Place attachment is so important in migration research that whole studies are devoted to explaining migration decision-making through this mechanism. It is widely understood to be multi-faceted where people have negative as well as positive attachments to place (Lewicka, 2011). With the increasing age of a person, this feeling of attachment to neighbourhoods and surrounding environments becomes more affective and strong. As outlined by Rubinstein & Parmelee, (2012), place attachment is especially significant to older people for a number of reasons. Firstly, it keeps the past alive and relates to the later-life tasks of maintaining a sense of continuity and fostering identity. Secondly, attachment to place may strengthen a person's sense of self, and thirdly, it may be a way of enacting or representing independence and continued competence.

Therefore, a strong tie to the place of origin is a significant factor impeding migration. Given it is associated with an individual's willingness to migrate, attachment to place can be understood as an internal obstacle. In this case, the person's focus is to remain within their village; the desire is to continue to be a vital member of their community and therefore not to leave, regardless of the miseries and hazards they may face. This is evident in the interviews with non-migrants in both *Gabura* and *Natuarpara*:

> 'I never want to leave this village, this is my own residence' [INT_GAB_NMG_19]

This elderly (around 70) respondent from Gabura was asked why he did not migrate since many of his neighbours had left. He said that he was witness to many incidents over his life in Gabura including small and large cyclones. Several times he fell into miserable conditions, but he never thought of leaving this village because he had lived all his life here. He understood that he had strong feelings and fondness for his village.

INT_GAB_NMG_16 is a 60-year old man living with his 50-year old wife, two sons and grandchildren. He has been here since his birth and remembers many incidents that have happened. He told me stories of Cyclone *Sidr* and Cyclone *Aila* and how people survived at those times. Although he sent all his family members to Shyamnagar Upazila during Cyclone *Aila*, he did not leave his village. He said;

'I only depended on my God and He saved me'.

This man has a daughter who has been living in Tala Upazila, in Satkhira district. He sometimes visits her but does not stay there overnight. He loves his village, the river and the people very much. Every afternoon, he goes to the small bazar in the village; he takes tea and chats with some of his contemporaries (who are also elderly) and then returns home at night. He also said,

'Nowhere have I wanted to die but in my own village; it is my dream; it is my peace'.

Like this research participant, most of the non-migrant respondents have a strong connection to their village especially those who are elderly, and this has restrained them from migrating despite difficult circumstances. These villagers have built a solid bond among themselves and with the village location. I noticed three homeless people (aged 35 to 45) at *Natuarpara* who have lost their properties and homes to the Jamuna River. They move from one *para* (small community or area in a village) to another. They have rarely engaged in regular work and could barely manage their everyday meals properly. Nevertheless, they are reluctant to leave because of their attachment to the place; to the village and its people.

[INT_NAT_NMG_1]: … I love living here. I like my family, birth place and everything of it.

[INT_NAT_NMG_2]: … It is better to stay here. River, sand and boat, whatever; I want to stay here with my parents and the villagers.

with this situation … I don't have any problem living here.

In spite of this affection for the place of origin and an unwillingness to migrate, sometimes there are many push-pull factors that stimulate the need to migrate. However, some of these migrants continue to express feelings of attachment to their place of origin. Indeed, despite having to migrate to nearby safe places for short periods of time, they keep waiting for the opportunity to return to their village.

## 7.2    Age and Physical Disability

Age and physical disability are important factors operating as internal obstacles to migration; firstly, because elderly people generally do not want to migrate to a new place, and secondly, because most of the elderly experience a loss of mobility due to aging and disability. Therefore, for the elderly, aging and disability serve as internal barriers to migration.

Older people live within their extended family settings in Bangladesh (Martin, 1990). Traditionally, the responsibility for taking care of older parents lies with their male children; this is especially important given the state has virtually no policy arrangements for the well-being of its elderly population. Although the state – as well as religious beliefs – stipulates the equal distribution of land properties among children of both genders, a major portion of the land is distributed among the sons; daughters, who are considered temporary members of the family, receive less property from their parents (Kabir, 2002). Therefore, in most families, land property becomes the biggest issue predominantly for male members and as a result, parents are often most highly respected by their sons. However, for their male children, the parents' age and disability operates as intervening factors that inhibit migration. For example, when I asked some non-migrants in *Gabura* why they did not migrate like the others, three respondents claimed that it was their parents' age and disabilities that prevented them. They said they were ready to move, but:

> [INT_GAB_NMG_6]: … Our old parents are as much a burden as our children during a journey … They are part of our family, we can't leave them out.

> [INT_GAB_NMG_2]: … We went to Shyamnagar that is close to our village and came back after one month … We got hold our mother with us who is 68 … We had an enormous suffering for that short travel with my mother and our little child. Thinking that suffering, we did not make any further move.

There are no aged care centres in the villages of Bangladesh and few can be found in the capital city of Dhaka. Aged parents have to rely on their sons and daughters for support. Family members do not feel they can leave their parents or aged family members behind when migrating. In every decision they make, they have to consider the consequences for the aged members of their family. This is clearly evidenced by Shahidul (INT_GAB_NMG_20) at *Gabura*. Shahidul had a small business; a small shop on the corner of a road where he sells biscuits, bread, sweets and baby toys. His uncle and his nephews had permanently migrated to Khagrachari (discussed in chapter 4) and during the interview he indicated why he (Shahidul) changed his plans to go with them. He expressed:

> "I cancelled moving to Khagrachari with my uncle and nephews who shifted over there after Cyclone *Aila*. I was all prepared both physically and mentally, but then, I thought that my father could not travel such a long (two days) journey and would be unable to move to a hilly area like Khagrachari. Here in *Gabura*, my neighbours help him spontaneously when I am not at home. He was around 70 years old when the decision was made. Now he needs additional care and cannot move without the help of others. He has nobody but me. On the day of Cyclone *Aila* when we got around four feet high water in our area, I took him in my arms like a baby. Then I walked around one and a half kilometres through the water. I placed him on the roof of a building with hundreds of others."

While some non-migrants indicated that their inability to leave the village was linked to their parents' disability and age, others admitted they were enjoying particular benefits connected with their parent's age. For example:

> [INT_GAB_NMG_13]: … I get 400 taka every month from the government for the care of my mother who is aged. If I left this place, I would not have this opportunity.

> [INT_GAB_NMG_22]: … We are lucky; our Chairman of union council gave us a card for the *baisko vata (*old age pension) scheme. My mother has taken up this opportunity and gives me money every month.

The old age pension scheme was launched by the government of Bangladesh in 1997 (Al Faruk, 2004). Although initially the amount was 200 taka per month, five years ago this was increased to 400 taka per month. Only selected aged males and females are issued with the old age pension scheme card. The process for being selected as part of the scheme is not equitable; it completely depends on the politically elected union council chairman and members' decision. With a change of leadership, the names of card holders included in the scheme can be deleted from the list. Although the amount is not equivalent to one month's living expenses, for people living below the poverty level it is a significant amount; "something is better than nothing".

## 7.3    Protection and Ownership of Land

Land ownership is the greatest desire of the people of Bangladesh, where more than half of the population earn their livelihood from agriculture (Karim, 2014). Indeed, the importance of agricultural land has increased as over the decades, the land-population ratio has decreased due to the pressure of over population and the damage to and loss of lands attributed to river bank erosion. Although the land can reappear after five to twenty years through the formation of *char* (alluvion), powerful groups become active to take possession of these lands and as a result, the original owners of the land often fail to be granted legal tenure.

To avoid the conflicts and complexity surrounding reappeared land, the Diluvion-Alluvion Act was formulated during British rule and adopted on June 28, 1972, soon after independence (BLAST, 2005). The Act stated that reappearing land would be owned by the Government and declared as *Khas* (state-owned) land which would be redistributed among the poor and landless families irrespective of their race, religion and region where they come from. However, the Act did not mitigate the problem as influential local elites and large scale farmers continued to grab the allocated lands from landless people. Therefore, the Diluvion-Alluvion Act was amended in 1994 to state that accreted land should be returned to the previous owner (FAO, 2010). Although this amendment seemed straightforward, there were challenges in identifying and measuring the actual boundary and location of the site. In fact, the complexities and conflicts remained unchanged and therefore, the owners of land in erosion affected areas, including *Natuarpara*, try to protect their land by themselves.

