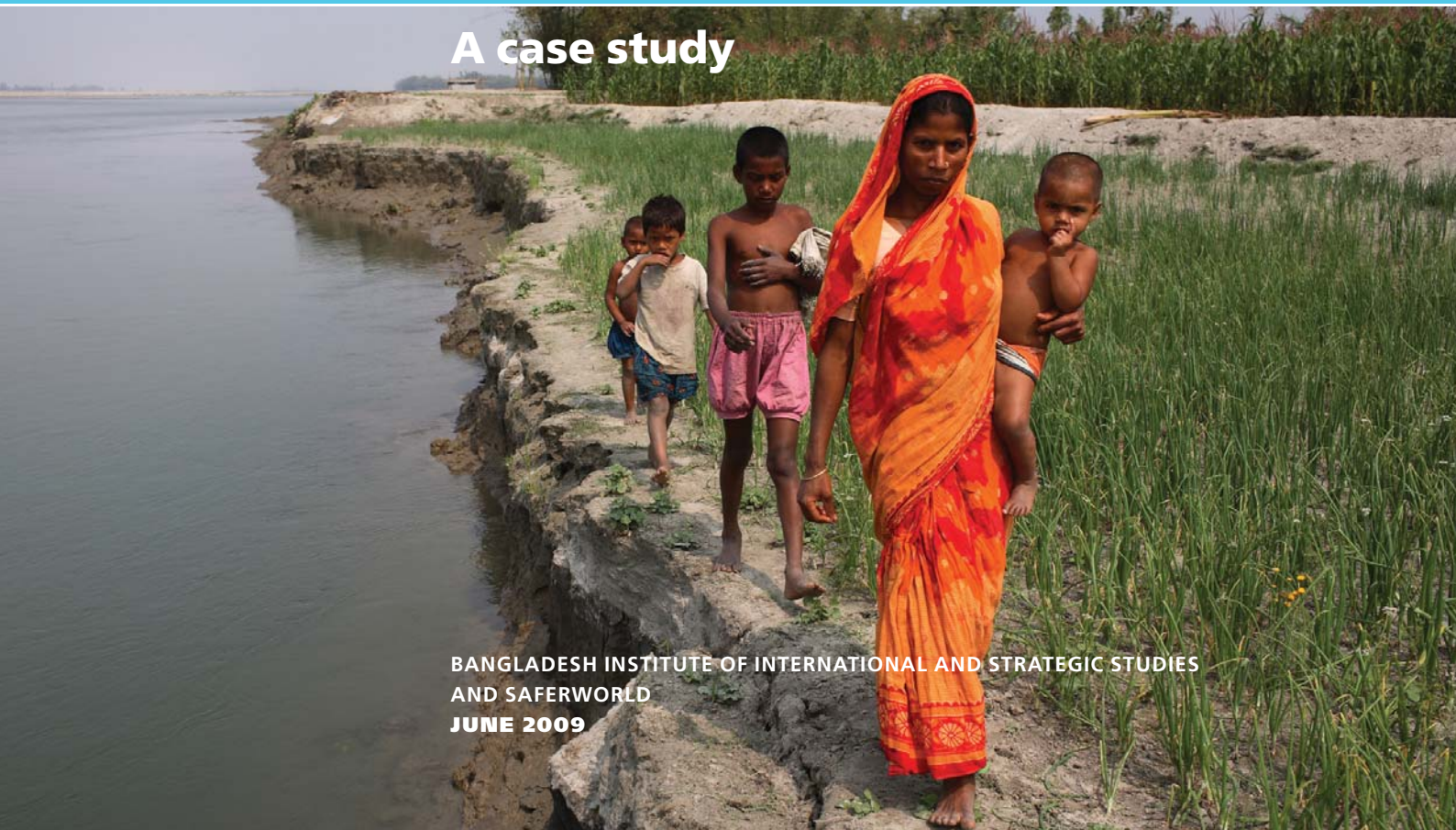
Climate change and security in Bangladesh

A case study



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JUNE 2009

Acronyms

BIISS	Bangladesh Institute of International and Strategic Studies
BRRI	Bangladesh Rice Research Institute
GDP	Gross Domestic Product
IPCC	Intergovernmental Panel on Climate Change
IRIN	Integrated Regional Information Networks
NAPA	National Adaptation Programmes of Action
NGO	non-governmental organisation
PCIA	peace and conflict impact assessment
UN	United Nations
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme

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Executive summary

This case study explores the potential impact of climate change on security and conflict in Bangladesh. As international researchers have started to make the link between climate change, insecurity and conflict, they have raised concerns that Bangladesh's extreme vulnerability to the environmental effects of climate change may create conditions that put it at risk of greater insecurity and possible conflict. It is therefore important to analyse this issue in detail, in order to identify how serious the risk is and what can be done to address it.

A study of human security in Bangladesh by Saferworld undertaken in 2007 identified numerous issues relating to both 'freedom from want' aspects of human security (e.g. economic security, food security, health security and environmental security) and 'freedom from fear' aspects (e.g. personal security, political security and tenure security). This report considers how these factors may be affected by climate change. The authors hope that it will contribute to the development of appropriate policies to address climate change-related insecurity. It is based on field work in two groups of locations: places that are particularly vulnerable to climate change ('source areas'); and places that are destination areas for migrants who are leaving these source areas. This field work has been combined with an extensive desk review of available information on climate change and security issues in Bangladesh.

The relationship between climate change and security is not necessarily direct, but depends on a chain of consequences. For example, climate change causes environmental degradation. In areas where this phenomenon occurs, it undermines livelihoods, reducing basic human security and creating increased tension as competition for dwindling resources becomes more intense. This tension can lead to crime and violence, increasing social instability. The deteriorating economic and social situation also drives people to migrate from these areas to towns and cities in search of a better life. However, this migration away from affected areas can have negative effects on the economic and social situation in destination areas, which

may again lead to increased tension, crime and violence and the risk of serious social disturbances – leading in the worst-case scenario to violent conflict.

The field research found that in the source areas, there was a strong belief that climate change was already occurring, manifested in rising temperatures, increased river and coastal flooding and erosion, rising sea levels, increasing salinity, and more frequent, more intense severe weather events. These naturally occurring hazards appear to be having a number of negative effects on the economic livelihoods, health and food security of the local population:

- **Loss of property and material goods.** An increasing number of people are suffering damage or loss to their property. Houses have been swept away or destroyed by floods or erosion. Villagers have lost their cattle in river flooding. Seeds have been swept away by floods. Flooding and rising sea levels have also damaged roads and other essential infrastructure, further limiting economic opportunities.
- **Loss and degradation of agricultural land.** Land is being lost due to rising sea levels and erosion, and climate change models predict that in the next decades huge amounts of further land could be lost in this way. Other land is becoming unproductive due to temperature rises and increased salinity. This is causing agricultural output to fall, as a result of which food insecurity is growing.
- **Increased unemployment.** The loss and degradation of land is leaving many people without means of supporting themselves economically, and unemployment is rising. Unemployment is also fuelled by the growth of shrimp farming, since shrimp farms employ many fewer people than the agriculture they have replaced.
- **Reduction in the availability of water.** Some water sources have been contaminated due to increased salinisation. The need to find water places a particular strain on women, since they are usually responsible for providing the family with water and food.
- **Increase in the prevalence of diseases.** The decline in the availability of fresh water is leading to increased disease as people drink contaminated water. Flood water is also attracting mosquitoes that carry malaria and dengue fever. More frequent flooding also makes it harder to get access to health care.
- **Reduced availability of firewood.** Floods wash away firewood, a crucial resource for cooking.

In turn, these problems are driving increased tension, crime and violence as livelihoods break down and competition for resources intensifies:

- **Tension over land.** There is increased competition for access to, and control of, land to use for farming. In particular, incidences were reported of clashes between agricultural farmers and shrimp farm workers fuelled by resentment over the impact that shrimp farming had had on agricultural livelihoods.

- **Tension over property.** Increases in property theft are often reported following naturally occurring hazards such as floods – cattle, household goods and farming equipment are stolen.
- **Tension over water resources.** Where water in one area has been contaminated, inhabitants are forced to rely on other water sources, which can lead to tension and even violence as different groups compete for access to water.
- **Increased female insecurity and sexual violence.** Women suffer particularly from losses caused by naturally occurring hazards since it is harder for them to gain access to credit and to secure their livelihoods. It is also perceived that the growth of shrimp farming is leading to an influx of workers from outside the area, and that this may be related to an upsurge in sexual violence. Whether this is true or not, such suspicions can lead to a sharp increase in tension between settled communities and the incoming shrimp farmers.

Bangladeshis are used to dealing with naturally occurring hazards and have developed numerous coping strategies. However, their increasing frequency and intensity is now threatening to overwhelm these coping mechanisms, causing more people to migrate away from their homes, either temporarily or permanently.

Field research in destination areas provided evidence that an influx of migrants was leading to greater competition for resources. There were three main triggers of conflict:

- **Disputes over land.** High levels of physical insecurity and conflict were reported in destination areas as a result of competition for land. There is particularly fierce competition for government-owned *khas* land, which has led to violence in some cases. In one area, local gangs were restricting access to land and demanding money for rent. There have also been clashes in response to attempts by vested interests and landowners to grab land and/or forcibly evict migrants.
- **Competition for employment.** Migrants add to the labour pool, increasing competition for jobs. Migrants face a double insecurity: not only is it hard for them to find employment, but they also face reprisals from existing residents who blame them for unemployment and falling wages. This has led to migrants being harassed and attacked by local people.
- **Competition for access to water.** As in source areas, there is increasing competition for water. This leads to clashes between groups and forces many people to travel long distances to find water.

Most migrants end up in urban slums, particularly in Dhaka, and there is some evidence that this constant influx of people is contributing to rising crime and insecurity in these areas.

No primary field research was carried out on the possible links between climate change and regional migration. Nonetheless, the paper notes concerns that climate change will force

ever greater numbers of Bangladeshis to migrate out of the country, mostly illegally. The most common destination will be India, and such migration could become a very sensitive issue in diplomatic relations between the two countries and has the potential to contribute to regional instability.

