

Casualisation of Labour as Coping with Cyclone Aila: Peasants' Perception in the Sundarbans Area of Bangladesh

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This paper investigates the coping processes of Bangladeshi peasants after the disaster of Cyclone Aila in 2009. The focus is on the experience of peasants and how they respond to the losses caused by the cyclone. Using 72 in-depth interviews with peasants, shrimp farmers, local leaders, labour contractors, engineers and NGO staff, and surveys of 850 households, this paper analyses the aftermath of Cyclone Aila in two villages in the Satkhira district located in the Sundarbans delta of Bangladesh. One of the villages, Gorkumarpur, was economically backward and poorer than Mollapara village because of its vulnerable geographical location and damaged embankments. By illustrating resilience as the function of coping with vulnerabilities, this paper finds that the peasants can cope with this natural calamity by taking up a range of casual jobs, such as earthwork and brick kiln, to improve their lives and livelihoods. Such casual employment is essential after the initial relief initiatives ended, which shows the ability of the local peasants to protect their family's survival and secure livelihoods.

Keywords: Casualisation of Labour, Resilience, Vulnerability, Cyclone Aila, Adaptation, Coping, Sundarbans

JEL Classification: Q54, O13, J61

I. INTRODUCTION

Widespread poverty has made Bangladesh extremely vulnerable to tropical storms and flooding. Almost 50 per cent of deaths caused by cyclones across the world occur in Bangladesh, even though it experiences only 1 per cent of all cyclones worldwide (Amadore et al., 1996, p.4). The death rate was high because “two deadliest cyclones occurred in 1970 and 1991, with more than 500,000 and

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almost 140,000 deaths, respectively. However, during the past 20 years, Bangladesh has managed to reduce deaths and injuries from cyclones. For example, the most recent severe cyclone of 2007 caused 4,234 deaths” (Haque et al., 2012, p.1). Another reason for higher casualties and losses is that millions of people live in the coastal areas of Bangladesh; for example, 3.9 million people were affected by Cyclone Aila in 2009 (IRIN, 2009, p.1).

People living in the Sundarbans (largest mangrove forest in the world) area are dependent mainly on local resources for employment and consumption based on agriculture, fisheries, bees, and collecting firewood and other assets from the forest and related rivers and areas (Government of Bangladesh, Disaster Management Bureau, 2010, p. 24). Due to soil salinity and the remoteness of the study area, other income-generating activities are too limited. Because *Cyclone Aila* in 2009 came only two years after *Super Cyclone Sidr* in 2007, peasants had no time to recover when they were exposed the second time.

Finally, what happens in Bangladesh has significant regional and global ramifications. Given the size of the population and its vulnerability in the Sundarbans area, Bangladesh represents an unfortunate “laboratory” for the impact of disasters caused by natural hazards and climate change in other parts of the world. These catastrophes have a disproportionate effect on billions of the world’s poorest people. One hundred eighty-nine countries of the world ratified the United Nations Framework Convention on Climate Change (UNFCCC) to protect the poorest of the poor people from disasters relating to natural hazards and climate change. The experiences of Bangladeshi peasants living in coastal areas and coping with disasters caused by natural hazards are relevant to the concerns of other countries with large and poor populations.

II. DEFINITION AND RESEARCH QUESTION

This section deals with the definitional aspects of resilience and coping. Resilience comes from the Latin word *resilio* which means “to jump back.” The word “resilience” is widely used in many disciplines. Batabyal (1998) argues that it was originally used in the field of ecology, but Van der Leeuw and Leygonic (2000) stress the use of the word in physics (cited in Manyena, 2006, pp. 433-434). Waller (2001), Masten (1999), Rolf (1999), and Johnson and Wielchelt (2004) have presented strong arguments saying that it was first used in psychology (cited

in Manyena, 2006, pp. 433-434).¹ Besides all these uses, it is also used in the new field of disaster management where it means a way of understanding how communities minimise the risks that threaten their lives and livelihoods. More practically, in the present study, resilience is used as the ability of groups or communities to cope with external disturbances due to social, economic, political and environmental change (Adger, 2000).

In 2005, after the World Conference on Disaster Reduction (WCDR) in Japan, the concept of “resilience” captured the attention of world leaders and scholars. In the Hyogo Framework for Action 2005-2015, the United Nations International Strategy for Disaster Risk Reduction (UNISDR) defined resilience as “the capability of a social system to learn from past events and use that learning to adapt to future potential hazards to safeguard resources and life” (UNISDR, 2004, p.1). By 2004, UNISDR had benefited from this considerable literature in developing its policies that linked the record of adaptation to policy strategies for minimising future risks.

All the definitions described in available literature can be classified into two broad categories. The first, was postulated by scholars such as Wildavsky (1991),

¹“Resilience is derived from the Latin word *resilio*, meaning “to jump back” (Klein, Nicholls and Thomalla, 2003) (cited in Manyena, 2006, pp. 433-434). The field in which it was originally used is still contested, though: some say ecology (Batabyal, 1998) (cited in Manyena, 2006, pp. 433-434), while others say physics (Van der Leeuw and Leygonie, 2000) (cited in Manyena, 2006, pp. 433-434). In the sphere of ecology, it gained currency following the 1973 release of Holling’s seminal work “Resilience and Stability of Ecological Systems” (Blaikie and Brookfield, 1987; Levin et al., 1998 (cited in Manyena, 2006, pp. 433-434); Adger, 2000; Van der Leeuw and Leygonie, 2000; Stockholm Environmental Institute, 2004). Most of the literature, however, states that the study of resilience evolved from the disciplines of psychology and psychiatry in the 1940s, and it is mainly accredited to Norman Garmezy, Emmy Werner and Ruth Smith (Waller, 2001; Johnson & Wielchelt, 2004) (cited in Manyena, 2006, pp. 433-434). It materialised as a result of efforts to understand the aetiology and development of psychopathology, most particularly in studying children ‘at risk’ of psychopathological disorders due to parental mental illness, perinatal problems, inter-parental conflict, and poverty or a combination of the above (Masten, 1999; Rolf, 1999) (cited in Manyena, 2006, pp. 433-434). The pioneers in the study of resilience were interested in analysing risks and the effects of adverse life events on children, such as divorce and traumatic stressors (abuse, neglect and war, for example). These studies saw the emergence of the terms like resilience, stress-resistance, and invulnerability. Of the three constructs, resilience has become one of the most disputed. Today it is being applied in many fields, especially disaster management” (Manyena, 2006, pp. 433-434).