Every migrant and non-migrant interviewed identified a desire to, at some point in their lives, own their own home on their own land, with some land available for cultivation. While protecting their ownership and use of this land is related to spatial characteristics that can be classified as external obstacles, the process of becoming an owner of land is related to personal motivation that can be categorized as an internal constraint. However, some respondents aspired to keep land in their place of origin for purely pecuniary reasons. As a migrant from *Natuarpara* to Bogra [INT_NAT_MIG_22] argued:

> 'I don't want to make someone else rich using my land… I'd rather be spending that money for buying my own home here in Bogra city and for my own children … I have subleased all my lands to my cousin who is protecting my lands and even sending me a fixed amount of money every year'.

The cousin [INT_NAT_NMG_18] viewed this relationship positively:

'I am lucky to get land from my brother … Honestly speaking; I didn't have any land for cultivation until I got this land from him. Every year I have to share my crops, a substantial portion is being left for my own expense … I don't need to leave this place … I am fine here (in *Natuarpara*)'.

Migrants living in the city areas[13] have appointed family members or close relatives as guardians of their land for two reasons: firstly, to protect their land ownership for future farming or as an asset for sale in an emergency. An interviewee (INT_NAT_MIG_22) mentioned:

Our children will decide whether they will sell it or keep it; they cannot blame me at least.

Secondly, every year they receive financial benefit from crops cultivated on their land. In addition, while a small amount of the crops harvested are shared with the land owner, the protectors of the land (selected by the landowners) also derive benefits from those lands.. Within a disaster prone area these benefits have become an important factor in the decision not to leave the affected areas. This was explained by Dhali (INT_GAB_MIG_7) who has been in Satkhira city:

After Cyclone *Sidr* (2007), I was almost without work, and after Cyclone *Aila* (2009) this problem became more acute as being a stone mason was my only profession. Then I settled here (in Satkhira) with my daughter and wife. I have two more brothers; one has left for Jhikargacha, and my younger brother has been living at *Gabura*. We didn't have much land, especially if we divided it among three brothers, we would have a very small portion each. It was better that two of us (the two brothers who

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[13] Voluntary migrants to city areas owned some lands and money before they moved, and their status was generally higher than those who migrated to other rural areas.

migrated) gave our entire portion to the younger brother at *Gabura* so that he could cultivate the land. Then he did not need to move here or to another place.

## 7.4    Lack of Financial Capital

The lack of financial capital can be considered an external barrier to migration. Migrants need to consider the travel and maintenance costs for all family members until they obtain employment at their destination (Saudia, 2012). Indeed, for successful settlement, migrants need to be sure that they have enough diverse resources to cover transportation, and building or renting a house in the new place. Potential migrants are also aware that employment may not be readily available, and they may need to wait for days or weeks for a suitable job. In particular, daily-wage labourers who do not have savings face inevitable challenges before they leave the place of origin. The options considered include either taking a loan from friends or relatives, or selling property; both of which have important consequences. However, without these options they cannot make the decision to migrate. For example, people in *Natuarpara* who did not migrate reported:

> [INT_NAT_NMG_16] … I did not have money at the time I lost everything in a flood that resulted in river bank erosion … Although, I wanted to go to Sherpur like my other neighbours, and I had to give up.

> [INT_NAT_NMG_5] … Who is going to give me money at that time? Almost everybody had the same situation like I had … rich people knew that I could not reimburse their money even if I had been loaned it.

> [INT_GAB_NMG_11] … I had nothing to sell except the clothes we put on … I sold my wife's  jewellery two years back when she got sick and I needed to take her to the city hospital for her treatment.

> [INT_GAB_NMG_12] … We often sell our domestic animals for the treatment of our family members. But, nothing was left after *Sidr*; all our animals were dead.

Borrowing money during the disaster phase is not an easy task because most people are experiencing the same kinds of difficulties during the emergency period. Moreover, there is a level of uncertainty about people's capacity to reimburse the loan when they move; particularly when they move to unknown places. At any time of need, daily-wage labourers may have no choice but to sell their domestic animals (goats, cows or hens) or women's ornaments/jewellery. This may be required when a family member becomes sick and needs to visit a doctor, or when it is necessary to buy a present for a wedding ceremony, or to pay tuition fees for school children. In every circumstance, personal jewellery is targeted if there are no domestic animals to sell. This is especially the case following intensive hazards, such as a cyclone, flood and river-bank erosion, when generally very few domestic animals survive.

The amount of financial capital necessary to migrate is relative, depending on an individuals' background, the number of family members, the distance to travel, and the choice of transportation, such as local bus, train, or rented car. Not surprisingly, longer distance travelling for a large family incurs higher costs.

An example of travel costs was provided by three families from *Gabura*, who travelled together to Gopalganj after Cyclone *Aila* in 2009. Gopalganj is a district located in the central part of Bangladesh, quite a long distance from *Gabura*. These families were familiar with Gopalganj because family members had been there several times for seasonal work. Indeed, one family had already settled on fallow land close to a river before Cyclone *Aila* [2009] and had then assisted the other two families to migrate to the area after Cyclone *Aila*. Moksed Meer, a 32- year man, was one of the wage earners of those three families. He explained:

> '… When members of our two families took the decision to come here to Faridpur on the day after Cyclone *Aila*, we were advised to collect money for bus fares and

food for at least fifteen days. I sold out my rice cheaply[14] for the money to come over here with my whole family. That rice I stored at my home (at *Gabura*) was enough for three to four months eating. I also lent money to another family who promised me they would give it back after arriving in Gopalganj, where his (my cousin -the other companion family of this journey) brother-in-law would be waiting ... After coming here (Gopalganj), I built my hut (a house built with mud and straw) along the river side with the money I took from *Gabura*.

Moksed Meer had a family of six members – including his parents, one brother, one sister, his wife and himself – and had to travel a long distance by local buses to get to Gopalganj. As a result, he had to secure a considerable amount of money to ensure his arrival at the destination.

## 7.5    Failure of Social Linkages

Social linkages enable the transmission of spatial, human or other kinds of information between connected groups of people, including family members, friends, and communities (Yu, 2012). Social interactions in both the place of origin and place of destination makes migration easier (discussed in detail in chapter seven); it facilitates chain migration (defined in chapter 5, section 5.2.3)  (Palloni, Massey, Ceballos, Espinosa, & Spittel, 2001) to the extent that a failure to connect to people in the places of origin and destination leads to unsuccessful attempts to resettle. Although there is an amount of literature surrounding the contribution of social networks to migration and resettlement, there appears to be little academic research regarding the extent to which a lack of networks actually constrains migration. When interviewing villagers about the difficulties associated with migration, or the reasons why they did not migrate, some expressed concern about not having any social

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[14] At the time of a hazard things are sold very cheaply because there are only a few people who want to buy anything.

connections with people who had migrated previously or who could provide them with guidance. A couple from *Gabura* described how they were helpless when people started leaving the area:

> [INT_GAB_NMG_5]: … We spent two days at the cyclone centre at *Gabura*. When we saw some boats were coming and picking up their relatives from the centre, we also intended to move by boat. Unfortunately, we found nobody who could help us. We could not even select where to go and how to go.

Another male respondent said:

> [INT_GAB_NMG_21]: … I had never worked outside my village. I did not know where I could get a proper place and a job. Moreover, I was concerned about my twelve-year old school-going daughter. Besides this, when my wife asked me … how I could manage to find a good school and safe environment in the new place? I did not know the answer. I was having questions in my mind as to whether people would be friendly or not; they could harass my wife and daughter.

A woman [INT_GAB_NMG_23] also said:

> … we planned to move to Sathkhira and asked our local politician (ward commissioner) to help us, but he did nothing.

After Cyclone *Aila*, people of *Gabura* waited for assistance from their relatives outside the affected area. Immediately after the cyclone, many kinsmen arrived to help rescue people and move them to a safer place, and this was followed by providing support for resettlement into new destinations. In *Gabura*, people resettled in places where they were already connected through work before Cyclone *Aila* and were already informed about the cultural differences, government policies (if they were settled on fallow land), community rules, and existing land prices. Indeed, being well informed about the destination and about how to get there is critical, especially for those who have not visited the place previously.