Recommendations

There is significant evidence to suggest that environmental degradation is already fuelling insecurity, and in particular, is related to a growth in internal migration. Climate change is predicted to have an overall negative impact on long-term security and conflict factors, acting as a threat multiplier that increases the volatility of existing causes of conflict and may generate new insecurities. The following steps are recommended (more detailed recommendations are provided in the full report):

- **Promote a cross-governmental approach to climate change and security.** Climate change policy and security policy share strong mutual interests and should be co-ordinated effectively. This might involve the establishment of climate security working groups bringing together different government departments and tiers with international institutions, climate scientists, conflict prevention/peacebuilding experts and local civil society organisations. Donor programming on migration, land, environment, climate change and security also needs to be joined up more effectively. Policies and funding streams relating both to climate change and to conflict and security must fully acknowledge the linkages between climate change and insecurity and approach the resourcing of relevant programmes in a flexible manner.
- **Ensure that all climate change adaptation and development programming is conflict-sensitive.** A peace and conflict impact assessment of existing and future climate change programmes should be carried out in order to identify strategies which will reduce insecurity and the risk of conflict most effectively. Conflict-sensitive approaches and related research should be built into the Bangladesh Climate Change Strategy and Action Plan.
- **Integrate analysis of the predicted impact of climate change into all future conflict analyses.** All future peace and conflict impact assessments relating to programming in Bangladesh should include the potential impact of climate change as a factor impacting on conflict dynamics – not only when looking at climate change policy, but for all programmes.
- **Strengthen the capacity of local government.** Many environmental security issues are local in nature and local government must play a leading role in addressing (or adapting) to these challenges in a conflict-sensitive manner.
- **Begin a debate on the balance between mitigation and adaptation policies.** There is a fundamental question underlying climate change policy which must be addressed immediately. Internationally, the overwhelming emphasis until recently has been on taking steps designed

to prevent or reduce climate change, while relatively little attention has been paid to adaptation mechanisms. However, if it is not possible completely to mitigate climate change, more attention and resources will need to be spent on adaptation – including adapting to the insecurity caused by climate change. National and international debate is urgently required on how to strike a balance (in terms of funding and priority of implementation) between policies that seek to prevent climate change, those that seek to adapt to its immediate environmental consequences, and those that seek to adapt to the impact of environmental degradation on social and political stability.

- **Allow local communities to spend adaptation resources on conflict prevention and security-building if required.** Local communities should be able to spend resources allocated to 'adaptation' on community security measures if they believe it to be necessary (for example if competition for resources is leading to conflicts that could be resolved through dispute resolution mechanisms).

- **Strengthen capacity to manage internal migration.** Given the predicted scale of migration and the impact that this could have on conflict and security issues, it is clear that major efforts are required to strengthen the state's capacity to manage internal migration.

- **Conduct more detailed policy research.** This paper has identified some worrying trends, but more research is required in order to understand them in more detail and develop appropriate responses. Some priorities for research include:
  - mapping of the areas most likely to experience insecurity as a result of environmental change, in order to assess the scale of the risk and plan appropriate responses
  - analysis of existing community security and conflict prevention mechanisms in these vulnerable areas
  - thorough analysis of the extent to which climate change impacts are fuelling migration from affected areas, in order to predict how severely climate change will fuel such migration in future
  - precise mapping of the likely movement of migrants within Bangladesh and to neighbouring countries, and
  - review of current formal and informal strategies for managing internal and cross-border migration and their capacity to cope with climate change-related migration.

- **Adopt a regional approach to combating climate change and managing migration.** Further research is required into how climate change will affect regional security and conflict dynamics, and how prepared national, bilateral, regional and global security mechanisms are to cope with any threats that occur – particularly greater cross-border migration.

1 Introduction

Climate change refers to any change in climate over time as a result of both natural variability and human activity.

Human security is considered to have two main components: 'freedom from fear', which focuses primarily on violence, crime and justice, and 'freedom from want', which is more concerned with deprivation and capability, for example, health, economic and food security.

In 2007, Saferworld undertook a major piece of research on human security in Bangladesh.[1] This study took a broad understanding of human security as comprising both 'freedom from fear' and 'freedom from want'. It found that among the many insecurities faced by Bangladeshis, environmental insecurities were among the most prominent. Natural disasters were the most frequently cited cause of insecurity in a household survey undertaken for the study, with over half of all respondents (53 percent) listing natural disasters as a major concern. Other environmental problems such as riverbank erosion and the loss of natural resources were also recorded as significant challenges. It also noted that climate change could exacerbate these problems and cause even greater insecurity.

A key theme running through the study was that 'freedom from want' and 'freedom from fear' insecurities are often closely intertwined. It suggested that this is also true of climate change, "Climate change is not in itself the insecurity, so much as the change it engenders… While the environmental consequences of climate change are well-known, the social changes it will cause, and responses to them, have not been sufficiently discussed."[2] This report seeks to stimulate such discussion.

Why climate change is a security issue

There is now a strong international scientific and political consensus that the world is experiencing climate change, and that this could lead to huge environmental changes in many parts of the world. Yet while policy-makers and scientists have focused on how to prevent or slow down climate change, it is now acknowledged that even in a best-case scenario it will be impossible to avoid some consequences. This was made explicit in the Fourth Assessment Report of the Working Group III on the Intergovernmental Panel on Climate Change (IPCC), 'Impacts, Adaptation, and Vulnerability', published in 2007. It concluded that, "Past emissions are estimated to involve some unavoidable warming

(about a further 0.6°C by the end of the century relative to 1980–1999) even if atmospheric greenhouse gas concentrations remain at 2000 levels" and that therefore "there are some impacts for which adaptation is the only available and appropriate response".[3] If it is not possible to halt climate change, people will need to adapt to the consequences.

What might these consequences be? The IPCC Fourth Assessment Report looked mostly at environmental consequences, though it also considered the impact on human health and on 'industry, settlement and society'. Some policy-makers and researchers have developed this analysis further by considering how the environmental changes caused by climate change might in turn affect peace and security. A number of reports have been published in the last couple of years that suggest that climate change may have negative impacts on conflict and security dynamics in many parts of the world. For example, a report by the German Advisory Council on Global Change argued that, "without resolute counteraction, climate change will overstretch many societies' adaptive capacities within the coming decades. This could result in destabilisation and violence, jeopardising national and international security to a new degree".[4] Similarly, International Alert concluded that 'there is a real risk that climate change will compound the propensity for violent conflict which, in turn, will leave communities poorer, less resilient and less able to cope with the consequences of climate change'.[5]

Conflict The term 'conflict' is used in this paper to refer particularly to violent conflict. Violent conflict is a conflict between parties which involves the use of physical force for the purpose of violating, abusing and damaging the other party.

It is difficult to predict exactly how climate change will affect conflict and security dynamics. First, some uncertainty remains about exactly what environmental changes will take place. Secondly, there are many factors that may make violent conflict more or less likely to occur and the interplay between such factors in any given situation will be impossible to predict with total certainty. Nonetheless, researchers have suggested that various forms of insecurity may become more prevalent in areas affected by climate change, leading to more crime and a greater risk of violent conflict. These include:

- increased insecurity in communities most affected by climate change as a result of increased competition for dwindling resources, manifested in increased tension and mistrust and a rise in crime
- insecurity in 'destination areas' i.e. areas which receive migrants from areas affected by climate change, as a result of tensions and competition for resources between existing residents and incoming migrants
- a weakening of the capacity of the state to provide security, because the economy has been seriously disrupted (e.g. because of natural disasters or the loss of important natural resources) and there are fewer resources available, and/or because of an increase in the scale and forms of insecurity that the state must address
- tension between states over increased cross-border migration, with the risk of violent interstate conflict if this is poorly managed, and
- tension between states due to increased competition for resources.[6]

However, while there may be a serious risk of increased insecurity, crime and violent conflict, it is not inevitable. For those living and working in countries at risk of climate change, it is thus crucial to understand the impact climate change could have on security dynamics while there is still time to formulate appropriate adaptation strategies.

Purpose of the report

This case study considers the potential impact of climate change on security and conflict dynamics in Bangladesh. The country is predicted to experience serious environmental changes as a result of climate change. Some environmental changes are already occurring which many attribute to climate change (see Chapter 2), and Bangladesh's low-lying land and geographical position make it particularly vulnerable. Given Bangladesh's relative poverty and under-development, the state may find its capacity to adapt to such challenges is limited and this may generate insecurity. Following such logic, Bangladesh has been identified as one of 46 countries that may face "a high risk of armed conflict as a consequence of climate change".[7]

Yet while climate change may heighten insecurity and increase the risk of violent conflict in Bangladesh, very little analysis is available as to how this could happen, how serious the risk is, or what might be done to mitigate this risk. This case study seeks to begin to address this gap. It tests these international theories about how climate change might affect security and conflict dynamics against what is currently happening in Bangladesh and what might happen in future. It is not intended as a comprehensive study, but rather provides an insight into the potential impact that climate change might have on security to generate further debate and study of this important topic.

From a theoretical perspective, this report will provide a case study for researchers who are exploring the relationship between climate change and insecurity at the international level. On a more practical level, this analysis could help national and international policy-makers to understand better how climate change might impact upon security and conflict dynamics in Bangladesh and in South Asia more generally. This in turn may make it possible to design policies and adaptation strategies that are better able to address any potential security threats related to climate change.

Methodology

This report is based on a combination of desk-based research and primary field research carried out by Saferworld and the Bangladesh Institute of International and Strategic Studies (BIISS). The field work was conducted in Bangladesh in 2008. The desk research reviewed international analyses of the links between climate change, insecurity and violent conflict and national publications and official documents relating to climate change. Academic research, articles and press reports were also analysed.