Miletti (1999), Paton et al. (2000), Kendra & Wachtendorf (2003) and Cardona (2003) (cited in Manyena, 2006, pp. 433-434), can be termed the “jump back” or “bounce back” approach. This theory suggests that the individual or society will revert during the recovery phase to the condition that existed before the disaster caused by natural hazards. The second category, defined by Holling et al. (1995), Horne & Orr (1998), Mallak (1998), Miletti (1999), Comfort (1999) (cited in Manyena, 2006, pp. 433-434), Resilience Alliance (2005) and UNISDR (2004), focuses on the ability to *adapt* to the changing situation through social, institutional or community-level knowledge and support (Manyena, 2006, p.437; Resilience Alliance, 2005, p.1; UNISDR, 2004, p.1). These adaptations seek to improve the local capacity of peasants to respond to the next threat to their livelihoods. This second category is especially appropriate to my analysis of Bangladeshi peasant resilience in the face of disasters caused by natural hazards.

In my thesis, I consider both coping and adaptation to explain peasant resilience. For poor peasants or farmers who depend on the subsistence agriculture system, adaptive strategies can be defined as reducing “*overall vulnerability to climate shocks*” and coping strategies as “*managing the [climate shocks] impacts ex-post*” (Morton, 2007, p. 1981). Throughout the study, in analysing peasants’ resilience, I use the notion of *coping* in describing the capacity of peasants to tolerate vulnerability; *adaptation* goes beyond this to reduce the vulnerability of, or risk to, peasants, given existing or future hazards based on their past experiences.

According to Pasteur (2011, p.13), “Resilience refers to the ability of a system, community or society to resist, absorb, cope with and recover from the effects of hazards and to adapt to longer-term changes in a timely and efficient manner without undermining food security or wellbeing. Resilience can be thought of as the capacity to endure shocks and stresses and bounce back; individuals or communities that can ride out the difficulties that life might bring without their overall situation deteriorating. Even when affected by significant hazard events, or by longer-term negative trends, they must be able to recover or adapt their livelihoods and continue to improve their lives and move out of poverty.”

Maitrot, Wood, & Devine (2021) described resilience in development studies as “*the need for socioeconomic security in the face of multiple vulnerabilities, adverse events, hazards and shocks.*” Using the idea of Pasteur (2011) and Maitrot et al. (2021), resilience can be defined as the function of coping. In this study, I use resilience as the function of coping at the time of vulnerability created by

natural disasters to improve the lives and livelihoods of the poor people living in the southern part of the country. Coping with vulnerabilities does not always lead to a “bounce back,” as this paper demonstrates, but shorter-term strategies for coping might lead to fundamental changes, such as the creation of large numbers of displaced villagers working on earthwork² or other sectors. Due to the nature of smallholding farming in the Sundarbans area, like the rest of the country, we have to understand their basic survival strategy.

An extensive school of analysis focused on how subsistence farmers behave in the general socio-economic and political environment. Eric Wolf, James Scott, Joel Migdal and Michael Lipton, who are called “moral economists” by Popkin, 1979, address the question of peasant security or what some of them called the “...*safety first*...” principle (Lipton, 1969, p.279; Popkin, 1979, pp.4-10; 1980; Scott, 1976, p.5; Wolf, 1969, pp. XV, XVIII & 280-282). It is perhaps one of the important schools of thought, given that subsistence farming remains the defining condition of the majority of peasant economies throughout the world, especially in Asia. As per this perspective, poor peasants try to secure their family’s consumption first rather than thinking about production for the market. Their insecure subsistence position gives rise to a general fear that a small drop in their limited production capacities will throw their families into disastrous circumstances. In this case, they work to minimise production risks (Lipton, 1969, p.279; Scott, 1976, p.5). The contrast between this school of thought and Schultz’s notion of peasants as profit maximisers could not be greater (Scott, 1972; Wolf, 1957).

A variant of the “safety first” principle can be found in the work of James Scott (1976, 1985, 2009); his studies of Asian peasants contrast strongly with the theoretical formulations developed by Marx and Engels in the nineteenth century. Far from being the passive, irrational victims of circumstances, Scott’s peasants employ a range of strategies to protect their families from the extortions of “Oriental despots” and marketing middlemen and moneylenders (Wittfogel, 1953, pp.351-353). In their extraordinary account of the “weapons” Asian weak peasants employ to secure their own livelihoods, a picture emerges of a subsistence farmer driven by economic and political rationality in the struggle to protect her/his

² Earthwork means earth digging, transportation and filling up the broken embankments or roads in the rural areas in Bangladesh. This term is commonly used by the Local Government Engineering Department of the Government of the Peoples’ Republic of Bangladesh.

family's survival by many kinds of subtle and devious means. In this paper, I consider the peasants of the Sundarbans area within this conceptual perspective.

The main research question of this study is: Given the long history of peasant resilience in Bangladesh, how did peasants respond to the impact of Cyclone Aila and what does this tell us about their preparedness for the extra demands of future disasters in this area?