During the fieldwork, it became evident that people from *Gabura* were less interested in buying land at the place of destination compared with those who had moved from *Natuarpara* because of river bank erosion. Land is important to the people of *Natuarpara* and subsequently, priority was given to accessing information about land availability, land characteristics and land prices at the destination place before they decided to move. Indeed, the people of *Natuarpara* would not migrate until they felt confident they had received this information about the land situation at the destination through their relatives. This was clearly evident when I talked to *Mukul* at Sharepur, a 27 year old man living with his wife and four year old son. Although *Mukul* failed to migrate on his first attempt, he successfully accomplished his journey to Sharepur on his second attempt after he connected with *Shiraj* (who had been in Sharepur for a long time). As he said:

> '… During the month when I got separated from my family after my marriage, a sudden flood forced me to leave my house. I thought of going somewhere in a better place where I could live without floods and river bank erosion, but I could not. I found nobody who could guide me to selecting a better place. On my second attempt, when I lost my home and belongings entirely due to river bank erosion, I was given some money by my father-in-law and told to leave the village. I was also asked to contact a person, named Shiraj, in Sharepur who was a relative of my wife. First, I came alone here without my family, and then I talked to Shiraj who gave me good guidance. Within four days, I went back to *Natuarpara* and came back with my wife whom I had left with her parents. You could say, I am here only because of Shiraj'.

From the above discussion, there are three basic difficulties associated with a lack of social connections that can eventually prevent migration. Firstly, a dearth of social connectivity veils the escape route to the destination, including potential transport options. Secondly, without social networks migrants remain ignorant about the social environment of the destination place, such as social security, educational institutions, transportation and roads,

communication, and market locations. Finally, information about land availability and prices, employment opportunities and wages will remain unknown.

## 7.6    Support from Non-Government/Government Organisations

Support from non-government organisations (NGOs) can serve as an external 'obstacle' that affects the process of migration. A number of NGOs have been working both in *Gabura* and *Natuarpara* for the development of rural people (table 7.1). These NGOs have offered aid to the people of the study areas in the form of micro-credit loans, solar panels, domestic animals, water reservoirs, house materials and direct cash payments. The large number of fatalities at the time of Cylcone *Sidr* (2007) and Cyclone *Aila* (2009) resulted in the immediate involvement of these NGOs, particularly on the southwest coastal parts of Bangladesh, and especially in *Gabura* Union. In order to determine how the actions of NGOs affect migration I first approached the NGOs working within rural areas and then I interviewed the villagers. Although the responses from both the NGOs and the villagers were somewhat similar, the differences were worth noting.

Table 7.1: NGOs working at *Gabura* and *Natuarpara* and the activities undertaken

| Name of NGOs | Nature of Service | NGOs at Natuapara | Comments |
|---|---|---|---|
| Practical Action | Community-Based Adaptation, Micro Credit | ASA | Micro Credit |
| USAID | Climate Resilient Ecosystem and Livelihood | BRAC | Micro Credit |
| Shushilan | Adaptation to Climate Change, Education, Health, Secure Livelihoods, Human Rights & Good Governance and Gender-Equity, Micro Credit | Grameen Bank | Micro Credit |
| Thengamara Mohila Shabuj Shangha (TMSS) | Educate and disseminate renewable energy systems, Micro Credit | Shouhardo | Strengthening housing ability to respond to development opportunities |
| BRAC | Micro Credit | AKOTA | |
| Christian Commission for Development in *Bangladesh* (*CCDB*) | Welfare and charity, and in addressing relief and rehabilitation needs | Thengamara Mohila Shabuj Shangha (TMSS) | Educate and disseminate renewable energy systems |
| Gonomukhi Foundation | Aid to the *Aila* affected people, Micro credit | | |

For instance, Gonomukhu Foundation is one of the most active NGOs operating at *Gabura*. When I asked an employee of Gonomukhi Foundation (*Gabura* Branch) about the organisation's aid programmes and the potential opportunities for the villagers, he declared:

> 'We have a strong network with our NGO here at *Gabura*; no other NGOs are functioning as well as we do. We help the poor who are registered members of this branch (*Gabura*l branch). We provided housing materials and a cow for every registered family after Cyclone *Aila*. Some received a water tank (Fig 7.1) to reserve drinking water for the whole year, while others have received sanitary toilets …. I think, the people living here have many more benefits than those who have left'.

Gonomukhi only disperses benefits to their members; that is, only those who take loans from this NGO can be provided support. The manager also told me that he had 122 registered members which is almost 23% of the total households in *Gabura* Union. Another organization, Practical Action, also implemented adaptive measures for farmers. In particular, it has developed projects to improve the resilience of vulnerable communities in the south-west coast area, including *Gabura*, through activities such as providing salt-tolerant rice varieties, drinking water purification, and developing community shelters from locally available materials (Fig 7.1). An officer of Practical Action expressed:

> '… We have piloted innovative approaches to protect against high-wind incidences … we have built some small shelters known as 'Community Shelter Homes'.



Figure 7-1: Community Shelter in *Gabura*

In *Natuarpara*, organisations including Asha, Thangamari, BRAC, Grameen Bank and Shohardo have been operating. Most conduct business through micro credit loans; the only exception is Shouhardo, which is primarily an aid-providing organization. As an employee from Shouhardho, explained:

'Shouhardo, being a co-partnership organization of CARE, has been working through a project for the last five years. It provides domestic animals, sanitary toilets and supports health care for poor women. We don't provide small credit loans. We also have a rehabilitation programme for those who have lost their lands and homes because of river bank erosion. Now, we have changed the motivation of people so they hardly have to leave the village'.

Certainly aid projects, such as those mentioned above, stem the flow of migration more effectively than micro credit loans from NGOs. A large project, such as a ready built house, or a medium grant for materials or smaller amounts of money for housing related purposes prevents the need for people to migrate from affected areas. These projects present a light of hope for the future, rooting people in place in the affected areas – with some even accruing more resources than they had before.

At Natuapara, only two respondents disclosed having loans from NGOs, and none declared having received support from aid projects. In contrast, at *Gabura* there were 20 respondents who disclosed having been provided with loans or assistance from NGOs. More than half of these respondents said the NGOs provided them with great support to remain living in *Gabura*.

[INT_GAB_NMG_7]: … We are alive because of NGOs … Many of us have received water tanks for drinking water (Figure 7.3).

[INT_GAB_NMG_8]: … I took a loan from Gonomukhi for my fish farm and every month pay an instalment to them.

[INT_GAB_NMG_1]: … I got a very nice house that I did not have before *Aila* (Figure 7.2).

[INT_GAB_NMG_11]: … my house washed away with Cyclone Alia … I got 20,000 taka and made my house again with high foundations.

The government has built seven cyclone shelters in *Gabura* Union. At the time of Cyclone *Sidr* and Cyclone *Aila*, the people of this area were accommodated in these centres for varying periods of time. For instance, many of the poorer people who were not able to manage elsewhere stayed for long periods, whereas others left immediately for places a short distance away and then settled permanently in different destinations if they wanted. While staying at the shelters, people have limited access to food, drinking water and other emergency support provided by NGOs. As a result of this small level of support from the different agencies, people tended to remain in the village. Additionally, many migrants who initially moved a short distance away returned to the village with the help of NGOs and government support. Although not all of the villagers had loans or received the same kind of aid or allowances from agencies, the loans and assistance represent another type of external, intervening obstacle in the migration process.



Figure 7-2: A one room house built for a poor family in *Gabura*

Figure 7-3: Water tank to reserve rain water to be used for the whole year in *Gabura*

## 7.7 Discussions and Conclusions

This chapter discusses the impacts of intervening factors on migration. Results confirm that despite the impact of push and pull factors of migration, there are two key aspects, – internal and external obstacles – which affect the mechanism of migration, which are also evident in the broader literature.

Internal obstacles relate to the expression of a personal aspiration to migrate. The following key factors have been identified: Firstly, living in a geographical region for a long period of time creates a fondness for the area and as a result, it is difficult to make a positive decision to leave. Manzo & Wright, (2013) suggested that place attachments are strong emotional connections that act for diverse experiences in mobility and migration. Using quantitative and qualitative data, Heleniak (2009) found that place-specific social capital was a significant factor in determining the number and destinations of persons internal migration in Russian. Secondly, the actual ability to move is restricted by age and physical disability such that the elderly do not want to move to new locations during disaster phases.

Moreover, many aged people who are poor do not want to lose their pension scheme by leaving their place of origin. Rather, they prefer to enjoy their aged pension and remain living in the disaster affected areas. Finally, people want to maintain ownership of their land, either for themselves or for the upcoming generations.