The interviews and focus groups were held in two types of locations:

- **Source areas** which are significantly affected by naturally occurring hazards such as coastal and river flooding, sea-level rise, river erosion and increased salininisation
- **Destination areas** which are the most popular areas for people to migrate to

Based on a prior acknowledgement that one of the most important consequences of climate change is likely to be a major increase in migration (see Chapter 3), Saferworld and BIISS selected two types of locations for the field research: areas affected directly by naturally occurring hazards which cause people to move away ('source areas'), and areas to which migrants commonly travelled ('destination areas'). The field research involved key informant interviews with a broad cross-section of stakeholders across Bangladesh, and focus group discussions held in 20 locations. Eleven of the focus group discussions were in source areas of environmental migration affected by salinity, river flooding/erosion and sea-level rise.[8] The remaining nine focus groups were in destination areas for migration. The researchers also interviewed journalists, politicians, government officials, police representatives and academics in all of the chosen locations. Further details on the methodology of the field research and academic sources are in Annexes 1 and 2.

A summary of the locations selected and the reason for their selection as the geographical focus of this study are shown opposite and a map of the research locations can be found overleaf.

Areas affected by sea level rise	Common destination area for people affected by sea level rise
Kutubdia Island Kutubdia is an island located off Chittagong in the Bay of Bengal. Kutubdia has experienced the highest rising sea levels in Bangladesh. Kutubdia also regularly experiences coastal flooding.	*Chittagong Hill Tracts* (*CHT*) CHT has historically been a destination for migrants from the Chittagong District. In 1991 for example, 30,000 people from Kutubdia moved permanently to the CHT following a cyclone. *Cox's Bazar* As one of the largest urban areas in the south-east, Cox's Bazar is a desirable location for employment opportunities in the region.
Areas affected by river flooding and salinisation	**Common destination area for people affected by river flooding and salinisation**
Khulna District Khulna has experienced extensive river flooding as a result of coastal flooding, which has led to a rise in the salinisation of land over recent years. Areas most affected by salinisation are believed to be Gabura, Burigoaliny, Koikhali and Munshiganj Unions. *Satkhira District* Satkhira District has likewise experienced extensive river flooding as a result of high coastal sea levels, which has similarly led to a rise in local salinisation.	*Khulna District* Unaffected areas around an environmentally vulnerable location are also common places for migration. This is the case in the Khulna District where people have moved within the district as well as further afield. *Dhaka* Dhaka is the capital city of Bangladesh and its most significant urban centre. It is therefore a desirable destination for those seeking employment. In addition, the geographical position of Dhaka, away from areas of environmental vulnerability, acts as a further motivating factor.
Areas affected by river flooding and erosion	**Common destination area for people affected by river flooding and erosion**
Sirajganj District Sirajganj is one of the areas most affected by intense river flooding in Bangladesh. This is because river erosion has altered the course of the River Brahmaputra, bringing it closer to vulnerable villages.	*Bogra District* Bogra is situated inland away from many sources of environmental insecurity. A number of reasons compel migrants to relocate to Bogra from Sirajganj including: familiarity with the area and its climatic conditions, personal connections, the cost of renting land, close proximity and lower costs for migrating. *Dhaka* People migrate to Dhaka for the same reasons identified above.

Research locations

1 Areas that have been highlighted as being affected by sea level rise, river flooding, erosion and salinity intrusion are the areas focused on during the field research and do not reflect all areas affected by these issues in Bangladesh.

2

The environmental impact of climate change

In order to analyse the potential impact that climate change might have on conflict and security dynamics in Bangladesh, it is first necessary to clarify how climate change will affect the natural environment in the country. This chapter provides a brief review of the main environmental changes that are already being attributed to climate change, all of which are expected to intensify in the next decades.

2.1 The increasing threat from naturally occurring hazards

Even without climate change, Bangladesh has always been extremely vulnerable to naturally occurring hazards. It has a low-lying topography and half of its total landmass is less than two metres above sea level. Bangladesh's geographical position in the tropics, on the Gulf of Bengal and in the delta of three great rivers – the Ganges, Bramaputra-Jamuna and Meghna – makes the country particularly vulnerable to coastal flooding and river flooding in inland central and mid-western zones. Bangladesh is also regularly hit by cyclones and severe storms, such as Cyclone Sidr in November 2007, which killed hundreds of people and destroyed the livelihoods of thousands more. Droughts are also a threat to large parts of the population.

Although it is difficult to differentiate natural climate trends from climate change, a number of studies have shown that it appears that climate change at the very least is affecting the frequency and intensity of naturally occurring hazards. Evidence from the field research supported this. Five key changes are already believed to be occurring, and each process is expected to continue:

- rising temperatures
- river and coastal flooding and erosion
- rising sea levels
- increasing levels of salinity
- more frequent, more intense severe weather events.

Rising temperatures

The IPCC Working Group II report (2007) noted that Bangladesh has been experiencing rising temperatures as a result of climate change.[9] The United Nations Development Programme (UNDP) Human Development Report for 2007/8 stated that during 2005, Bangladesh faced temperatures that were 5–6°C above the regional average.[10]

River and coastal flooding and erosion

"From the knowledge I have gained through observing the environment in this village throughout my lifetime, I can say that natural hazards – particularly river flooding and erosion – have become more and more powerful over the years, and I would predict that this pattern will continue in the future."

Participant, focus group discussion, Gala Union (Sirajganj District)

The IPCC Working Group II report (2007) noted that Bangladesh experienced a rise in the seriousness and frequency of floods during 2002, 2003 and 2004 as a result of climate change.[11] A report by the German Advisory Council on Global Change also stated that as a result of the rise in sea level, coastal floods have greatly increased in recent decades in both frequency and destructiveness.[12] The Government of Bangladesh has estimated that approximately 10,000 hectares of land are lost annually to riverbank erosion.[13] According to a study by C R Abrar and S N Azad which interviewed over 200 households affected by riverbank erosion, "about one million people are directly affected by riverbank erosion each year and landlessness in these areas could be as high as 70 percent".[14]

Rising sea levels

"We have noticed that the sea level has been rising and the shore line has been moving inland gradually overtime. We have also noticed an increase in wave erosion and the intensity of tidal waves is getting stronger."

Participant, focus groups discussion, Kalikapur village (Kutubdia Island)

The IPCC Working Group II report (2007) identifies Bangladesh as one of the countries most affected by climate change-induced sea-level rise.[15] The sea level around Bangladesh has risen considerably – by about 12cm since 2000.[16] Research undertaken by Integrated Regional Information Networks (IRIN) found that rising sea levels in the Bay of Bengal are encroaching on vast areas of flat agricultural land in the southern districts of Khulna, Satkhira, Bagerhat, Jessore and Magura – increasing levels of soil salinity and other environmental hazards. This has had a detrimental impact on the agricultural production and livelihood sustainability of those living in the area. Golam Mohammad Sanaullah, a soil scientist and former director of research at the Bangladesh Rice Research Institute (BRRI), estimated that out of 37 million people living in 12 coastal districts, 20 million had been affected by the rising sea.[17]

The risk to communities from the exacerbating effects of climate change is further illustrated by field research conducted by the Climate Change Cell of the Department of Environment: "A sea-level rise of 0.5 metres over the last 100 years has already eroded 65 percent landmass of 250 square kilometres of Kutubdia, 227 square kilometres of Bhola and 180 square kilometres of Sandwip islands".[18]

There have been a number of projections made regarding sea-level rises in Bangladesh, each of which paints a bleak picture. The IPCC's Third Assessment Report published in 2001 projected a sea-level rise of 30–100cm by 2100.[19] The United Nations Environment Programme (UNEP) estimates that sea level rise in Bangladesh will affect 17 million people (15 percent of the population) and 22,000 square kilometres of land (16 percent of the total landmass).[20]

Increasing levels of salinity

Salinisation (salinity inundation) The condition in which the salt content of soil accumulates over time to above normal levels; [it] occurs when water containing high salt concentration evaporates from fields irrigated with standing water.[24]

A soil survey undertaken by six government agencies, including the BRRI and the Bangladesh Agricultural Research Council, found that since 1948, salinity in the rivers of southern Patuakhali, Pirojpur, Boguna, Satkhira, Bagerhat and Khulna districts has risen by 45 percent.[21] The survey also found higher-than-acceptable soil salinity in 72 percent of all arable land in Magura district, about 200km from the sea.[22]

It is estimated that the total amount of land which has been affected by mild salinity in Bangladesh has increased from 1.5 million hectares in 1973 to 2.5 million hectares in 1997. This is likely to continue to increase.[23]

More frequent, more intense severe weather events

Climate change is also projected to increase monsoon rainfall levels and sea surface temperatures in Bangladesh, reducing the predictability and exacerbating the frequency and intensity of cyclones, and also of droughts.[25] The 2008 Bangladesh Climate Change Strategy and Action Plan notes that "a severe tropical cyclone hits Bangladesh, on average, every three years".[26] The most devastating were the tropical cyclones in 1970 and 1991, which are estimated to have killed 500,000 and 140,000 people respectively; Cyclone Sidr in 2007 led to approximately 3,500 fatalities. The Action Plan predicts that "climate change will exacerbate many of the current problems and natural hazards the country faces. It is expected to result in … [inter alia] … increasingly frequent and severe tropical cyclones, with higher wind speeds and storm surges leading to more damage in the coastal region".[27]

3

Human security impacts in vulnerable areas

The concept of 'human security' encompasses security in its widest sense and includes both 'freedom from want' and 'freedom from fear' insecurities, which are often closely inter-linked. This chapter looks first at how environmental changes are exacerbating already severe insecurities related to freedom from want (e.g. food security, health security, economic security and environmental security). It then considers how these insecurities are in turn causing greater 'freedom from fear' insecurities relating to communal tensions and increased crime and violence, including sexual violence. Lastly, it looks at some of the coping mechanisms employed by people living in areas that are vulnerable to climate change.