III. DATA AND METHOD

This section discusses the research design, methods and techniques used to evaluate and understand the coping of the peasants in southern Bangladesh. This section also discusses data collection procedures and data analysis tools.

3.1 The Research Design and Sample Selection

To understand the complexity of the nature of responses related to a disaster, a mixed-method (qualitative and quantitative research methodology) was used in this research following “*experimentalism*” (Denzin & Lincoln, 2005). *Experimentalism* emphasises quantitative methods. But, in my study, I used largely qualitative methods. A quick village survey using a small questionnaire was conducted to understand the nature of economic activities in the research areas before and after Cyclone Aila. The village survey provided a coarse socioeconomic evaluation of the villages. However, extensive in-depth interviews were also conducted to gain more detailed insights into the community response to Cyclone Aila. This case-study approach is greatly helpful in examining and understanding why and how real-life phenomena occur in a specific condition or situation (Lee & Lee, 1999; Yin, 2009). The case-study analysis also “*optimizes understanding by pursuing scholarly research questions*” (Stake, 2005, p. 443). Village survey quantitative data are related to the number of family members, occupation, assets and income of the villagers before and after Cyclone Aila. These were used to understand the difference in socio-economic conditions of the villagers before and after Cyclone Aila. These quantitative insights enabled us to identify villagers for in-depth interviews. Quantitative data were also used, in most cases, to explain even qualitative findings.

The Satkhira district in Bangladesh's Sundarbans region is the focus of my research. From 3 April to 7 April 2011 (around two years after the cyclone), I undertook a scoping study in Bangladesh to select the fieldwork site, including the villages that needed to be studied closely. The coping study through transect walks

and talks with villagers allowed me to fine-tune my approach to fieldwork. At first, I selected two villages (Gorkumarpur and Ruiarbill). The two villages were very similar in the damage incurred by Cyclone Aila because they were both surrounded by the two rivers (Kholpetua on the west side and Kobodak on the east side) and Polder 7/1,³ which were subjected to massive flooding after Cyclone Aila.

I then selected another village, Mollapara, protected by a separate embankment (Polder 5) and about three kilometres from the river. During Cyclone Aila, this village was not flooded by saltwater to the same extent as Gorkumarpur and Ruiarbill. Additionally, villagers of Mollapara were able to start small-scale agriculture and fish farming within two to three months of the cyclone. During my scoping study, I also found that Mollapara had a wider variety of common resources that helped local inhabitants to adapt more rapidly to the losses caused by the cyclone than the inhabitants of the other two villages.

Mollapara village is protected by an upstream embankment called Polder 5. Damage to Polder 7/1 was more severe because local villagers protected Polder 5 by constructing a ring dyke voluntarily with the help of a local NGO, which was impossible for Polder 7/1.⁴ A ring dyke is a temporary embankment in the inner part of a risky area to prevent water penetration even if the original embankment is breached. If there is no ring dyke, then the breached part of the embankment becomes enlarged and deep due to the inflow of river water. Because of the ring dyke, saline water flooding did not persist in Polder 5, unlike Polder 7/1.

In the 17th century, local landlords along the coastal belt started to construct small dykes or embankments around their own farms to protect lands from saltwater intrusion from local rivers (Islam, 2006, p.239; Nishat, 1989, p.23). At the beginning of the Green Revolution, extensive programmes were initiated by the East Pakistan government to build closed embankments, which the World Bank started financing in 1967. Consequently, crops were saved from salinity and flooding. The yields increased by 200 per cent to 300 per cent after building polders in this region (Nishat, 1989, p.24). Local peasants also grew traditional varieties of rice and continued small-scale, traditional shrimp farming inside the polders.

³7/1 is the identity of the local polder, given by the engineering department. “The Dutch term ‘polder’ was used to designate areas that are surrounded by dykes or embankments ... offering protection against tidal floods, salinity intrusion and sedimentation. The embankments include regulators and other structures to control water intake and drainage of the empoldered area...” (Islam, 2006, p. 239).

⁴Details on politics and corruption in the rebuilding process of polder nos. 7/1 and 5 have been discussed in Bhuyan, Mondal, Iqbal, & Ahmed (2018, pp. 128-142).

Traditional shrimp farming had little to no negative impact on local rice production because traditional shrimp farmers used sluice gates and canals to pump saltwater into their shrimp ponds, which were interspersed with cultivable lands. The situation began to change in 1983 when the government completed the 34-kilometre-long embankment of Polder number 7/1. It only had nine regulators or sluice gates and a few canals to bring in saltwater and pump out excessive rainwater (Government of Bangladesh, Ministry of Water Resources, 2006). Small-scale traditional shrimp ponds were located close to those canals for easy access to the saltwater needed for shrimp production through legal sluice gates. Those pond owners had enclosed their individual ponds with small boundaries supplied with saltwater via the local sluice gates. The sluice gates were opened from February to April of each year, and at that time, a few juveniles of various varieties of coastal finfish and post-larvae of shrimps from the local rivers entered the ponds. The gates were closed after April each year for the shrimp to grow to harvestable size, a process that usually took between four to five months. If the fry from the inflow of the river water was insufficient, traditional shrimp farmers relied on extra fry collection from local rivers from February to April. They could not grow shrimp beyond this season.

Rice production was the main income source in the 1970s and 1980s. But international demand for shrimp from the 1990s onwards encouraged some local elites to convert their agricultural lands into commercial shrimp farming ponds (locally called *gher*) (Islam, 2006, p.240). Those newly built commercial ponds were not situated close to the canals or to the original sluice gates of the embankment. Shrimp farmers needed lots of capital to increase the saltwater supply by digging extra canals from legal sluice gate connections. The farm owners then placed cheap plastic pipes underneath the embankment for easy and cheaper access to the river water without using legal canals and sluice gates. As a result, the season for commercial shrimp production was extended to all-year production in response to expanding markets.