Similarly, external obstacles also prohibit the mechanism of migration, albeit in different ways. Firstly, the migration process can be terminated if the money is not available for transportation costs, or for food and medicine necessary in the interim period. Secondly, many people cannot leave because they do not have the help needed from others; people cannot access new destinations unless they are connected socially. These social networks facilitate information sharing about living in the new destination, and how to get there. Thirdly, the process of migration can be impeded by the support of NGOs and governmental agencies – such as the building of new houses and the provision of drinking water tanks – that give people hope for a new life in the affected areas. As a result of such projects, people stop thinking about migration. Therefore, this chapter clearly indicates that push factors (including extreme climatic events) and pull factors are not the sole impacts on people's decisions to migrate; there are many other circumstances to be considered in this complex process. Similarly, Adams' (2015) recent study found that health and livelihood impacts due to climate related phenomena in a highland area of Peru and suggested three reasons for people not migrating: resource barriers in the destination places; low mobility; and place attachment. The Martin et al. (2014) study on three communities in Bangladesh affected by climatic variabilities and environmental shocks used a behavioural model to examine decision-making. This study used qualitative data and found that migration decisions are mediated by three important factors: the efficacy of different responses to opportunities and challenges; migrants' socio-cultural acceptance; and the ability to successfully adapt to the new context. The next chapter will discuss the contribution of theories to understanding migration induced by extreme climatic events and the relationship to adaptation.

# CHAPTER 8: MIGRATION AS AN ADAPTATION TO EXTREME CLIMATIC EVENTSAND THE EMPIRICAL CONTRIBUTION TO THEORIES OF MIGRATION

## 8    Introduction

This chapter discusses the relationship between migration as an adaptation to extreme climatic events and the empirical contribution to theories of migration. The chapter is divided into two sections: in the first section I present an analysis of three distinct approaches to understanding the relationship between migration and extreme climatic events: migration as the failure to adapt; migration as maladaptive; and migration as a possible adaptation strategy. In the second section, I discuss the contribution of migration induced by extreme climatic events to migration theory, and present a model that typifies that relationship.

## 8.1    The Relationship between Migration and Adaptation

Adaptation has been a major issue in the broader discourse on climate induced migration (R. A. McLeman, 2013), while migration in general has been an important adaptive mechanism throughout human history (Boano & Morris, 2008). Adaptation includes a set of actions, decisions and approaches that cover different aspects to life in tune with the prevailing social norms and processes (Adger, Arnell, & Tompkins, 2005). The IPCC states that adaptation to climate change is the adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, and which moderates harm or exploits beneficial opportunities. Similarly, displacement by extreme climatic events can be the part of total adaptation procedure of climate change (Adger et al., 2014).

Adaptation to migration can be threefold: adaptation related to the places of origin, adaptation related to the places of destination, and adaptation related to migratory

movement (Gemenne, 2010). Adaptation can also be considered as a failed, maladaptive, or successful response to circumstances in relation to the places of origin, places of destination, and migratory movements respectively. In the following sections I discuss how and when migration could be considered a failure, maladaptive, and/or a successful strategy.

### 8.1.1    Migration as the Failure to Adapt

People leave endangered places when there are no other alternatives. This means that they are forced to migrate. Kraler, Noack, & Cernei (2012) argue that migrations relating to sudden-onset events – known as forced migration – are not open to adaptation. Sudden-onset events, such as floods, cyclones, landslides and riverbank erosion, drive migration temporarily or semi-permanently to places within a short distance from the event (Kraler et al., 2012). In contrast, disasters as a result of sea level rise, desertification, water logging and coastal erosion give inhabitants a longer period of time to make more considered decisions which could be considered more voluntary. When faced with such slow-onset catastrophes, migrants have the time to adapt to a new situation in that place either communally or individually.

Protection and assistance mechanisms are often developed in areas vulnerable to extreme climatic events (Siddiqui & Billah, 2014). International and national policy makers and local communities take different adaptive measures such as specific actions (e.g. changes of crop patterns), systematic changes (e.g. livelihoods diversifications) and institutional reforms (e.g., land ownership revision; distribution of government lands to the landless/land-lost people) in the place of origin (Shaw, Pulhin, & Pereira, 2010; Gemenne, 2010). Migration depends on the success of these adaptive measures. The clear equation is that if the adaptation strategies fail, migration occurs. In that case, migration is considered as a failure of the adaptation strategy at the place of origin.

Existing policy documents in Bangladesh appear to have missed the link between extreme climatic events and migration, as well as the potential link between climate change and migration (CDKN, n.d.). The National Adaptation Programme of Action (NAPA) of 2005 considers internal migration from climatically affected rural areas as a threat to the receiving urban communities/locations, creating population pressures (Siddiqui & Billah, 2014). It also argues that migrants who live in the urban slum areas are involved in crime and other social problems. NAPA has executed different actions in coastal areas to reduce the scope of migration. The Bangladesh Climate Change Strategy and Action Plan (BCCSAP), noted that climate induced migration accelerates unplanned urbanization at destinations. The Millennium Development Goals (MDG) progress report of Bangladesh (2011) emphasized the importance of labour migration to developed countries for the economic development of the country; however it has omitted the importance of the link between extreme climatic events and migration (Siddiqui & Billah, 2014). Like other policy avenues, different ministerial sectors of Bangladesh also discourage migration and try to execute different protective measures in the areas affected by extreme climatic events.

As discussed above, in Bangladesh migration due to natural hazards/ extreme climatic events has not been considered as a mechanism for adaptation. Nevertheless, the country has been experiencing the impact of such devastating extreme climatic events for a long period of time and seventeen million people are living in places less than one meter above mean sea level (Boano & Morris, 2008). For any developing country like Bangladesh it is difficult to manage migration as a process of adaptation. Moreover, the neighbouring countries, India and Myanmar, have not agreed to accept migrants from Bangladesh. India shares the longest border with Bangladesh, where the killing of innocent Bangladeshi border people by the Border Security Force (BSF) of India is very common (Ganguly, Alffram, & Human Rights Watch (Organization), 2010). Also Bangladesh has already received thousands of *Rohingya* refugees from Myanmar (Iqbal, 2015).

Capacity building initiatives and financial assistance in the form of loans and grants in aid to the affected people in the places of origin during pre- and post-disaster periods are two important climate change adaptation strategies (Glavovic & Smith, 2014). These strategies require a huge amount of funds to properly implement (Chandrasekar & Krishnamurthy, 2010). In fact, it is very difficult for a poor nation like Bangladesh to develop and implement an effective adaptation policy. Moreover, this is further compounded by the need to consider the millions of people who live in the vulnerable areas of Bangladesh. As a result, vulnerable groups of people have not benefitted enough from the insufficient adaptation measures to support them to live in the areas affected by climate hazards and sea level rise. As discussed in chapter seven, the limited support measures such as housing, water tanks, loans and financial aid provided by NGOs and Government agencies were able to prevent only a few forced migrations from *Natuarpara* and *Gabura* (study areas of this research). This migration happened when all possible options to remain in the place of origin were exhausted. As a consequence, there was no choice but for migrants to move as a last resort, which according to this particular approach indicates a failed adaptation strategy at the source of origin.

### 8.1.2 Migration as Maladaptive

Migration does not always bring happiness to migrants. From this research it appears that migration induced by extreme climatic events primarily involves moving short distances to urban areas. It results in increased demographic pressures in the place of destination which, in turn, invites economic strains, creates more jobless people, and contributes to other social and religious problems (Gemenne, 2010). Sometimes, food and water crises can become more acute. Migrants, who are not members of labour unions or other associations, are often paid lower wages than non-migrants in spite of being engaged in hard labouring jobs. On the other hand, if migrants move outside the country, the receivers need to deepen their understanding of the social, political and cultural impacts (Black, , et al., 2011). For instance, labour migrants pose a threat to health and educational services and national

security in Malaysia (Weiner, 1993). The negative consequences of migration can make receivers angry, and possible conflict/violence may ensue between the two groups (Gemenne, 2010). Moreover, in many cases migrants' identity and cultural and religious ideology can be lost. Therefore, migrants can move from a bad situation in the place of origin to an even worse situation in the place of destination. In that case, migration can be considered as maladaptive and the outcomes become questionable.

Migration from *Gabura* to Khagrachari provides an example of maladaptation. Cyclone Aila (2009) forced a group of people to migrate a long distance from their home, and to a hilly area in the Chittagong Hill Tracts (discussed in chapter 4). In this new place the migrants face multiple difficulties created by the migrant receivers (discussed in chapter 6). These migrants feel they made a great mistake in moving to this area. Nevertheless, they cannot return to their previous place – or to any other place – as they have sold all of their belongings and have bought land from the local aboriginals.