3.1 Environmental changes and increased 'freedom from want' insecurities

With an annual per capita income of US$440, Bangladesh is one of the world's least developed countries.[28] The capacity of the state to provide its citizens with human security is relatively low for a variety of economic, political and structural reasons.[29] The greater the environmental damage caused by climate change, the more likely it is that the state will be overwhelmed and that its capacity to provide basic security will decline further, with potentially devastating effects. For example, the German Advisory Council on Global Change undertook a scenario mapping exercise of the possible impact of climate change on Bangladesh. According to one projection, the impacts of climate change could lead to an unstable economic situation, where by 2015 development efforts have been reversed and natural disaster management amounts for 15 percent of Gross Domestic Product (GDP).[30]

Even if such pessimistic scenarios are not borne out, it is already clear from this report's field research that the prevalence of naturally occurring hazards is leading to a reduction in – and heightened demand for – essential resources. These resources are central to sustaining livelihoods in Bangladesh in locations affected by climate change, such as water, land, agricultural and fishing equipment, medical supplies, fuel, employment opportunities and food. At least six negative trends were observed that are related to the environmental degradation caused by climate change:

- loss of property and material goods – cattle, houses and seeds
- loss and degradation of agricultural land, leading to greater food insecurity
- increased unemployment
- reduction in the availability of water
- increase in the prevalence of diseases, and
- reduced availability of firewood.

Loss of property and material goods – cattle, houses and seeds

Property is central to sustaining livelihoods and generating income. Any loss can decrease capability to fulfil basic needs, and can act as a poverty and unemployment multiplier. In many cases, the victims of naturally occurring hazards are forced to take out loans to replace their losses. These loans are often difficult to repay, which can further decrease livelihood security and strain traditional coping mechanisms.

The loss of cattle was a key concern for focus group participants in areas affected by river flooding in Sirajganj District. Communities have found it increasingly difficult to move their animals to high enough ground before the onset of river flooding; as a result, many cattle have drowned. This concern has become more acute in recent years as floods have become more frequent and less predictable.

Participants from the discussion held in Kaiyarbil village (Kutubdia Island) highlighted that damage and destruction to fishing boats, located either onshore or in ocean fishing zones, have destroyed the livelihoods of many fishermen.[31]

The loss of houses, either because they were submerged during flooding or because they subsided as a result of river erosion, was also identified as a main concern by some focus group participants. For example, people in Binutia Village (Sirajganj District) stated that all the houses in their village had been submerged during previous floods and that 80 percent from the neighbouring village had been similarly affected.[32] As a result, many villagers were forced to sleep on rooftops or find temporary shelter in neighbouring communities. In many cases, the loss of property has forced people to search for alternative employment opportunities.

Participants from the discussion held in Kaiyarbil village (Kutubdia Island) highlighted that damage and destruction to fishing boats, located either onshore or in ocean fishing zones, has destroyed the livelihoods of many fishermen.

Damage to infrastructure, such as roads, as a result of rising sea levels has had a negative impact on the ability of people to move between villages and towns and to transport agricultural goods to markets, making it increasingly difficult to sustain livelihoods.

"If the present tendency continues, then Kutubdia one day will be completely bereft of agricultural lands, and then we would be required to buy food at higher prices."

Participant, focus group discussion, Kaiyarbil Union (Kutubdia Island)

Loss and degradation of agricultural land, leading to greater food insecurity

Presently, 144 million people live on 144,000 square kilometres of land, making Bangladesh the most densely populated larger country in the world.[33] Nearly 70 percent of the population depend on agriculture for their livelihoods,[34] and most of the land is currently used for agricultural purposes. Therefore, any loss of land or degradation in its fertility caused by climate change present a serious source of livelihood insecurity.

According to the IPCC, Bangladesh is projected to lose the largest amount of cultivated land globally due to rising sea levels. This could lead to a significant drop in the production of rice (8 percent) and wheat (32 percent) by the year 2050.[35] Sea-level rises have already led to the loss of land in many coastal areas of Bangladesh. The Chairman of the Kaiyarbil Union (Kutubdia Island), for example, noted that 4.5 square kilometres of the union had become submerged under the sea since 1991, affecting 725 families.[36]

Meanwhile, much other land has declined in fertility and become unproductive due to environmental factors. River flooding has led to the depositing of large quantities of sand on agricultural land, which has destroyed soil fertility and crops. Farmers participating in the focus group discussion held in Gala Union (Sirajganj District) identified a case where two consecutive floods in 2007 caused farmers to lose two sets of crops, leaving them without income for six months.[37]

Coastal flooding and the intrusion of salt water on land similarly result in loss of cultivatable land. Although there is no official record of reduced agricultural output due to salinity of the soil, analysts estimate the drop in agricultural production could be as much as 50 percent over the past 30 years.[38] Participants from the focus group discussion held in Chakpata Village (Bogra District) stated that it was still not yet possible to grow any crops on land that had been contaminated with salt over ten years ago.[39]

If climate change leads to significant temperature rises, this is likely to further decrease agricultural productivity. Climate scenario exercises for Bangladesh in the UNDP Human Development Report for 2007/8 suggest that a 4°C temperature rise could reduce rice production by 30 percent and wheat production by 50 percent.[40]

While agricultural productivity has suffered, many areas have tried to evolve to maximise the opportunities available in their locality. In Khulna and Satkhira Districts for example, thousands of shrimp farms have been established.[41] A journalist interviewed during the field research in Koyra Upazilla (Khulna District) stated that in some cases farmers have chosen to shift from agricultural production to shrimp farming as a result of salinisation. Yet while this has provided economic benefits to some people, it has also led to food insecurity for others and to a rise in unemployment (see below). The risk of food insecurity as a result of the loss of arable land to salinisation and shrimp farm conversion was echoed in several focus group discussions.

"Shrimp farming can bring you some money but you cannot eat money."

Participant, focus group discussion, Gabura Union (Satkhira District)

The combined effect of losing land to the sea and of other agricultural land declining in fertility inevitably leads to greater food insecurity. This was mentioned as a concern in many focus groups. People will be less able to grow their own food, and will be forced to buy more food – but falling production would be likely to lead to higher prices. In Saferworld's 2007 research into human security, food security was named as one of the five main problems facing nearly 40 percent of household survey respondents.[42] This figure would only increase with any decline in agricultural production.

Increased unemployment

As a result of naturally occurring hazards, many people have lost their livelihoods in the agricultural and fishing sectors. The conversion of some coastal lands to shrimp farming has also increased unemployment, since shrimp farming employs at most a quarter of the people necessary for agricultural production and leads to an exploitative situation where farmers are dependent on an unfavourable export market.[43] A participant from the focus group discussion held in Munshiganj Union (Satkhira District) stated that for every 20 people employed in a 20 *bigha*[44] paddy field one person is employed in a shrimp farm.[45]

Those who have lost their livelihoods in agriculture and fishing have been forced to search for alternative work as farm labourers for others, or to migrate temporarily or permanently in search of alternative employment. However, due to increasingly high demand for employment both at source and destination locations, there are not enough jobs available. This can lead to tension that could result in conflict.

Reduction in the availability of water

Water shortages are also a key concern in areas affected by salinisation. Stagnant saline water on the soil surface often seeps into groundwater stores, contaminating fresh water and making it useless for irrigation or drinking purposes. A participant from the focus group discussion held in Gabura Union (Satkhira District) estimated that 75 percent of the local population did not have access to fresh water.[46]

Reduced access to water has the greatest effect on women, who are often responsible for providing water and food for the family. Participants from the focus group discussion in Satkhira District said that women are forced to travel greater distances to access clean water following a naturally occurring hazard – limiting their time to engage in other livelihood and income-generating activities.

Increase in the prevalence of diseases

Focus group participants also associated the decline in the availability of fresh water with the increase in the prevalence of diseases. The contamination of water after flooding can intensify outbreaks of skin disease, eye infection, cholera, diarrhoea, dysentery and fever. Communities in low-lying areas that use tube-wells to access water are particularly vulnerable.

"During the flood in 2007, my daughter came down with a fever and it cost me ten times the standard price to transport her to a doctor."

Participant, focus group discussion, Kalikapur Village (Sirajganj District)

Malaria and dengue fever are also a danger, as a result of the large numbers of mosquitoes attracted to flood water. Saline inundation of river waters is having a significant affect on people's health in Bangladesh as people are forced to drink pond water once river water has become contaminated.[47] Participants from areas affected by coastal flooding and sea-level rise also expressed concern about the increased level of disease locally following a naturally occurring disaster.

Transporting critical patients, particularly pregnant women, to hospitals during periods of heightened environmental insecurity is often problematic as roads may be damaged or inaccessible and boats are too expensive or difficult to find. Obtaining necessary medicines may also be very difficult as a result of limited stocks or high prices.

Reduced availability of firewood

River and coastal flooding can have a detrimental impact on the availability of firewood, which is used for cooking purposes. Floods wash away timber and crop residues such as jute sticks, rice straw, rice hulls and sugarcane. A participant from the focus group discussion in Kalikapur village (Sirajganj District) reported that during the flood in 2007, 50 percent of firewood was washed away. This led to an increase in the demand for, and prices of, firewood, resulting in competition and tension between groups.[48]

3.2 'Freedom from fear' insecurity – increased tension and violence

As the above section has already noted in several places, competition between individuals, families and communities over access to scarce resources may intensify feelings of vulnerability and physical insecurity. Field research identified a number of cases where competition over key livelihood resources had already led to increased levels of insecurity, crime and violence in Bangladesh.

Tension over land

Research identified a number of cases where naturally occurring hazards have led to an increase in competition over land and increased incidence of crime and violence. A key informant from a local non-governmental organisation (NGO) based in Khulna District stated that in areas affected by salinisation there has been a rise in tensions between local agricultural farmers and workers on shrimp farms.[49] Local farmers felt marginalised and were resentful towards the shrimp enterprises for loss of livelihood. This clash has resulted in periods of violence on shrimp farms and increased vandalism of farms in the districts of Khulna and Satkhira.

Tension over property

In several cases, there had been an increase in property theft following a naturally occurring hazard. The most likely objects to be stolen are cattle, household goods and farming

"During the floods, gangs of robbers come and take everything they can find."