This new production cycle was incompatible with the timing of the monsoon. It is at this time, from June to September, that the monsoon compelled the Bangladesh Water Development Board (BWDB) to close the legal sluice gates (when the embankments come under extreme pressure from monsoonal rains). This time also coincides with the risk of further pressure from cyclones. Then, from June to September, commercial pond owners started to use illegal pipes and sluice gates to obtain saltwater from the rivers. They achieved this by bribing the

engineers of the BWDB with a view to illegal access to river water.⁵ The new commercial shrimp farmers appeared to be unaware of how their behaviour put other villagers at risk. They could easily purchase fry from commercial hatcheries all year round. They lived in local towns and were thus cut off from the village embankments. Traditional shrimp farmers, by contrast, remained village-based and relied on fry collection in the local rivers. With their access to capital, large-scale commercial shrimp farmers could easily acquire leases of large areas of land and convert them to shrimp farming.

This part of Bangladesh was greatly affected by the devastating Cyclone Aila in 2009. My assumption was that the peasants living in this area were in a position to reflect on their experiences and the impact of the cyclone on their agriculture and livelihoods. Cyclone Aila killed 180 people and injured 7,153 persons in 11 districts of Bangladesh (Government of Bangladesh, Disaster Management and Relief Division, 2011a, p.1). Among them, the greatest number of deaths and injuries (59 died and 5,407 injured) occurred in Syhamnagar Upazila (Sub-district) of Satkhira district in Bangladesh, which is the focus of my research (Government of Bangladesh, Disaster Management and Relief Division, 2011b, p.1).

The peasants from two villages in this Upazila were interviewed. These two villages are approximately five kilometres from each other, but they are not connected to each other directly by road because the Kholpetua River is between them. The basic assumption is that the first village would have experienced the greatest intrusion of saline water through the breached embankment and, as a result, normal agricultural practices were probably abandoned. The more distant villages would have received smaller quantities of saline water, and so some sort of agricultural production might still have been possible there. My question was: How have the peasants in these two different settings responded to the disaster? Landless peasant households in my studied area, like other parts of the country, depend on sharecropping, agricultural labouring, fishing, and other types of livelihood options from local villages and local forests. Shanin's (1987) definition is apt for Bangladesh: "...peasants [are] small agricultural producers, who, with the help of simple equipment and the labour of their families, produce mostly for their own consumption, direct or indirect, and the fulfilment of obligations to holders of political and economic power..." (p. 3). In a traditional agricultural society, the members living in village community include such "small agricultural

⁵For detail on politics and corruption, see Bhuyan et al. (2018, pp. 128-142).

producers” which consists of landholders, sharecroppers, land less agricultural labourers, and small traders and craftsmen involved in part-time farming and live in the village community. I conducted a village survey in the two sample villages from the end of August 2011 to the third week of October 2011. In Village 1 (Mollapara), there were a total of 293 households and in Village 2 (Gorkumarpur), which is the largest, there were 557 households. I collected basic information relating to occupation and wealth through this survey.

3.2 Data Collection Techniques: Creating New Data on Land Ownership, Family Income and Occupations

Along with the village survey, I used semi-structured in-depth interviews to collect information from the peasants, local leaders, contractors, shrimp farmers and engineers. In-depth interviews were used because they are “*a very convenient way of overcoming distances both in space and in time; past events or far away experiences can be studied by interviewing people who took part in them*” (Perakyla, 2005, p. 869). Land ownership was one of the main criteria I used to identify the four categories of peasant families. At first, I followed the land ownership characteristics defined by the Bangladeshi Experts’ meeting in 2021 in Bangkok, Thailand. The Bangladesh Bureau of Statistics has adopted almost the same criteria (Government of Bangladesh, Ministry of Planning, 2010, p. 45). In the field, I found these groupings were too rough and general. For example, all of the peasants in my two villages would have fallen into peasant groups that were “medium,” “small,” or “landless.” Such a definition would have ignored the reality of some families who had an important role as the local village elite. For this, I have developed my own peasant landownership criteria (see Table I).

TABLE I
PEASANT CATEGORIES AND LAND OWNERSHIP CHARACTERISTICS IN
MOLLAPRA AND GORKUMARPUR VILLAGE

Classification	Area in decimals*
Absolutely landless	0
Marginally landless	0.5-49
Small	50-99
Medium	100-249
Large/Rich	250+

Note: *Area of 100 decimals is equivalent to 1 acre or 0.4047 hectares or 43,560 square feet or about 4,047 square metres.

Source: Village Survey 2011.

This new peasant criterion is reflected in my discussions with the elected leaders and middle and small peasant households in the two villages. They also suggested that I include some shrimp and business-related families in the medium and rich householder category.

While surveying the two villages, I found that land ownership was not the only determinant of socio-economic status. Some peasant families received foreign remittances. Similarly, others had children who worked in various government and private organisations in Bangladesh and sent money home. Following in-depth discussions with the villagers, I confirmed that few families who earned foreign remittances and fixed salaries from the services sector were rich peasants, who also owned large blocks of land. A few families who relied on small and medium businesses also had higher income and agricultural land ownership. They were also included in the middle and rich categories. A few rich and middle peasant families also engaged in shrimp farming. I included them in the subgroups of *large landowners plus shrimp farming* and *middle landowners plus shrimp farming*.

At the start of fieldwork, I had very little knowledge of contractors and sub-contractors who were engaged in rebuilding the breached embankments in southern Bangladesh after Cyclone Aila. After my survey, I included two of the sub-contractors in my list of interviewees. One of them is considered a rich peasant; the other belongs to a locally elected council and is a smallholding peasant who owned 2.5 bighas⁶ of shrimp pond before Cyclone Aila.