### 8.1.3   Migration as a Possible Strategy for Adaptation

Migration can be treated as an adaptation strategy to extreme climatic events, and climate change (McAdam, 2011). For instance, migration can provide income diversification. Tacoli (2009) suggests that household members may move from a place affected by slow-onset events, such as land degradation and desertification, to a nearby agriculturally dominated area in order to work for a short period of time and to send remittances to assist their family members. They can also select non-agricultural activities in neighbouring urban areas, especially when there is high demand for migrant labour. Tacoli (2009) proposes that such circular mobility and income diversification may become an adaptive measure for slow-onset climatic events. Supporting that study, Black et al., (2011) report that voluntary internal migration may play an effective role in diversifying income in a place where livelihoods are endangered by the effects of climate change. Small cities in agricultural areas which require semi-skilled or unskilled labour can also play an important role by providing access to secondary activities for the livelihoods of poor people affected by extreme climatic

events. These cities need to ensure that health and education facilities are available to the victims of extreme climatic events (Black et al., 2011; Tacoli 2009). Indeed, if any big coastal city in a low elevation country is vulnerable to sea level rise, then decentralization to small and intermediate urban centres is essential to facilitate the access to services and facilities for migrants (Black et al., 2011). Adger et al., (2014) also suggested that to maintain livelihoods, mobility and migration have increased in response to environmental and social changes. Both migration and mobility are considered as potential adaptation to changing climate.

Migration happens both within and between countries as a part of adaptation. In the case of internal migration, particularly rural – urban migration, states need to pay attention to urban destinations. A country with low population and labour shortages can take adaptive advantage of migration from other countries. Circular or seasonal migration can provide an opportunity for migrants of environmentally vulnerable areas to work in a country where their skills are in demand. A planned global approach to migration also needs to pay attention to local and worldwide demand for skilled workers in particular sectors. Like internal migration, members of a household can migrate rather than the whole community of that area and they can help the community of origin to remain viable in the long run (Black et al., 2011).

Comparatively, migrants from *Natuarpara* to Sherpur and from *Gabura* to Jhikargacha were noticeably in a better position. Although they were compelled to migrate because of flood, river bank erosion, cyclone and tidal surges, they were able to diversify their income sources. They have built strong social networks, many have bought land and constructed their houses, and this enables them to reduce their vulnerability. So in this case, migration is viable as an effective adaptation strategy.

## 8.2    Empirical Contribution to the Theory of Migration

Theories of migration have been developed to address the causes and processes of migration, but they neither directly address migration as a consequence of extreme climatic events, nor the consequences and intervening factors of such migration. Migration because of extreme climatic events, which can be used as a as proxy of climate change, can lead to changes in patterns of population distribution across the globe. The following section of this chapter discusses the contribution of migration induced by extreme climatic events to the theories of migration that were discussed in chapter one.

People can migrate directly as a consequence of extreme climatic events or these events can influence other factors of migration. For instance, river bank erosion and tidal surges forced people to move to new locations when these factors were powerful enough to destroy the community. Most of the impact of extreme climatic events were evidenced in this study in the rural communities in Bangladesh where most migration was to urban destinations. Ravenstein's law of migration applies to internal migration or rural urban migration, particularly in the developing countries like Bangladesh. Ravenstein claimed that economic reasons are the primary cause of migration. This research has identified the intervening factors that influence other factors of migration such as political, social and economic. For instance, cyclones and tidal surges puts the livelihoods of coastal communities in Bangladesh in jeopardy especially when they occur in addition to a number of other factors such as limited access to the Sundarbans, and shrimp cultivation having already impacted on their occupations.

This research argues that social linkages make the movement of people easy, and the lack of proper social connections restricts the ability of people to migrate, supporting the social capital theory of migration. This research found that many migrants were being helped by their relatives providing capital for transportation and jobs in the destination places which accelerated the process of migration. Moreover, this issue became fundamental for chain migration of people who were either affected severely or partially by extreme climatic

events, or even those not affected. Ravenstein's law of migration and Lee's model have not addressed this important issue. Conversely, migration can be hampered for a number of reasons: transportation costs, family size, dependent children and aged family members, and the lack of social networks are among many that have been suggested by Lee's push-pull model but not fully explored in the existing empirical research in the context of migration induced by extreme climatic events.

Taking decisions is an important component of migration, which can be from state level to individual. States can implement some rules to control migration of people to and from certain areas or they can develop policy to rehabilitate people affected by climatic disasters. More often, society or family members play vital roles in the case of selecting migrants or places of destinations. Sometimes discussion spreads out to include closest relatives and friends. This collective decision making can minimize the risks associated with the migration process and contributes to a more confident decision. This issue has been addressed in the neoclassical and new economic theories of migration (discussed in chapter 1). From this research on migration as a consequence of extreme climatic events, it is evident that in most cases, decisions were made by the dominant male-earner of the family. But in some cases, that person was advised by parents and fathers-in-law.

Return migration is an important part of the study of migration as people can have a strong attachment to their origins. Massey et al., (1993) argue that return migration can be of benefit to the place of origin if migrants have spent a substantial portion of time in the place of destination and become more heterogeneous in character and well trained. This can be helpful for formulating and implementing change in the places of origin. Conversely, unexpected return migration occurs when migrants feel that they made a mistake with their decision, or overestimated opportunities in the place of destination in terms of income and savings (Saarela, 2015). However, most of these return migration studies are about international migration, and are economics focused. Migrants from *Gabura* and *Natuarpara* appeared to keep watching the situation in the place they left, and they had a tendency to

compare their existing benefits and life styles with their previous one. However, when some of them felt that the previous life was better, or even the situation in the affected places of origin had improved, they simply they went back to their places of origin.

Consequences of migration are obvious both in the places of origin and in the places of destination of migration. The nature of consequences also differs from place to place. The most significant positive impact of migration is the enhancement of the local employment market and local economy in the places of destination (discussed in section 6.1) where the migrant receiver can benefit as well. Conversely, some racial and communal conflict is also seen. Chapter 6 has shown that some migrants who are living outside their community are not protected physically and mentally. Children and women were those mainly affected in this case. Moreover, cultural and religious identity of the place of destination can be overwhelmed when the migrant community becomes stronger and dominant over the receiving community. Table 8.1 provides a summary of the main migration theories and their applicability to migration induced by extreme climatic events researched in this empirical study.

Table 8.1: Theories of migration and applicability to migration induced by extreme climatic events.

| Name of theory | Key ideas of theory | Applicability to migration induced by extreme climatic events. |
|---|---|---|
| Ravenstein's Law of Migration. | Migration occurs primarily for economic reasons which occur in different stages.<br><br>Most migrants move short distances to urban areas.<br><br>Rural-urban migration is more prominent than urban - rural migration. | Migration is a survival strategy.<br><br>Most of the migration happens from rural to urban areas.<br><br>Series of stages are noticed. |
| Stouffer's theory of intervening opportunities | There is no definitive relationship between mobility and distance to be travelled.<br><br>Destinations where opportunities are available is much more relevant. | Distance is an important factor; migrants chose to move to the nearest city that is not affected or only affected by climatic hazards |

| The Lee model | Push and pull factors associated with the place of origin and the place of destination are responsible for migration.<br><br>Intervening factors impede migration | Climatic hazards are major push factors.<br><br>Intervening obstacles affect the process of climate change migration. |
|---|---|---|
| Neoclassical theory of migration | The theory is primarily used to describe voluntary international labour migration.<br><br>Human movement is allied to the worldwide supply and demand for labour.<br><br>Countries with scarce labour and high demand pull immigrants from nations with a surplus of labour.<br><br>Labourers on low wages are attracted to high wages and job vacancies. | Most of the migration is internal and not only labour based.<br><br>Climate induced migration is involuntary. |
| The new economic theory | Collective decisions are involved in the process of migration rather than the individual's logic. | Climate change migration involves the process of collective decision making. |
| The world system theory | Migration is a part of globalization. | Mostly happens inside of the affected country. |
| Segmented labour market theory | Labour market is divided into two segments: primary and secondary.<br><br>Labour is moved from primary to secondary segment. | Urban and rural areas can be considered as primary and secondary segments respectively. |
| Social capital theory of migration | Migration occurs primarily because of social networks.<br><br>Networks reduce the cost, and minimize the risks associated with migration, and migrants are supported. | Social networks play a vital role in migration. These networks arouse and enhance the process of chain migration. |

Source: The author has produced the table on the basis of theoretical discussion in chapter 1 and data analysis chapters from 4 to 7.