Focus group discussion, Kalikapur village (Sirajganj District)

equipment. In Sirajganj District, for example, during periods of river flooding household items and cattle are reported to have been stolen.[50]

Tension over water resources

Tension can arise between communities in areas where tube-wells are located at a low altitude and are thus vulnerable to contamination by salt water. Focus group participants from Kutubdia Island identified cases where communities whose water supply had become contaminated had come into direct competition with their neighbours in less affected areas. This fuelled tension and led to episodes of violence on the island.[51]

Increased female insecurity and sexual violence

"I lost my husband a few months ago [January 2008]. He died while fishing in the oceans. With his job, my family could survive. Now I have no income to feed my four daughters… The reason for this is my widowhood. People do not like widowed women, particularly if they are young like me. Circumstance has therefore turned me into a beggar maid."

Focus group discussion, (Kutubdia Island)

In the aftermath of a disaster, cultural restrictions on legal rights and entitlements to land and property further limit women's ability to secure their livelihood, or access credit needed for recovery.[52] As noted above, women also bear the burden of finding water in cases where local access to water has reduced.

However, the effects of environmental change are not limited to a decline in the capacity of women to secure their livelihoods. A key informant from Khulna University alleged that there has been a rise in the incidence of sexual assault against women in areas that have experienced an influx of shrimp farming. The informant identified male shrimp farm workers – who are usually from outside the local area and have migrated to find work on the farms – to be the main culprits.[53] Sexual assault has far reaching implications for individuals, their families and the local community as in addition to the physical abuse of the victim it increases fear in general. Environmental change can therefore be seen as a factor contributing to crime and violence against women. The communal implications of such sexual violence are also significant, as it may increase tensions between groups as retribution is sought for such crimes.

3.3 Traditional coping mechanisms

The field research underlined the fact that people in Bangladesh are used to these kinds of challenges and have adapted to the impact of naturally occurring floods and other hazards for centuries. They have experienced periods of scarcity in the past and they are well accustomed to employing coping mechanisms. However, as climate change is increasing the frequency and intensity of naturally occurring hazards these coping mechanisms are coming under increasing strain, with the potential to cause conflict in the future.

Local coping mechanisms at source locations

Focus group participants from source locations provided examples of the types of coping mechanisms that have been employed:[54]

Coping mechanisms at source locations	
Water availability	■ Collect water from neighbouring areas that are less affected by floods and where tube-wells are located at a higher altitude
Loss of firewood	■ Store firewood above ground level ■ Ration firewood use by cooking only once a day ■ Plant trees for long-term sustainability
Loss of cattle	■ Keep cattle on roof tops during floods
Loss of houses	■ Construct houses using tin as opposed to mud. This makes it easier to transport houses to nearby less affected areas ■ Borrow money to rebuild lost property ■ Sell non-emergency goods
Loss of land	■ Seek alternative (informal) employment ■ Seek employment as a farm labourer or in commercial shrimp farming ■ Temporary or permanent migration
Food insecurity	■ Cultivate flood and salt resistant crops ■ Practise alternative farming methods (for example cultivate fish, rice and shrimp in the saline affected areas) ■ Adapt eating habits
Prevalence of diseases	■ Rely on herbal medicines. There are no formal medicinal coping mechanisms in place due to the high costs associated with this

"We used to be able to cope with flooding and river erosion as a regular part of our lives, but recently my husband has had to migrate for six months to a year at a time to Habiganj to find employment as a rickshaw driver as the floods have become stronger and have destroyed our crops."

Participant, focus group discussion, Binutia village (Sirajganj District)

Temporary migration

Temporary migration is a traditional mechanism for sustaining livelihoods during periods of environmental insecurity. It usually comprises the short-term movement of one or two members of a family to a different location in order to find employment. Temporary migrants usually move to urban areas to seek employment in the informal sector (such as rickshaw driving) or to rural areas to take up employment as labourers on commercial farms.

It is important to recognise that temporary migration is not solely linked to natural hazards, and that the decision to migrate temporarily is based on a number of factors. Consequently, periodic/seasonal migration has often been undertaken regardless of the influence of naturally occurring hazards. This economic migration is traditionally linked with farming seasons, where people migrate during the seasons that are unfavourable to cultivation and return during farming seasons.

However, the field research shows that the number of people migrating temporarily from areas that are vulnerable to natural hazards has significantly increased over recent years, as localised coping strategies have become more difficult to sustain.

Although the decision to migrate temporarily is determined by a number of differing factors, the frequency and intensity of naturally occurring hazards have increased the pressure on people to relocate both temporarily and on a more permanent basis.

Permanent migration

"The majority of people living in areas affected by coastal flooding and salinisation on this island are 'potential migrants'. For now, they are trying to cope through finding temporary employment and shelter, but most are trying to save up the money needed to migrate."

Participant, focus group discussion, Kaiyarbil Union (Kutubdia Island)

Although seasonal migration is a well established trend in Bangladesh, it appears that there has been a significant increase in permanent migration from areas affected by climate change. A study by the Bangladesh Institute for Development Studies shows that all types of migration have increased significantly over recent years.[55]

The findings from the field research suggest that migration is increasing in response to the severity of naturally occurring hazards and that this migration is becoming more permanent. In two villages in Sirajganj District, for example, it was found that over 10 percent of families had made a deliberate and permanent move to Dhaka, while an additional 20–30 percent of people had not returned after migrating seasonally.[56] Although a number of factors may have contributed to this increase in levels of permanent migration, climate change appears to have accelerated the process because of the reduction in opportunities in affected areas.

Permanent migration is usually preceded by temporary migration, and tends to be seen as the solution only after all alternative coping mechanisms have been exhausted. Certain factors prevent people from permanently migrating, particularly the costs involved in relocating. Focus group participants in Kalikapur Village (Kazipur Upazila) and Binutia Village (Sirajganj District) stated that it costs the equivalent of £150–250 (US$230–380) to migrate the short distance from Kalikapur to Sherpur, and would cost a lot more to relocate longer distances.[57] However, as the situation continues to worsen, the number of permanent migrants is set to rise as more people save money to move away.

4

Human security impacts in destination areas

As Chapter 3 described, the field research found evidence that environmental problems caused by climate change are already driving greater temporary and permanent migration from affected areas. This chapter looks at the other side of the coin: how the influx of new migrants influences human security dynamics in the towns and cities which receive them (destination areas). The field research looked only at destination areas within Bangladesh i.e. areas that are subject to internal migratory flows. There is some evidence that Bangladeshis might also be migrating to India in response to climate change, but it was outside the scope of this study to research this in any detail.

4.1 Conflict as a trigger for instability

Field research was undertaken in several destination areas (see table on p 5). These interviews and focus groups provided some evidence that an influx of migrants was leading to increased competition over livelihood resources (land, access to employment and basic commodities). This has fuelled tensions and divisions between established local communities and migrants, which on occasion has spilled over into violence. There were three main triggers of conflict:

- disputes over land
- competition for employment, and
- competition for access to water.

Land disputes

A study undertaken by the Bangladesh Institute for Development Studies found that more than half (53 percent) of poor migrants live in private slums and 44 percent squat on public land.[58] Field research found that migrants residing on government-owned '*khas* lands' face the greatest level of violence and physical insecurity, as competition between the poorest migrants over this 'free' and publically available land is particularly fierce. In Dumuria Upazila (Khulna District) it was noted that migrants were being threatened by local gangs who were restricting access to land and demanding money for rent.[59] In Chakpata Village (Bogra District) overcrowding on *khas* land had resulted in violence between individuals and groups over access to the land.[60]

Incidences of violence between local communities and migrants over land-grabbing were recorded in several of the focus group discussions held in Dhaka, Kutubdia Island, Chittagong and Bogra.[61] For example, in Chakpata Village (Bogra District), landowners forcibly evicted migrants from their land. Migrants responded by launching revenge attacks, which included criminal damage and violent assault.[62] Research by Rita Asfar of the Bangladesh Institute of Development Studies supports this finding, showing that attempts by government authorities and vested interests to evict squatters from large settlements in Dhaka have led to heightened levels of violence and clashes between police and migrants, which resulted in men being beaten and many women being raped.[63]

Competition for employment

"I have experienced harassment and physical attack from local rickshaw drivers when parking my rickshaw in the areas used by them."

Participant, focus group discussion, Cox's Bazar

Migrants naturally seek employment in destination areas, but since they increase the supply of labour, their presence also leads to increased competition for jobs, particularly in the informal sector. For example, the number of people looking to find work as a rickshaw driver has multiplied resulting in a saturation of the market. This means that not only is it hard for migrants to find work, but also that there is tension between existing residents and incoming migrants, which can lead to violence.

Another negative effect of the influx of migrants is that it is possible for employers to pay less and still find willing employees. These low wages are often insufficient to pay rent and purchase food, leaving migrants in a precarious situation. Furthermore, since resident communities also suffer from the drop in wages, they tend to blame migrants for the situation and this can cause considerable tension. For example, a key informant interviewed in Khulna alleged that violent attacks on migrant communities by local gangs were fuelled by drops in the rate of pay.[64]

Focus group participants from Chakpata Village (Bogra District) also associated unemployment with the fact that labouring practices differ between regions; employers are consequently sceptical about hiring migrants. Participants noted that 75 percent of migrant women in Sherpur, for example, remain unemployed due to their inability to adapt successfully to local working practices for rice milling.[65]

Competition for access to water

Access to water is a basic human necessity and is fundamental to human development. Water scarcity can lead to health concerns and can also heighten competition and tensions between communities. The field research found this to be the case in destination areas, particularly in urban areas where the influx of migrants has meant that demand for water exceeds supply. As reported by a focus group participant from Kalshi (Dhaka), female members of a family may have to travel up to 70 km in order to collect water for drinking and cooking. Participants noted a rise in tension and in some cases violence between women who are competing to access water at collection points.

4.2 Other impacts of migration on security

Two other impacts of migration deserve to be mentioned in this chapter, although it is beyond the scope of this research to consider them in detail.

First, climate change-related migration appears to be fuelling a growth in urban slums in Dhaka. The majority of new arrivals are unable to find adequate housing, and are therefore forced to live in the poorly serviced periphery. This economic poverty is seen as a significant driver of crime and instability. A study by the World Bank in 2007 showed that while there are considerable differences between slums, overall crime and insecurity is a major problem.[66] Recent crime statistics show that levels of crime and violence have risen in destination areas. For example, thefts in the slum areas of Dhaka such as Mohammadpur and Mirpor (Pallabi) have increased significantly since 2006.[67] It can therefore be argued that climate change-related migration will lead to an increase in crime and insecurity in slum areas that are already insecure.