My initial plan was to interview government employees who were engaged in relief and rehabilitation programmes after the cyclone. Following discussions with local villagers and NGO staff, it was apparent that local engineers played an important role in rebuilding the ruptured embankments. Thus, I included four engineers who were full-time employees of the government's Bangladesh Water Development Board (BWDB) and were responsible for the maintenance of Polder 5 and Polder 7/1.

I had assumed that the most difficult part of fieldwork would be the interviews with those families that had permanently migrated to other districts or places. Therefore, at the beginning of my interviews, I talked with relatives of those families that had left the villages. Through them, I got the contact details of the migrants. I contacted them successfully and then travelled almost 1,300 kilometres

⁶One hectare is 10,000 square meters or 2.47 acres. One acre is equal to 100 decimals or three bighas.

to interview five families who had migrated from the southwest part of the country to the southeast and Jessore. They were very willing to share their experiences of survival and migration.

In addition to permanent migrant families (described above), many families who remained in the affected areas were forced to change their mode of subsistence from agriculture to earthwork and work in brick kilns as labourers. They were seasonal migrants to other districts in Bangladesh. My information about them is based on my sample interviews with five family heads who were at home during my visit. I have treated these two categories of workers separately throughout the study. I have grouped the brick-kiln labourers into the earth diggers and other non-agricultural workers because they were involved in short-term migration.

A significant part of my fieldwork involved interviews with two locally elected Union Parishad members and two persons working for local NGOs. The former was important as the main local stakeholders engaged with the government departments responsible for allocating local development work. One of the local leaders also played a crucial role as a sub-contractor after Cyclone Aila in the rebuilding process of the breached embankment in Gorkumarpur. One of my interviewees from an NGO was an executive director who played a vital role in encouraging local people to volunteer for work required in building a dyke close to Mollapara. One field officer of another NGO was directly involved with relief and rehabilitation work in Gorkumarpur.

In addition to these interviews, I visited the local district-level government offices to collect their official unpublished data about the local communities' common, institutional and geographical resources. Local engineers also supplied some official unpublished data about the release of funds for the rebuilding of the embankment. The contacts helped to document the delays in releasing these funds on time.

3.3 Data Analysis, Transcribing and Limitations

Given the strength of oral traditions in rural Bangladesh, I was confident that the information provided by the villagers and others was unbiased. However, there is a possibility of biasness in comparing before and after situations. Since I came to the villages only two years after Cyclone Aila, so the memory of life during, before, and after the cyclone was still fresh in people's minds. Data collection may be affected by the positionality (i.e., location, race, gender, nationality and other identifiers) of a researcher (Mullings, 1999, p. 340, Sultana, 2007, p. 376). As a

trained researcher (reflecting experience in the Bangladeshi Research Institute service between 2003 and 2010), while collecting data from Bangladeshi villages, I was always aware of my class and educationally privileged position. I was born and raised in the capital city of Dhaka, so from the perspective of a village community, I was an outsider (Sultana, 2007, p. 377 & Mullings, 1999, p. 340). I was also constrained by the need to follow the regulations of the Monash University Ethics Committee. Hence, I did not make direct contact with my respondents. Instead, I worked through a local NGO that agreed to act as an intermediary. This NGO had worked in the study area for a long time and, therefore, had reliable contacts with the villagers. The intermediary introduced me to the respondents as a postgraduate researcher (which I was at that time) and not as a government employee.

Nevertheless, I had to minimise the villager's perceptions that I was a privileged member of the urban elite in Bangladesh. I did this by stressing the fact that I was a research student. I was careful to ensure that, on no occasion did I refer to my previous work as a government servant. I often felt like a powerless researcher, especially when the elite, capitalist shrimp farmers first refused to meet with me. Working with villagers through the NGO was relatively easy. I was able to build up a trusting relationship fairly quickly because I made repeat visits to the villages. However, it took much longer to build trusted relationships with the engineers whose experiences I needed to access to understand how corruption had entered into the process of building levies. In this case, my identity as someone from Dhaka was an aid in building relationships with the local engineers who also came from educated, urban backgrounds. There was virtually no risk in my interactions with the engineers reporting back to the villagers; because these two social groups never interact socially, and their economic interactions are fraught with conflict. So, there would have been no reason for the engineers to reveal to the local people my previous background as a member of the Bangladeshi public service. The reader might also ask whether the villagers began to distrust me once they knew that I had been talking to the engineers and village elites. In the case of the former, this was not a problem because my interviews with the engineers came almost at the end of my fieldwork when the villagers realised that I was interested in their different stories of survival. As for meeting with the village elites, ordinary peasants understood that I could not avoid this because all people who come to the villages need to establish some contact with the families that have local power. My

behaviour and interaction with a range of villagers thus were perceived to be perfectly normal and acceptable.

Finally, I also interviewed quite a few female villagers. The fact that I was a male had little effect on my female respondents. I did not ask them any questions relating to their marital status or other personal issues which can be culturally confronting in Bangladesh. Despite opposition and suspicion, many of the poor female respondents were very willing to divulge what they knew about the corruption and misappropriation of relief materials by the local elites after Cyclone Aila. Their openness reflected their previous positive experience working with male staff from the local NGOs. Perhaps, they were also happy to have a willing listener who was sympathetic to their plight. As a Bengali-speaking researcher, I also found it easier to establish trust and rapport than perhaps a scholar depending on translators during fieldwork. This language ability also gave me plenty of opportunities for casual conversations with my informants, which revealed unexpected insights. Based on this, I was, in turn, able to organise follow-up interviews to address what initially appeared to be contradictory information (see also Mullings, 1999, p. 347).