## 8.3    A model of Migration Induced by Extreme Climatic Events

Figure 8.1 conceptualizes the factors associated with migration induced by extreme climatic events that have been identified by this research. Extreme climatic events induce migration from a rural, agriculturally dominated area in phases. Firstly, the place of origin is active with both push and pull factors; therefore, negative and positive factors. When this rural area is negatively affected by push factors such as social, political and economic factors this also impacts on the livelihoods of the population. Vulnerable day-labourers start to think about improving their situation by undertaking alternative employment, either in the same

place or different regions. A proportion of day labourers try to find alternative means of earning a living. They begin to exploit natural resources, or other such activities, which are harmful to the environment. These activities may include timber/log collection from the forest, killing of conserved animal species, shrimp cultivation in the agricultural land, and cattle grazing on dams.
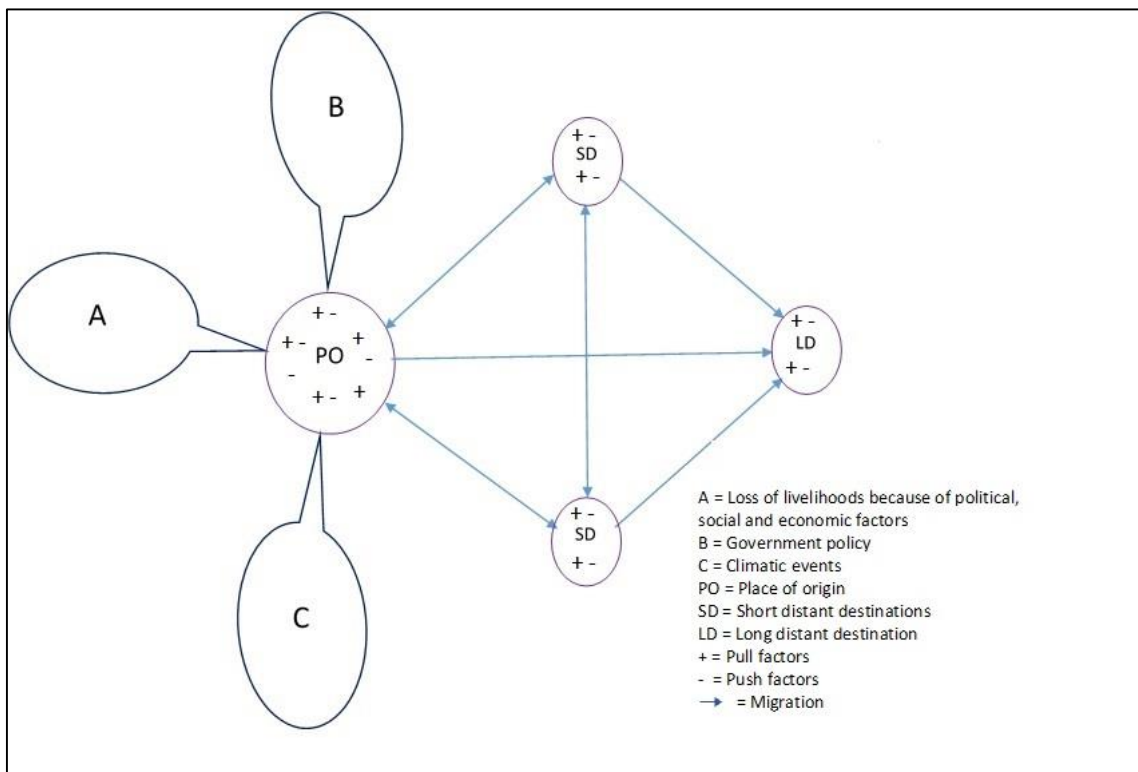


Figure 8-1: Model of migration induced by extreme climatic events found in *Gabura*

Secondly, the implementation of government policy can combine to make the situation worse and increase the level of push factors. For instance, the government can ban the exploitation of natural resources which in turn results in job losses for the general public. Certain occupations can also be limited or restricted in order to protect the environment, or adaptation strategies can fail due to corruption or the employment of unskilled personnel. The entire situation outlined above can make a vulnerable group even more vulnerable. Finally, when climatic hazards impact on the above situation, precipitous

migration takes place as a survival strategy. Many vulnerable people move to nearby cities, and some, who have strong social networks and the available funds, travel longer distances to places further away.

Social networks and physical capital are also necessary in order to establish in the nearby cities. Certainly many migrants return to their previous places when they fail to cope with the costs and other complexities of living in the new city areas. This return migration happens after the extreme hazard period has passed and migrants are aided by different agencies, including the government, to return.  However, a proportion of migrants stay in the cities, especially when they see that jobs are available, they manage to find work, and they can organise to rent a place for a reasonable price; all of which are considered positive or pull factors in terms of the destination places. Some migrants move to other cities in stages, and longer distances are made possible with the advances of technological help. The population of migrants is inversely related to the distance from the place of origin; migration decreases as distance increases.

Migrants often try to live within their own community in the place of destination in order to avoid or protect themselves from the violence that is expected to come from the local population. Communal relationships are stronger in the long distant migrant groups as they rarely return to their place of origin or have few opportunities to re-migrate because they have sold all their belongings during migration. Moreover, they expect more people to join their community from their previous place; they maintain contact and try to convince some of their relatives to migrate.

Figure 8.1 illustrates the influence of push and pull factors on the place of origin (PO). Factor A is the social, political and economic factors in a particular area with these factors being either positive (pull) or negative (push). Livelihoods of local communities of that area are influenced by these factors. Factor B is the Government policy which can also be both positive and negative. Factor A is impacted on by the factors in B and livelihoods became more vulnerable if factors in B are negative. Factor C in this model is considered as extreme

climatic events which impact on both factors A and B on the same place. Push (negative) factors become more dominant than pull factors, resulting in many people in that area losing their livelihoods, and even sometimes their lives, and becoming unsafe leads many people to migrate. Short distance (SD) areas are the places of nearby rural and small urban areas from the place of origin to where affected people migrate. Many migrants return to their place of origin when they see that their place of origin is safer. A section of people re-migrate from SD areas to another SD area or long distance (LD) urban areas. A small number of people from the PO also directly migrate to LD areas when they are connected socially in the LD areas and are financially solvent to meet the transportation cost. While the Black et al (2011) model focusses on individual decision making, this model focusses on place: place of origin and where the decision to migrate leads, be it short or long distance destinations.

A typical example of this model from the findings of this research applies to the migration from *Gabura*. The livelihoods of *Gabura* people were dependent on the Sundarbans areas. Their entrance to this forest became limited because of tiger attacks, robbery and kidnapping, and government policy which impacted on their earnings. Moreover, shrimp cultivation in traditional agricultural lands had a negative impact on their livelihoods. Then two large cyclones, cyclone *Sidr* in 2007 and cyclone *Aila* in 2009, with massive tidal surges affected the place and destroyed livelihoods. Many people of this community then moved to the nearby cities of Shyamnagar and Kaliganj. After a couple of months some people were able to return to their homes and managed to get employment, but other people did not return. Those who did not return either remained in those small cities, or they travelled to the distant city areas of Satkhira, Khulna, Jhikargacha and Jessore. 'Re-migration' to the long distance destinations was possible because of their connections to people living in those areas.

## 8.4   Chapter Conclusion

The first section of this chapter has discussed the nexus between migration and adaptation, and has demonstrated three important relationships. Firstly, if people are forced to move

due to the impacts of extreme climatic events, then involuntary migration takes place in order to save lives and livelihoods. Under these circumstances, all protection and assistance mechanisms in the place of origin are either insufficient or have failed to protect migrants, and migration itself is considered as a failed adaptation strategy. Secondly, if migrations are unplanned, then the movement of migrants to either urban or rural areas will create issues with the receiving population and therefore migration will be maladaptive. In this case, neither migrants nor receivers are happy with the migration that has occurred. Finally, migration can be considered as successful adaptation when migrants are content in the places of destination. Successful adaptation enables migrants to reduce their vulnerabilities, diversify their income sources, and build good relationships both among migrants and with receivers. In order to facilitate successful migration, migrants should be provided with information about the places of destination, the existing job opportunities, and the availability of assistance bodies in the new places. Government can also take responsibility for providing land resources to the affected migrants in this case.