Secondly, although no primary field research was carried out on the effects of climate change-related migration on regional security and conflict dynamics, it is worth briefly reviewing some of the possible consequences that have been predicted by other researchers. In particular, there is concern that climate change could accelerate the migration of Bangladeshis into India. Such migratory flows are already well-established, with most of the migration happening informally/illegally. This is already a cause of some tension between Bangladesh and India. India has already begun the construction of a 4,000 km-long barrier along its border with Bangladesh, illustrating its existing concern about illegal immigration from Bangladesh.[68]

The fear is that increased migration could heighten these tensions both at the local and at the national level. International Alert notes that migration into Northern India, particularly into Assam, has been going on for many years and had already caused social frictions and violence by the 1980s. It concludes that "if local and national governments cannot develop measures to cope with the pressures on resources from migration and climate change, the risk of further and more intense violence is very high".[69]

The German Advisory Council on Global Change has explored these risks in greater depth, mapping out possible scenarios that may occur in the next decades. One "fictitious confrontation scenario" imagines that climate change will lead to a greater influx of migrants from Bangladesh into India, particularly the Indian states of Bihar, West Bengal and Assam, intensifying competition over resources between migrants and residents. This, in turn, could take the form of ethnic/religious conflict between Indian Hindus and Muslims from Bangladesh, if the local population feels that its livelihood is under threat.[70] Local tensions could translate into diplomatic confrontation between the two countries if the Bangladeshi migrants are perceived as a security risk by the Indian government. At the end of this scenario, violent conflict is a real possibility. "Because the two sides are not prepared to engage in political dialogue, the environmental migrants become a security problem. The political conflict between the two states escalates; India threatens Bangladesh with 'humanitarian intervention' on the pretext that the environmental migrants represent a terrorist threat."[71] While this scenario may currently seem far-fetched, it is not at all improbable that climate change-related migration could act as a complicating factor in the relationship between the two countries.

Illustration of migration flows from findings of field research

1 As the research has found that the destination areas for temporary and permanent migration are similar, patterns of temporary and permanent migration have not been differentiated in this map.

2 Areas that have been highlighted as being affected by sea level rise, river flooding, erosion and salinity intrusion are the areas focused on during the field research and do not reflect all areas affected by these issues in Bangladesh.

5

Conclusion and recommendations

In Chapter 1, five potential threats to security stemming from climate change were identified based on international research:

- insecurity in affected communities due to competition for resources
- insecurity in 'destination areas' due to tensions and competition for resources between existing residents and incoming migrants
- lower state capacity to provide security because of lack of resources and the need to address greater insecurity
- tension between states over increased cross-border migratory flows, and
- tension between states due to increased competition for resources.

This research has found evidence to suggest that such processes may indeed be occurring in Bangladesh. To date, insecurity linked to competition over resources has not catalysed high levels of violence or conflict in Bangladesh. Yet negative trends are visible, and the fear is that as climate change leads to greater environmental degradation, the risk of serious instability will grow.

Evidence that climate change is influencing security and conflict dynamics

First, the field research showed that the environmental degradation caused by climate change means that there are fewer resources available, and thus competition for these resources is intensifying in affected areas. There was ample evidence that this is leading to increased tension that can easily become violent, including disputes over land and water

resources and a rise in property theft. There also appears to be some evidence that the social instability associated with the degradation of resources is fuelling an increase in violence against women.

Secondly, it does appear to be the case that climate change is accelerating migration flows from affected areas and that this influx of migrants is contributing to insecurity in destination areas, relating to competition for land, employment and access to water. Migrants face a double insecurity: it is hard for them to find employment and provide for their basic needs, but they are also held responsible by existing residents for the increased competition for resources, and face the threat of reprisal from them.

Thirdly, it has briefly been noted that cross-border migratory flows are increasing due to climate change, and that this is already leading to tensions with India – as symbolised by the border fence that India is building.[72] This research did not explore this security threat in detail (and did not look at all at the competition between Bangladesh and India for resources), but it seems probable that climate change is exacerbating what are already contentious issues in diplomatic relations between the two states.

"We are facing a catastrophe in this country. We are talking about an absolutely massive displacement of human beings."

Dr Atiq Rahman, a leading member of the IPCC[74]

Lastly, it can be argued that the lack of resources will hinder the capacity of the state to respond effectively. Saferworld's 2007 human security survey raised many areas of concern relating to the state's ability to provide basic 'freedom from want' security (economic, food, health and environmental security) and to the effectiveness of the state security sector in maintaining peace and security from threats of crime and violence.[73] A lack of resources is an underlying problem in all cases. The field research for this paper has shown that many localities are already facing economic problems as a result of environmental degradation. Scaled up to the national level, it is not difficult to imagine that climate change could seriously weaken the national economy and leave the state with even fewer resources to deal with ever-growing insecurity.

"Where will future migrants go? We have already taken all the available *khas* and prices are too high to rent land. We won't be able to help them, we are all facing a growth in competition over land and jobs – we will have to protect ourselves."

Participant, focus group discussion, Cox's Bazar

The degree to which climate change impacts upon security and conflict dynamics will depend in large part on the severity of the climate change itself. If major climate change occurs, the results could be truly devastating. For example, UNDP analysts suggest that a global temperature rise of 3–4°C could result in over 70 million people in Bangladesh being temporarily or permanently displaced through flooding.[75] The security implications of the migration of so many people could be unimaginably serious, easily swamping the capacity of established coping mechanisms within the country. Large-scale migration would be very likely to exacerbate tensions between local and migrant communities over access to resources and employment, resulting in a breakdown in social cohesion and a rise in crime levels.[76]

From a conflict analysis perspective, climate change is not in itself a direct cause of conflict; analysing how climate change will affect security and conflict dynamics is about understanding the 'consequences of consequences'.[77] Climate change – or more precisely, the

environmental damage caused by climate change – acts as a 'threat multiplier', fuelling existing conflict dynamics or contributing to the development of new ones.[78] Climate change is thus indirectly creating conditions where it is probable that there will be more crime, more violence and less social stability; in short, climate change increases the likelihood of some form of serious conflict within Bangladesh.

The absence of a response, and difficult questions to answer

The question therefore is how policy-makers, both within Bangladesh and internationally, should respond to this. This is an extremely complicated question, as the discussion below will show. However, first of all it is worth noting that there is currently no mention of the security dimension of climate change in existing climate change strategies relating to Bangladesh.

The UN Framework Convention on Climate Change has launched 'National Adaptation Programmes of Action' (NAPA) to help developing countries adapt to the impacts of climate change and identify and address individual countries' needs. The purpose of these programmes is to identify and address urgent adaptation needs so as to avoid vulnerability in the longer term. The Government of Bangladesh has already used this mechanism to make substantial progress on climate change mitigation and adaptation. However, Bangladesh's NAPA[79] does not currently address the prospect of large-scale migration and resulting socio-political pressures. There are no clear recommendations for how communities can best absorb these pressures in a way that would prevent insecurity turning into instability and conflict.

The Climate Change Strategy and Action Plan agreed by the Government of Bangladesh in September 2008 recognises the need to support social protection of vulnerable groups through community-level adaptation programmes. It also calls for further research into the linkages between climate change, poverty and vulnerability and looks to build the capacity of government ministries and civil society to take forward adaptation programmes.[80] Yet it too has no clear recommendations for addressing the potential security and conflict-related risks of climate change.

The absence of the security dimension of climate change from these strategies is perhaps unsurprising given that analysis of the link between climate change and increasing insecurity is only now developing. Yet the analysis above suggests there is a trend towards greater insecurity that cannot easily be reversed; the security dimension will have to be addressed, and preferably sooner rather than later.

The question is how. The easy assumption to make is that more insecurity means that more funding should be available to security sector actors in order to boost security. This may be one part of the solution, but it is far from the whole solution, and it is likely that policy-makers whose prime concern is combating climate change will find it hard to believe that their cause can best be addressed by funding security sector actors. In fact, the question of

how to respond to the security dimension of climate change mirrors many of the major challenges that the climate change community as a whole faces.

First, it can be very difficult to develop effective policies to combat processes when the effect of these processes may not become evident until many years hence – or not at all if the policies are successful. The minds of both voters and policy-makers are therefore easily distracted by more pressing current concerns. This makes it hard to create the necessary political consensus and momentum to develop and implement appropriate policies. Since the links between climate change and security are not immediately obvious, there is little incentive for policy-makers to expend energy (and resources) on the matter when other problems seem easier both to understand and to address.

Secondly, policy-makers constantly face a decision about how they should balance their priorities between trying to prevent climate change from occurring in the first place, and adapting to the consequences of climate change that have been impossible to prevent. Logically, the quicker that climate change can be prevented, the less impact it will have, and therefore the less need there will be for adaptation mechanisms. (For example, if there is no environmental degradation and people do not find it harder to maintain their livelihoods, this cannot be a factor causing migration to other areas.) Yet the 2007 IPCC Working Group II report acknowledged that some climate change has already occurred and that it may not be possible to prevent completely further environmental changes even if there is no further rise in greenhouse gases – thus making some degree of adaptation necessary. Where should the balance be struck? Many would argue that the first priority is to halt further climate change as quickly as possible, and that to spend resources on adaptation rather than prevention is not only defeatist but actually increases the risk that climate change will spiral out of control. Yet if climate change is going to lead to serious environmental and social changes, resources will need to be spent more directly on addressing these challenges at some point. In short, this is a dilemma that cannot be easily resolved and depends as much on political standpoints as it does on scientific analysis.

Thirdly, even if it is agreed that adaptation measures are necessary and that reasonable resources should be allocated to implementing such measures, how should they be spent? For example, looking specifically at the question of climate-related migration, should the state put all its resources into adaptation of vulnerable areas to make them better able to withstand the impact of climate change (which should reduce the desire of local inhabitants to migrate), or should it accept that some migration will be inevitable and thus strengthen the capacity of destination areas to handle an influx in migrants?