As I transcribed the in-depth interviews (field notes or audiotapes) immediately after completing my daily interviews, I could check my data each day and identify the gaps that needed to be filled in with further interviews as recommended by Merriam and others (Merriam, 2009, p. 204). When it came to writing up the results of my fieldwork, I grouped the interview materials to reflect the important factors that the interviewees had identified as significant considerations in their decision-making, e.g., whether to take up brick-making contracts or migrate to another part of Bangladesh or India. It allowed me to undertake the kind of “*cross-case analysis*” recommended by Merriam (2009, p. 204). Also, I was required to follow the guidelines of the Monash University Human Research Ethics Committee in reporting my research findings. I created pseudonyms for them all to preserve the confidentiality of my informants; and after the first use, I abbreviated their names.

Since I started my interviews more than two years after the cyclone, and because different earth-digging projects were engaging various peasants, recollections from my interviewees could be imprecise. For example, it was difficult for the peasants to state exactly how many days they worked on particular projects and how much they earned from each work. A few of them kept that

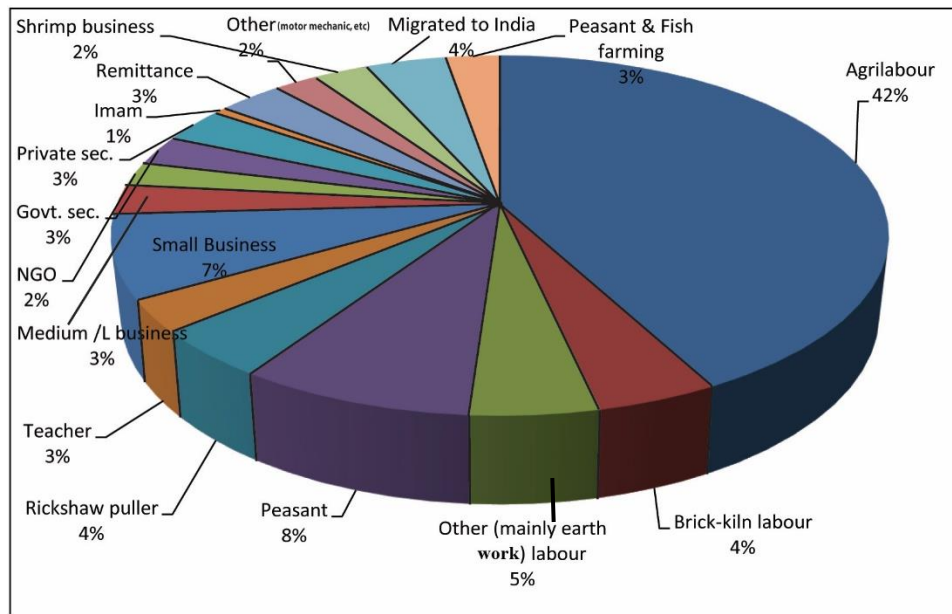
information written in their personal diaries. Raziuddin (RZ),⁷ a peasant and vegetable seller in Gorkumarpur village, was able to give me some estimates from his personal diary. In general, peasants do not keep diaries and Raziuddin did not explain why he kept one. This record even helped to remember the actual wages paid to them as earthwork labourers. This personal diary helped me a lot to get actual data relating to the wage of earthwork. RZ read out those data from his diary, which I recorded and then transcribed.

IV. FINDINGS

4.1 Measuring the Impact of Cyclone Aila in Mollapara Village

Mollapara village is located some three kilometres from the river and is provided with irrigation water via a connecting canal. Despite these locational advantages, this village was still partially affected by Super Cyclone Sidr in 2007 and Cyclone Aila in 2009.

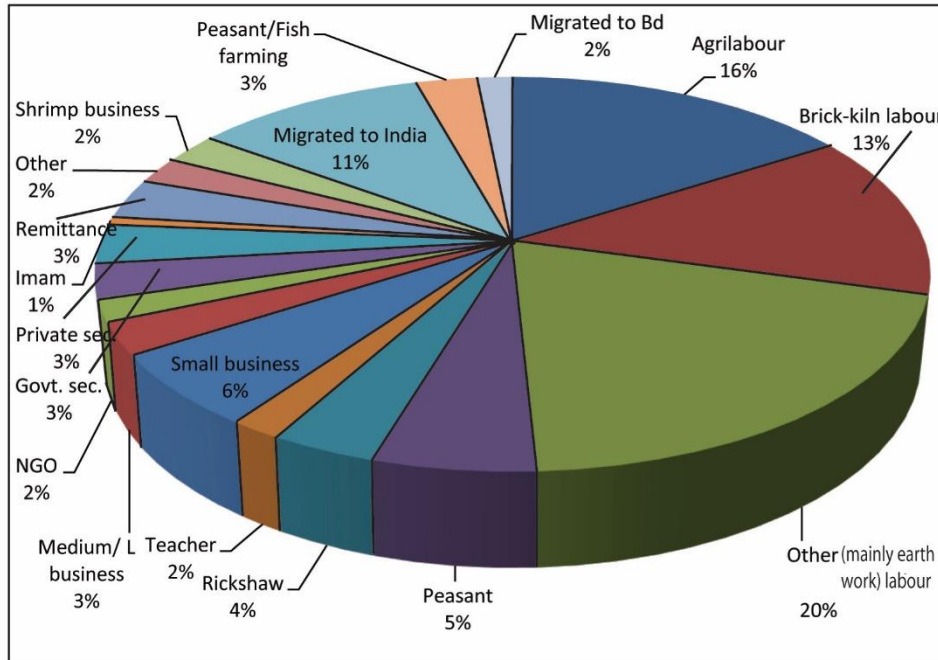
FIGURE 1: Occupations of Mollapara Village Inhabitants before Cyclone Aila



Source: Village Survey 2011.

⁷Raziuddin (RZ), interviewed in Gorkumarpur village on 10 November 2011, was a vegetable seller before the cyclone.