The second section of this chapter has examined the applicability of theories to migration due to extreme climatic events. While these extreme events are important factors in the decision making process for migration, theories of migration have hardly addressed this issue directly. Indeed, no single theory was able to provide a useful framework to address the relationship between climate events and migration. This is because, firstly, economic aspects are being prioritized in most of the theories of migration, but migration induced by extreme climatic events can be considered primarily as a safety strategy (a push factor) that only becomes economically oriented when migrants are settled. Therefore, final selection of the place of destination is always associated with economic factors. Secondly, labour migration is an important issue in the classical theories of migration and certainly this tendency is also noticed among vulnerable day-labourers affected by climatic hazards. However, while most theories are focused on cross border migration, climatically related migrations, at this stage, are mostly internal; migration is to nearby city areas. Finally, social

networks are a vital factor for all kinds of migration including migration induced by extreme climatic events; clearly identified in the social capital theory of migration.

Moreover, in the proposed model, I have linked extreme climatic events with other factors responsible for population migration. The model has shown that the factor of extreme climatic events has a great influence over other factors of migration. Therefore, a combination of extreme climatic events with other factors, such as social, political and economic factors, is also required for migration to occur. Most of the migration because of flood and river bank erosion from *Natuarpara* took place when they obtained land in Sherpur thana to build their houses. Whereas migration from *Gabura* was dependent on a number of factors. Before extreme climatic events, the livelihoods of *Gabura* were impacted by factors such as shrimp cultivation, tiger attacks, robbery kidnapping and government policy and became vulnerable. Migration from *Gabura* took place when two large cyclones affected the place and destroyed the livelihoods that were already vulnerable.

# CHAPTER 9: CONCLUSION AND FUTURE DIRECTION

## 9    Introduction

This thesis has presented the migration stories of two communities of Bangladesh – coastal and riverine communities – that are severely affected by extreme climatic events. As revealed in the overview section of chapter one and the discussion presented in chapter four, the coastal community is affected by cyclones and tidal surges, and the riverine community is affected by flood and river bank erosion. The preceding chapters of the thesis have presented the methodologies of the research and the results pertaining to migration from those two communities, including key findings and critical analysis. In this final chapter, I will review the research questions and objectives, identify the main methods used, summarize the research findings, outline the significance and limitations of the research, and suggest future directions of research.

## 9.1    Research Question and Methodology

Although climate change means the average changes of patterns in temperature and rainfall, many researchers relate it to extreme climatic events (Huber, 2011). The intensity and severity of extreme climatic events such as floods, cyclones and droughts are considered to be related to anthropogenic climate change (Walsh et al. 2010; United States Climate Change Science Program, 2015). As Bangladesh is one of the most climatically impacted countries of the world (Shaw et al., 2010), the four major extreme climatic events, flood, river bank erosion, cyclones and tidal surges, affecting the country can be considered as analogues for climate change. The primary aim of the thesis was to determine how extreme climatic events are related to the complex process of migration. Therefore, this research has set out to explore the question; "whether and to what extent extreme climatic events may impact on migration". This question was pursued through the consideration of five objectives: to identify push-pull factors that contribute to migration and differentiate

extreme climatic events from other major influencing factors; to identify processes and patterns of migration induced by extreme climatic events; to identify the consequences of migration in the places of origin and in the places of destination; to identify those who choose not to migrate and to examine the underlying reasons for that; and to identify the empirical contributions to the theory of migration with regard to push-pull and intervening factors and relationships between migration and adaptation.

In order to answer the question and fulfill the objectives, a qualitative research approach was followed. Observation, in-depth interviews and focus group discussion methods were utilized to obtain data from respondents, including migrants, non-migrants, and migrant receivers. Both male and female respondents of different occupations were interviewed with the use of a semi-structured questionnaire. The next section will discuss the findings of the five objectives, followed by the findings of the broader research question.

## 9.2   Findings

The relation between extreme climatic events and migration has been grounded on general theories of migration and explored the following five objectives.

**Objective one:** to examine push and pull factors that contribute to migration in areas affected by extreme climatic events.

Migration from the coastal community depended on certain factors. Firstly, people of that area used to go to the largest mangrove forest, the *Sundarbans*, to collect honey and wood, and to catch fish. However, the Government restricted access to the forest claiming that local people were causing environmental damage to the forest. This restriction resulted in the loss of livelihoods of the local people who depended on that forest. Secondly, shrimp cultivation was established on agricultural land. Most of the agricultural fields were turned into ponds and lakes for shrimp cultivation, which required less labour in comparison to traditional agriculture practices. As a result, many people who were basically day labourers lost their jobs.Additionally, two large cyclones – Cyclone *Sidr* in 2007 and Cyclone *Aila* 2009

– accompanied by massive tidal surges, affected the community and many people died, most of the houses were ruined, and all of the agricultural lands, ponds and lakes were filled with saline water from the southern sea. As a result, many people left the community. Migration from the riverine community was the direct result of river bank erosion. During severe floods, the river banks eroded and people of the community living close to the river permanently lost their houses and agricultural lands which disappeared into the river. As a result, people of the community had no choice other than to migrate.

**Objective two**: to identify the processes and patterns of migration from areas affected by extreme climatic events.

Different forms and nature of migration were noticed in the affected areas. Both involuntary and voluntary migration took place from the places of origin, *Gabura* and *Natuarpara*. Most involuntary or forced migration occurred over short distances to nearby small urban areas, and many re-migrated to their place of origin after the emergency period had passed or when they felt safe. However, involuntary migration was also occurred over longer distances to big city areas or rural areas. The most important factors that affected migration in this case were transportation costs and social networks. The availability of funds and being connected to migrant relatives eased migration and as a result, a process of chain migration was established. This in turn, built stronger migrant communities in some cases, especially migrants from *Natuarpara* to Sherpur thana.

**Objective three**: to identify the consequences of migration in the places of origin and in the places of destination.

Migration has positive and negative impacts both in the places of origin and places of destination. The most positive consequences of migration from *Gabura* and *Natuarpara* are that migrants are living in places that are safe from natural disasters, they have strengthened their financial situation, and in many cases, new migrants and locals alike are being employed in businesses established and owned by migrants who moved at least a

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decade ago. On the other hand, the major negative impact is the lack of labour in the places of origin during harvesting season. In the places of destination, migrant children face adverse situations; they lack friendship networks in the school or living environment, experience school admission problems in the middle of the academic year, and are faced with the high cost of tuition fees in the urban areas. Some children had to drop out of school and participate in different kinds of labour to support their families. Moreover, school girls faced harassment from local young boys and as a consequence, they stopped going to school. Migrants also experienced security issues when they were not living within communities of migrants.

**Objective four**: to identify those who choose not to migrate, and to examine the underlying reasons for that.

The study found some intervening factors in the places of origin. Although many non-migrants wished to migrate to a safer place where jobs were available, their movement became unsuccessful due to a number of factors. Living in a place for long periods of time creates a fondness for the area and as a result, people do not want to move from the affected places. Moreover, physical disability, age and maintaining the ownership of land are also important factors for not migrating. Similarly, the lack of transport capacity and/or social networks impedes migration. In addition, the process of migration was also impeded by the support of NGOs and governmental agencies in the place of origin – such as the building of new houses and the provision of drinking water tanks – that gives people hope for a new life in the affected areas. As a result of such projects, people stop thinking about migration.

**Objective five**: to identify the relationship between migration and adaptation and the empirical contributions to the theory of migration.

The processes of migration are conceptualised in the theories of migration. The key ideas embedded within most of the theories are that migration primarily happens due to

economic reasons, that push and pull factors associated with the place of origin and place of destination are responsible for migration, that labourers on low wages are attracted to high wages and job vacancies, and that most migration takes place from rural areas to urban places, and/or from developing countries to developed nations. These ideas often conflict with migration induced by extreme climatic events which is not only for economic reasons; migration induced by extreme climatic events is involuntary and for survival. Indeed, extreme climatic events act as a great push factor, such that pull factors are far less influential across all classes of people who are forced to migrate.

Migration has a threefold relationship to the adaptation to climate change. The involuntary migration from *Gabura* and *Natuarpara* because of extreme climatic events, such as cyclone, tidal surges, flood and river bank erosion, can be considered as the absence (failure) of an adaptation strategy at the place of origin. The unplanned migration to either urban places or rural areas created negative consequences and can be considered maladaptive. Finally, migration from *Gabura* to Jhikargacha, Khulna, and from *Natuarpara* to Sherpur were examples of a successful migration story; considered a successful strategy in the face of extreme climatic events.

**Broader research question**: to investigate whether people have already started migrating as a result of extreme climatic events or they are moving because of other factors that have already been established as causes of migration in theories of migration.