Fourthly, should adaptation measures focus only on making societies more resilient against immediate environmental changes (e.g. by building cyclone shelters or improving flood defences), or should adaptation policy also take into account the wider social implications of these environmental changes? For example, if there is strong evidence that environmental degradation is leading to an upsurge in conflict over land, water and other resources which

threatens to escalate into major disturbances, should adaptation funds also be tasked with improving policing or strengthening peaceful community dispute resolution mechanisms such as *shalishi*?[81]

Recommendations

These dilemmas set out above cannot be resolved fully in this short report. However, it is possible to make some overall observations about the best way to limit the impact of climate change on security and conflict dynamics, and to make some modest recommendations for steps ahead.

Promote a cross-governmental approach to climate change and security

One point that deserves emphasis is the strong mutuality of interest between those working on climate change and those whose job it is to maintain security. The fundamental purpose of climate change policy is to prevent or reduce the impact of climate change on human life; although this may not be consciously acknowledged, climate change policy thus directly works to limit the negative impact of climate change on security and conflict dynamics. Equally, while security sector actors are responsible for maintaining security, many of the underlying causes of insecurity and conflict lie outside their sphere of influence. Since an effective climate change policy would prevent or reduce the impact of climate change on vulnerable communities, it is effectively reducing the workload of the security sector.

This does not mean that security sector agencies should directly seek to prevent climate change, or that climate change policy should concern itself with policing. What it does mean is that the government as a whole should recognise that effectively combating climate change makes a positive contribution to security, and that security and justice provision need to be improved as part of the state's measures to adapt to the effects of climate change. This does not necessarily imply that resources allocated for 'adaptation' should be spent on security sector actors – though the possibility should not be ruled out. But at a minimum, the government should be seeking to ensure that there is harmony between the long-term goals of climate change and security policy and that the relevant actors are co-operating effectively where necessary.

At the moment, information is not shared well enough within or between ministries and there is limited recognition of the connections between different departments and ministries working on issues relating to climate change, migration and security. The establishment of climate security working groups, for example, would help ensure political authorities, international institutions, climate scientists, conflict prevention/peacebuilding experts and social scientists all share their experience and knowledge.

Current donor and government policy and programmatic development on migration, land, environment, climate change and security are not joined-up. To mitigate the risk of conflict

linked to climate change, it will be fundamental to promote a cross-government and donor approach in which all areas of climate change, migration and security policies work towards a shared goal leading to integrated responses. It is also essential that the policies and funding streams relating both to climate change and to conflict and security fully acknowledge the linkages between climate change and insecurity and approach the resourcing of relevant programmes in a flexible manner.

Ensure that all climate change adaptation and development programming is conflict-sensitive

Conflict-sensitive
Being conflict-sensitive is about:

1. Understanding local conflict dynamics
2. Analysing the potential effects of activity by governments, donors and other organisations on these conflict dynamics
3. Ensuring that any actions that are undertaken avoid negative impacts and maximise positive effects

Perhaps the most important point is that from a security perspective, climate change is just one of many drivers that may affect security and conflict dynamics, and that to a large extent, the means to address any insecurities caused by climate change will be no different from the means to address insecurities caused by anything else. First, this means strengthening the overall capacity of the state to provide for basic human security, and strengthening the capacity of key security sector actors to maintain peace, security and justice. In this sense, social and economic development, combined with good governance, is an adaptation strategy in itself.

Security analysts have long been aware that some development activities may actually fuel conflict. This has led to an emphasis on 'conflict-sensitive development' i.e. ensuring that development activities are sensitive to conflict dynamics and that they do nothing to increase the risk of conflict and maximise positive effects. All major development activities should be analysed for their conflict sensitivity as a matter of course.

As climate change policy becomes more prominent, it will be equally necessary to ensure that climate change policy is conflict-sensitive, particularly when adaptation measures are being implemented. This is not only about environmental policy. For example, competition over land exacerbated by climate change is a key driver of tension and violence, particularly in the case of *khas* land. Integrating a conflict-sensitive approach into the planning and implementation of land tenure policy is therefore fundamental to preventing conflict of this nature.

It is crucial to develop a *preventative* approach to addressing the risk of insecurity and conflict in Bangladesh, as opposed to *responding* to security and conflict crises as they occur. As part of this, conflict triggers should be fully understood and addressed through conflict-sensitive programming. In other words, if existing or future conflict dynamics are taken into account, climate policy can also become conflict prevention policy.

This should be achieved by:

i) Undertaking a peace and conflict impact assessment (PCIA) of existing climate change programmes

A PCIA is a method of analysing the potential impact that a given governmental or donor

programme might have on conflict dynamics in a specific country or area. First, those undertaking the PCIA review the current social, political, and economic situation in the area in order to understand the likelihood of conflict and the reasons why conflict might occur. They then use this baseline analysis to predict what impact their programme might have on these conflict dynamics.

A PCIA of existing and future climate change programmes would thus allow for the development of strategies which have maximum impact on reducing insecurity and the risk of conflict in Bangladesh.[82]

ii) Taking a consultative approach to the development of national and local policy on climate change and security

Mechanisms for consulting with local communities would provide greater information on which to base initial policy development and could be used to test a policy's acceptability with, and relevance to, affected groups. Local communities are often best placed to help identify conflict risks and potential solutions and to provide feedback on the impact of adaptation programmes on conflict dynamics.

As was noted above, current strategies to address climate change in Bangladesh do not contain adequate provisions relating to the likely impact of climate change on security and conflict dynamics. A conflict-sensitive approach to future policy and adaptation programming is required. This could be integrated into the Bangladesh Climate Change Strategy and Action Plan 2008 in a number of ways:

- 'Research and knowledge management' could include research on the linkages between climate change, poverty and insecurity.
- 'Research on climate change scenarios' could link up with and support scenario development of potential security and conflict situations.
- Recommendations on 'food security, social protection and health' could consider the impact that potential security and conflict-related dynamics could have upon community-based adaptation programmes and vice versa, through a conflict-sensitive approach.
- Recommendations on 'capacity building and institutional strengthening' could include strengthening governance mechanisms to respond to the security and conflict-related risks of climate change.

Overall, sound adaptation programmes have the potential to improve capacity to cope with naturally occurring hazards and improve security across Bangladesh. However, as outlined above, this potential can be devalued if they are planned and implemented in a way that is insensitive to group needs or aggravates tensions in communities. Adaptation programming for Bangladesh therefore needs to take into account potential conflict dynamics in order to ensure it enhances adaptation capabilities in a sustainable and conflict-sensitive way.

Integrate analysis of the predicted impact of climate change into all future conflict analysis

The above section has focused on ensuring that all activities that relate to climate change are conflict-sensitive. However, the impact of climate change on security should not be considered only with relation to climate change policies and activities. This paper has shown that the environmental changes caused by climate change indirectly contribute to conflict dynamics. Therefore, all future conflict analyses of Bangladesh should include the potential impact of climate change as a factor to be reviewed; this paper should provide some preliminary ideas as to the likely impact of climate change on security dynamics.

Strengthen the capacity of local government

Like many other developing countries affected by climate change, Bangladesh has limited capacity to address the issue of conflict linked to climate change. National government endeavours will be more relevant, sustainable and ultimately strengthened if local government is provided with a more central role in activities. As many environmental security issues are essentially local in nature, local governments (and local communities more generally) will be able to identify and introduce initiatives and policies which are sensitive to local contexts. This will in turn enable groups in source and destination areas to better manage limited resources. This empowerment could also reduce insensitivity in project design and implementation and thus minimise the potential for climate change-induced violence.

In a Saferworld survey conducted in 2007 key informants listed some of the ways in which positive changes can result in more comprehensive and conflict-sensitive policy programming. These included:

- **Developing an information base:** In many fields, statistical information is absent or unreliable, meaning decision-making is more likely to be based on personal perceptions and on anecdotal evidence such as media surveys.
- **Introducing consultation mechanisms:** Consultation mechanisms would provide greater information on which to base initial policy development, and could be used to 'test' a policy's acceptability to different affected groups.
- **Providing more resources for implementation:** Ministries tend to be under-resourced and have limited power to implement their responsibilities.
- **Decentralising authority:** Information and authority is not well enough dispersed either within ministries or between them.

Source: *Human security in Bangladesh*, Saferworld (2008)

It is at the local level where the security-related impacts of climate change are likely to be most evident and from where potential tensions at the national level are likely to stem. Thus, it is at this level that adaptation and mitigation programming will be most likely to succeed or fail. It is therefore imperative that adaptation and mitigation programming at this level

integrates the security implications of climate change through a conflict-sensitive approach. The Committee on the Strengthening of Local Government has proposed a number of measures to reinvigorate local government. Improved local government would have a significant impact on personal security, since many localised security issues are best addressed by local communities acting on local knowledge. Capacity-building and training on the security-related aspects of climate change adaptation and mitigation programming should be included in efforts to reinvigorate and improve local government.

Begin a debate on the balance between mitigation and adaptation policies

This report has noted that there are many challenging questions relating to how to balance the prioritisation and funding of policies that seek to slow or mitigate climate change with those that seek to adapt to the impact of climate change. It has not tried to answer these questions – yet they will require an answer. The dilemma is particularly pressing for Bangladesh, given its specifically vulnerable circumstances relating to climate change. It is therefore imperative that these issues are discussed openly both by policy-makers and politicians and by society as a whole.

Allow local communities to spend adaptation resources on conflict prevention and security-building if required

One of the most controversial questions that has been raised is whether it is worthwhile, or even legitimate, for resources that are allocated for 'adaptation' to be used to address security and justice concerns. This is a complex issue, and much greater research and debate will be required. However, it may be argued that since the impacts of climate change will be felt most keenly at the level of local communities, there should be some flexibility to allow local communities to allocate some adaptation resources on security measures if they feel it is necessary, using a community safety approach. A community safety approach is one where local residents and local authorities work together co-operatively to identify the main threats to the safety and security of the community and agree methods of reducing this insecurity.