FIGURE 2: Occupations of Mollapara Village Inhabitants after Cyclone Aila



Source: Village Survey 2011.

The impact of Cyclone Aila can easily be measured by the changes in employment. Analysis of my village survey data shows that of the 293 households in this village, more than half (53 per cent) were primarily engaged in agriculture as a means of their livelihood (Figure 1) before Cyclone Aila, and five per cent worked in earthwork in addition to agriculture. Small, medium and large businesses were also engaged in agriculture through owning agricultural land or pursuing businesses related to agricultural production. Thus, almost 70 per cent of the villagers relied on agriculture in one way or another before Cyclone Aila. Even people working in the service sector depended on agriculture because they owned land or engaged in sharecropping, e.g., the local imam, NGO staff and teachers.

Only a small proportion of the villagers (4 per cent) worked as labourers in the brick kiln⁸ before Cyclone Aila. They were itinerant workers for about six months

⁸During my first field trip, I visited one local brick-making factory in the village of Hawaldangi near Mollapara. Such local kilns are rare because of limited capital and market demand, as I have argued elsewhere in this paper.

a year because they were compelled to travel to those areas where brick kilns were situated (0- mainly Dhaka) some 400 kilometres away. A few household heads in Mollapara were also engaged in teaching at local schools, colleges and *madrasas* (religious education centres), which suggests some employment diversification in Mollapara.

My survey data reveal that this scenario changed after Cyclone Aila in Mollapara village. Activities relating to agriculture reduced drastically as poor people lost their employment in the agricultural sector. Twenty-six per cent (calculated from Figure 1 and Figure 2) of agricultural labourers were thus forced to leave their primary occupation and work as brick-kiln labourers or earth diggers in other districts of Bangladesh.

At the time of the interview, respondents said that they used to pay 2,500 BDT⁹ to the local agent for transport and bribes to the border security forces of Bangladesh and India. Before Cyclone Aila, only 4 per cent of residents from Mollapara village had gone to India (Figure 1). This number increased after Cyclone Aila to 11 per cent (Figure 2). There was also evidence of permanent migration to other districts in Bangladesh before Cyclone Aila. Figure 2 shows that after Cyclone Aila, 2 per cent of people of this village were forced to migrate to other districts in Bangladesh in pursuit of employment that they lost in their home village. Even in a somewhat wealthier village like Mollapara, peasants were forced to change their employment because of Cyclone Aila.

Agricultural land became scarce (or considerably devalued) in Mollapara because of saltwater intrusion after the cyclone. Thus, villagers dependent on sharecropping and agri-labour before Aila were forced to go to other districts of the country to work as brick-kiln labourers. Survey data show that before Cyclone Aila, only 5 per cent of households from the marginally landless group worked as brick-kiln labour, and 14 per cent were forced into working as brick-kiln labour after Cyclone Aila. An even greater number of marginally landless people were forced into earthworks from 9 to 45 (Appendix Tables 1 and 2). The marginally landless people working as agricultural labourers, by contrast, fell from 108 to 30 (Appendix Tables 1 and 2). These data show that the marginally landless group suffered more than medium or large landholders due to Cyclone Aila.

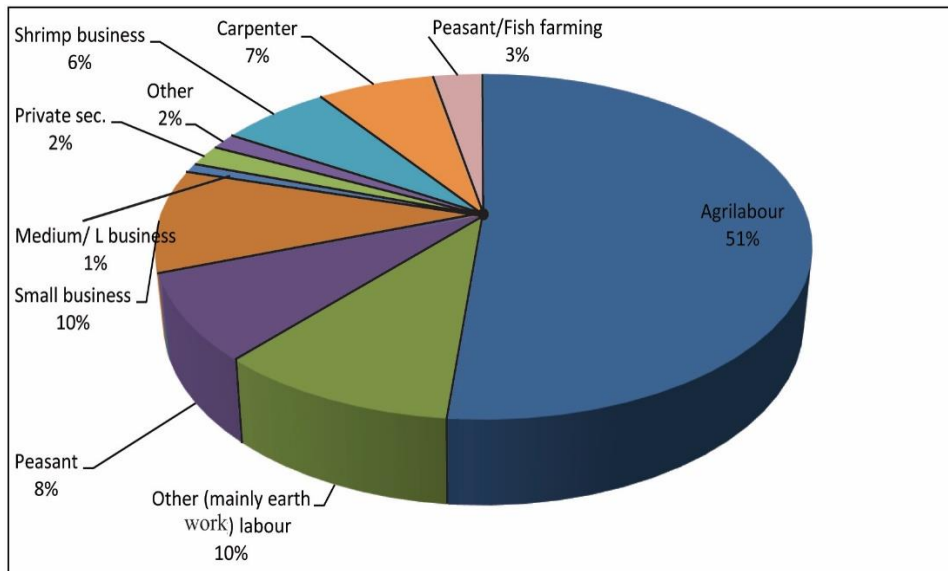
⁹ Bangladesh's currency is locally known as Taka.

4.3 Measuring the Impact of Cyclone Aila on Gorkumarpur Village

Gorkumarpur village is situated in the Padmapukur Union of Shyamnagr sub-district and, unlike Mollapara, is surrounded by two rivers: the Kholpetua and Kobadak. It makes the villagers of Gorkumarpur much more dependent on the embankment for flood protection. During Cyclone Aila in 2009, it was breached in a far more destructive manner than happened in Mollapara village. It meant that the residents of Gorkumarpur suffered greatly. Firstly, from their greater poverty in the pre-cyclone period and then the greater negative impact of the cyclone.