The findings for this question showed that the migrations induced by extreme climatic events in the two communities took place across three major levels: Firstly, income opportunities became limited because of different push factors, such as political, social and economic factors, and this in turn created more fragile livelihood strategies. This also impacted on the endurance and capability of people to contend with extreme climatic events. Subsequently, when people were affected by extreme climatic events they lost their existing limited earning capabilities and were forced to migrate. Secondly, the migration of people affected by extreme climatic events is more a case of survival than improving their

economic conditions. Extreme weather has caused the deaths of many people and either seriously damaged or completely destroyed community settlements. As a result, people are forced to leave their place of origin. Finally, when life comes to a standstill in the affected areas, many non-migrants are influenced to move by their contact with relatives and neighbours who migrated previously. These already established migrants influence them to migrate as they think the community would become stronger.  Afterwards, many families from the affected areas become members of the migrant communities in the places of destination. Thus, migrants not only become safe from extreme climatic events, but can also pursue a reliable livelihood.

## 9.3   Limitations and Future Studies

Although this thesis has formulated a conceptual framework and methodology to study migration induced by extreme climatic events in Bangladesh, there have been some limitations in this study which must be acknowledged. One of the important limitations in this study was the time distribution between places of origin and places of destination during the data collection phase. The two major respondent groups of this study were non-migrants in the places of origin and migrants in the places of destination of migration, and the majority of time was spent in the places of origin. Ideally more observation time could be spent in the places of destination, and this could help to further understand the environment and livelihoods of migrants.

In addition, this study could have benefitted from an increase in the involvement of women and local leaders as participants. During analysis, I realized that women participants provided deeper information in response to the research questions. While conducting fieldwork I found that no leaders of the society (formal or informal) migrated. Although I tried to contact them, no one gave time for interviewing and as such, local leaders were not included in this study and their feelings or visions about migration induced by extreme climatic events remain unexplored.

Given the limitations discussed here, this study nonetheless finds some way forward for future research. This kind of case study can be conducted in other parts of Bangladesh, or in other developing countries affected by climate change. Much international migration occurs in Bangladesh, and further research to understand the relationship between extreme climatic events and international migration could also be a fruitful. As well, future research could focus on the gender context of migration and extreme climatic events, such as the impact of migration on women and the participation of women in the improvements of livelihoods in new locations. Moreover, a better understanding of the role of community leaders in the context of migration induced by extreme climatic events could be a way forward.

Although extreme climatic events induce permanent and temporary migration; the process of temporary migration becomes particularly active at the time of extreme climatic events and it will continue until the environmental condition of affected areas is either improved, or destroyed completely. This research on impact of extreme climatic events has shown that the reasons for migration are complex. Moreover, slow onset climatic events such as sea level rise on migration require research. Sea level rise remains a major concern for the livelihoods of people in coastal areas and potentially can increase the rate of migration. Further studies are required to determine how many people are going to be affected in the near, medium and long-term future as a result of sea level rise, and how many people will need to move, and when. This type of research would assist government planning and policy making concerning the people potentially affected by sea level rise.

## 9.4    Significance of the Research

This research study has contributed to an understanding of migration as a consequence of extreme climatic events in Bangladesh, which is important in three different ways. Firstly, although the issue of migration induced by extreme climatic events is important and has been studied, the issue has not been fully incorporated into theories of migration. In that sense, this study has provided a significant contribution to theories of migration. This study

proposed a model (chapter 8) whereby the key idea is that extreme climatic events overlap with the other factors affecting migration, such as social, economic and political factors. Extreme climatic events make people's livelihoods in the affected areas even more vulnerable and as a result, people migrate to different secure places. Therefore, extreme climatic events, and potentially climate change, will have a great influence over the other factors of migration. Under these circumstances, extreme climatic events are much more important than the economic factors that can be seen, partially, as intervening variables between extreme climatic events and migration.

Secondly, this empirical study has filled a research gap about the relationship between extreme climatic events and migration. This relationship could be helpful in the legal protection of people displaced by extreme climatic events and, in the longer term, climate change. Although the definition of climate refugee as discussed in chapter two supports a particular legal and methodological framework that restricts them from being recognized as conventional refugees, this study could provide a reference point for developing countries to establish policies for helping migrants affected by extreme climatic events, and potentially the consequences of climate change . Moreover, this study of the relationship between extreme climatic events and migration has relevance for issues such as conflict management, community development, and climate change adaptation studies.

Finally, policy makers do not appear to be concerned with people displaced internally because of extreme climatic events, and potentially climate change. Rather, they are much more interested in international migration because of its strong relationship to foreign remittances (discussed in chapter 2). In fact, policy makers and support agencies develop different kinds of packages, such as adaptation to climate change or resilience to climate change, to try to sustain affected people in their place of origin.  The official practice of finding new locations for displaced people affected by extreme climatic events has not yet begun; indeed migration is the missing link in policy decision making at both local and international levels. As a result, the nature and consequences of migration induced by

extreme climatic events are not well understood by stakeholders. Therefore, the results of this study about the pattern/nature and consequences of climate-induced migration (chapters 5 and 6) provides a fruitful example for policy makers, especially given that the negative impacts or conflict could increase if more people migrate from climate affected areas.

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# APPENDICES

## Interview guide (non-migrant)

**A - Personal Information**

Questionnaire Number:

Name:

Sex:

Current address:

Birth place:

Time since you have been here:

Maximum education qualification:

Information about other members of family:

| Relation (wife/son/daughter/father/Mother) | Age | Education qualification | Occupation |
|---|---|---|---|
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**B – Information about Environment and Migration**

1.  What is the present condition of natural disasters in your area? What kind of problem you had with those disasters? Is it improving or decreasing? When it had started becoming bad?

2. Do you know that people have moved from your area to another location? What were according to you the main motives why villagers have decided or were forced to move away (social/political/economic/environmental etc.)?

3. Have you ever moved (for short or long time)? If yes, where did you go and when did you come back?

4. Why you did not move? Do you have any plan to move in future? Does any of your family member (wife/brother/parents/relatives) influence you to leave this place? If yes, why?

5. Has anybody come back from them who left before? Do you know why they have backed? Why some other are not coming back?

6. Don't you have any problem/impact (good or bad) on your area because of leaving people? If yes then what are they? How do you solve those problems?

7. Do you know anybody who have moved in your area permanently? Why have they moved?

8. What is the Government's role to face disasters? Have you got any help from the Government? How?

9. How many NOGs are working here? How they help people? What kind of people get helped from them? Do you take any help/loan from any NGOs?

10. What do local leaders do during disaster and after disaster?

## A - Personal Information

Questionnaire Number:

Name:

Sex:

Current address:

Birth place:

Time since you have been here:

Maximum education qualification:

Information about other members of family:

| Relation (wife/son/daughter/father/Mother) | Age | Education qualification | Occupation |
|---|---|---|---|
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**B – Information about Environment and Migration**

1. What reason led you to move your place of origin? What is the present condition of natural disasters in your previous area? At what point in your migration history did environmental problems (flood, river bank erosion, cyclones and tidal surges) influence your move? What kind of problem you had with those disasters?

2. Why/how did you come here? Why not other places? Did you bring all your family member together? Did you have any difficulties during travel?

3. What is the Government's role to face disasters in your previous place? Have you got any help from the NGOs or Government? How?

4. Did anybody help you to come here or to choose the place? Who informed you about this place? How did you manage travel cost? Have you helped some to come here?

5. Do you have any properties (land or other) in your previous place? Who is looking after them? Do you have any plan to return or to move any other place? How often do you visit your previous place?

6. Did you move directly to here or several places from your original place?

7. What did you do in your place of origin? What do you do here (occupation)? Did you have any problem to find job here? Did anybody help you? If yes, how?

8. How do local people behave with you (conflict/help)? Do you have any problem in this new place?

9. Have you got any help from any agencies (NGOs/Govt.) in the new place for your settlement?

10. Are your children going to school? If no, then why? Do your children/wife have any problem in the new place? If yes, what kind of problem are they? How do you manage/solve those? Is your wife or children forcing you to return to the place of origin?

**Interview guide (FGD)**

**A – Information about group**

Place:

Respondents in the Group:

**B – Information about Environment and Migration**

1. What reason led people to move your place of origin? What is the present condition of natural disasters in your previous area?

2. Mention the places where migrants have moved? Why they are going in those particular places?

3. What is the Government's role to face disasters in your previous place? Have you got any help from the NGOs or Government? How?

4. Did you help anybody to come here or to choose the place?

7. What did people do in your place of origin? What do they do in their places of origin? Did they have any problem to find job in the new places?