For example, if there is widespread recognition that competition for resources is leading to high levels of tension and increased theft and other crime, the local community may feel that policing and justice mechanisms urgently need to be strengthened. In such cases, it would be unfortunate if adaptation resources were too inflexibly 'ring-fenced' and it was thus not possible to allocate them to conflict prevention or community safety measures.

Strengthen capacity to manage internal migration

A central theme of this report has been that climate change will lead to an acceleration of internal migratory flows, which in turn will lead to greater insecurity in destination areas. Part of any strategy must address the underlying causes of such migration, with the expectation that if these problems are dealt with, migration will decrease as a result. However, it must also be acknowledged that considerable internal migration may be unavoidable, and

that in such circumstances, destination areas will have to deal with the consequences. This report has not reviewed any existing national or city-level policies for managing internal migration and adapting to an influx of migrants in destination areas, so it is not possible to evaluate the capacity of the state and of relevant local authorities to manage internal migration. However, given the potential scale of migration in the coming decades, it is highly likely that internal migration will be a major strain on the state and that its capacity to manage such migration will need to be considerably strengthened in order to cope.

Conduct more detailed policy research

The field research undertaken for this paper is an important step in understanding the effect climate change is having on communities and their security in affected areas in Bangladesh. However, it is not a comprehensive assessment of the situation in Bangladesh, and these preliminary findings have shown that further research and analysis is crucial to better understand the links between climate change, security and conflict and to inform the development of more conflict-sensitive adaptation policies.

There is a pressing need to undertake comprehensive research to understand fully the effect of climate change on security and conflict dynamics, both within Bangladesh and internationally. The following list suggests some of the topics that require further research in Bangladesh:

- A mapping of the areas in Bangladesh which are most likely to experience insecurity as a direct result of environmental changes caused by climate change. This should identify those 'source areas' where it is predicted that environmental problems are most likely to lead to significant insecurity. This would be highly useful to policy-makers in order to assess the scale of the risk and to begin planning appropriate responses.
- A detailed analysis of existing community security and conflict prevention mechanisms, both formal and informal, in these vulnerable source areas, with the intention of identifying possible measures to reduce the risk of serious insecurity in these areas and reduce the likelihood that people will seek to migrate away from these areas.
- A thorough analysis of the extent to which climate change is already fuelling migration away from affected areas of Bangladesh, and a prediction of the extent to which it is likely to do so in future. While it is impossible to quantify exactly how significant a factor climate change is in decisions to migrate (which will usually have multiple causes), a more detailed analysis of this relationship and the extent to which climate change fuels migration is necessary for policy-makers to predict how climate change might influence migratory flows.
- Research should map more precisely the likely movement of migrants from source areas to destination areas both within Bangladesh and to neighbouring countries. This would show patterns of potential migration and help to identify likely security and conflict impacts that could be addressed through effective early warning and conflict prevention strategies and action.

- A review of how Bangladesh currently manages migration (both internal and external), of both official state management of migration and of informal coping and adaptation strategies, in order to identify how well such mechanisms will cope with increased strain as a result of climate change-related migration.

Adopt a regional approach to combating climate change and managing migration

Further research is also required into how climate change will affect regional security and conflict dynamics, and how prepared national, bilateral and regional security mechanisms are to cope with emerging threats – particularly greater cross-border migration. As this paper has described, some scenarios have already been put forward about the potential impact of climate change on migration and thus on cross-border security,[83] but they have not been fleshed out and analysed in any detail. Therefore it is crucial that further research is undertaken to assess the impact of climate change on security at the regional level and to develop more scenarios. This is important to help identify what capacity is needed at the regional level to respond to and prevent the risk of heightened insecurity and conflict as a result of climate change. This could lead to the development of a regional climate security policy and conflict-sensitive regional adaptation and mitigation programmes.

Annex 1: Methodology

A combination of desk and field research was undertaken for this report. Field research included key informant interviews and focus group discussions in case study locations in areas that are both the 'source' and 'destination' of environmental migration. Information on the participants for the focus group discussions and interviews are outlined in the tables below.

Research took place during a six-week period from 17 March to 2 May 2008. Research was undertaken by a team of researchers comprising Dr Abdur Rob Khan (Head of Non-Traditional Security), Dr Abul Kalam Azad (Senior Research Fellow), Dr A T Salahuddin Ahmed (Senior Research Fellow), Ms Neila Husain (Senior Research Fellow), Ms Segufta Hossain (Research Officer), Mr A B M Ziaur Rahman (Research Fellow), Mr Mohammad Aynul Islam (Research Officer), and Mr Mohammad Jasim Uddin (Research Officer) from BIISS, with additional support from Saferworld.

Focus groups

Information on the focus groups undertaken is outlined below:

Migration source

Issue	Focus group locations	Date	Number of participants	Age range	Socio-economic profile
Salinity	Shinghertali Village, Munshiganj Union, Satkhira District	15 April 2008	10	18–50	4 women, 6 men Professions include Shrimp cultivators, businessmen, labourers, farmers, village doctor, student
	Chaklbara Village, Gabura Union, Satkhira District	16 April 2008	13	23–65	8 men, 5 women Professions include fishermen, tailor, students, carpenter, housewife
	Dakshin Bedkashi Village, Koyra Union, Khulna District	19 April 2008	11	21–85	7 men, 4 women Professions include labourer, shrimp cultivator, farmer, fishermen, housewives, students
Flood	Charpachattaur Village, Chargirish Union, Sirajganj District	23 April 2008	10	19–49	6 men, 4 women Professions include farmer, labourer, housewife, petit commerce, fishermen, student
	Bunotia Village, Gala Union, Sirajganj District	24 April 2008	14	32–56	5 women, 9 men Professions include farmers, labourers, petit commerce, housewife, salt cultivator
Sea level rise	Dakshin Dhurung, Kutubdia	14 April 2008	15	22–54	3 women, 12 men Professions include carpenter, fishermen, salt cultivator, landless, farmer, student
	Kaiyarbil, Kutubdia	14 April 2008	13	32–56	8 men, 5 women Professions include fishermen, drivers, imams, salt cultivators, housewives, students
	Baraghop, Kutubdia	15 April 2008	15	29–63	6 women, 9 men Professions include labourers, fishermen, landless, housewives, farmers and rickshaw pullers

Issue	Focus group locations	Date	Number of participants	Age range	Socio-economic profile
Sea level rise *cont.*	Ali Akbar Dail, Kutubdia	16 April 2008	14	30–58	7 women, 7 men Professions include landless, housewives, farmers, rickshaw drivers, labourers
	Uttar Dhurang, Kutubdia	17 April 2008	17	25–70	6 women, 11 men Professions include landless, fishermen, labourers, farmer, rickshaw drivers, salt cultivator
	Lemiskhala, Kutubdia	17 April 2008	16	24–68	6 women, 10 men Professions include landless, farmers, fishermen, housewives, rickshaw puller, students

Note: Two informal FGDs were also conducted in Kutubdia with two fishing communities.

Migration destination

Issue	Focus group locations	Date	Number of participants	Age range	Socio-economic profile
Salinity	Islamnagar Village, Khulna Sadar, Khulna	21 April 2008	8	24–58	5 men, 3 women Professions include farmer, salt cultivator, businessmen, petit commerce, students
	Notun Bazar, Khulna Sadar, Khulna District	21 April 2008	3	20–61	2 men, 1 woman Professions include farmer, salt cultivator and housewife
	Adabor Slum, Mohammadpur, Dhaka	29 April 2008	9	31–59	6 men, 3 women Professions include petit commerce, housewife, rickshaw driver, student
Flood	Chalkpata Village, Mirzapur Union, Bogra District	25 April 2008	6	26–69	4 men, 2 women Professions include farmer, rickshaw driver, businessmen, student housewife
	Kalshi, Pallabi, Dhaka	1 May 2008	11	22–63	5 women, 6 men Professions include rickshaw driving, petit commerce, student, housewife, carpenter, barber
Sea level rise	Uriar Gachtola, Cox's Bazar	18 April 2008	15	24–65	6 women, 9 men Professions include students, rickshaw drivers, salt cultivators, businessmen, fishermen
	Teknaf, Cox's Bazar	18 April 2008	15	29–62	7 women, 8 men Professions include fishermen, rickshaw drivers, salt cultivator, farmers
	Rang Mahat, Dulhazari, Chokoria, Cox's Bazar	19 April 2008	17	31–72	6 women, 11 men Professions include rickshaw driving, farmer, teacher, housewife
	Ali Kadam, Bandarban, Chittagong Hill Tracts	19 April 2008	15	23–59	7 women, 8 men Professions include housewife, barbers, student, government worker, businessmen

Key informant interviews

Key informant interviews were conducted with a range of officials from government institutions, local elites, civil society, media, NGOs and security agencies.

Key informant interviews were undertaken in each of the participating locations as follows:

Issue	Location	Date	No. of interviewees
Salinity	Khulna City	12/13 April 2008	6
	Shyamnagar Upazilla	14–17 April 2008	7
	Koyra Upazilla	19 April 2008	2
Flood	Sirajganj Sadar	22 April 2008	2
SLR	Kutubdia	13–17 April 2008	31
	Chittagong	21/22 April 2008	10

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Profiles of organisations

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Saferworld is an independent non-governmental organisation that works to prevent and reduce violent conflict and promote co-operative approaches to security. We work with governments, international organisations and civil society to encourage and support effective policies and practices through advocacy, research and policy development and through supporting the actions of others.

Climate change is predicted to have an overall negative impact on long-term security and conflict dynamics, acting as a threat multiplier that increases the volatility of existing causes of conflict and may generate new insecurities. There is significant evidence to suggest that the environmental degradation caused by climate change is already fuelling insecurity, in particular related to a growth in internal migration.

This case study provides an insight into the potential impact of climate change on security and conflict dynamics in Bangladesh. It forms part of a series of papers exploring the relationship between violent conflict, insecurity and climate change that seek to generate further debate and action on this important topic.

COVER PHOTO: A family walks along the edge of a river island. Life is hazardous and uncertain as flooding and erosion are common.
G M B AKASH/PANOS.

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