The geographical location and difficult transportation (only boats could be used for transportation) made it difficult for the villagers of Gorkumarpur, unlike Mollapara, to diversify their livelihood. Agriculture was the main livelihood for 62 per cent of village households of Gorkumarpur before Cyclone Aila. Figure 3 shows that another 10 per cent of households were engaged in agricultural production as earth diggers and agricultural labourers. Another 8 per cent of villagers were involved in agriculture as peasants. These data reveal that agriculture and fishing were the only sources of livelihood for most of the villagers in Gorkumarpur before Cyclone Aila – employment diversification hardly existed.

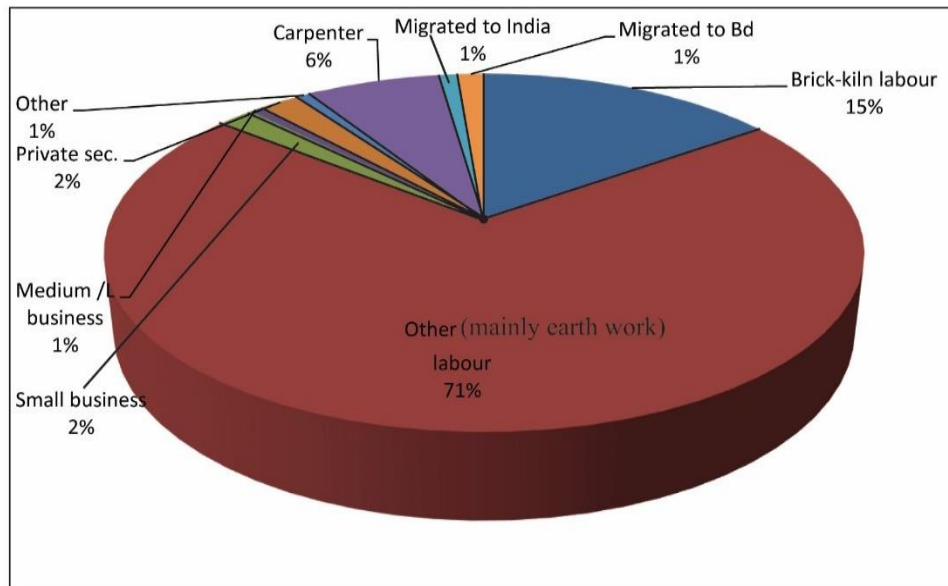
FIGURE 3: Occupation of Gorkumarpur Village Inhabitants before Cyclone Aila



Source: Village Survey 2011.

There was a significant change in Gorkumarpur village after Cyclone Aila. More people were engaged in earthwork and brick-kiln work. Also, there were few other viable livelihood options in the village. The people either had to leave the village or take up employment in the earth-digging sector or brick kiln. After Cyclone Aila, some households of Mollapara (Figure 2) were engaged in agriculture and shrimp farming. Figure 4 shows that after Cyclone Aila, 71 per cent of Gorkumarpur villagers were forced to engage in earth-digging labouring in different embankment reconstruction projects, and 15 per cent were forced to work as brick-kiln labourers (Figure 4).

FIGURE 4: Occupation of Gorkumarpur Village Inhabitants after Cyclone Aila



Source: Village Survey 2011.

Only one household of the Gorkumarpur village permanently migrated outside their village before Cyclone Aila. More families were forced to move to other districts in Bangladesh or cross the border to India after Cyclone Aila. Five families migrated to India, and eight poor families, who could not afford international migration costs, migrated to other districts inside Bangladesh following Cyclone Aila.

Many marginally landless villagers in Gorkumarpur who were fully dependent on selling their labour in agriculture and shrimp farming sectors faced great

difficulty after Cyclone Aila. They were forced to abandon their labouring work in agriculture and take up earthwork. Before Cyclone Aila, 45 households in this category were earth diggers but after the cyclone, that increased dramatically to 286 (Appendix Tables 3 and 4). As with Mollapara village, the marginally landless suffered much more than other categories of peasants. Before the cyclone, only one landless household in Gorkumarpur village was engaged in brick-kiln labour, but after Cyclone Aila, 85 additional households became dependent on brick-kiln work. Even three small landholding peasants and sharecroppers sought employment in brick-kiln work. Survey data reveals that none of the middle or rich peasant villagers joined in brick-kiln work after Cyclone Aila. Although 12 per cent of earth-digging labourers owned 250 decimals or more of land, this was not enough to cope with the cyclone (Appendix Tables 3 and 4). The saline intrusion of lands following Cyclone Aila devalued their land, making it virtually worthless. Their full stories of coping were revealed at the time of qualitative interviews that I have explained in section V.

V. ANALYSIS OF THE CASUALISATION OF LABOUR AS A COPING STRATEGY

This section is about the fate of casual labourers in the two villages of Gorkumarpur and Mollapara. The destructive impact of Cyclone Aila compelled the poorest villagers to migrate temporarily to other districts in Bangladesh as brick-kiln labourers. Amongst the survival criteria, mentioned by the villagers, to judge the success of coping strategies are the percentage of peasants who acquired casual labouring jobs and the percentage of peasants who took up loans.

Casual or short-term migration occurs when one or two members of a family leave the village to work outside. They continue to regard the village as their home even if they do not live there. They return to the village at the end of their work contracts or on family occasions like weddings and funerals. Permanent migration, according to peasant definitions, occurs when the whole family leaves. In this case, they have no family to return to. What do peasants understand by *family*? A family is a group of people who share the “one kitchen” – in other words, they live together, and share the food, the budget, and the accommodation. Such a family can consist of siblings, parents, grandparents, grandchildren, daughter (s) in law, etc. Furthermore, in very large families, some of the sons or daughters may have left to establish separate families. In this case, there are normally no shared resources and the family members who have split off from the same group regard themselves as a separate family. These distinctions are important for this study: for

example, an extended family unit might leave the village and be considered to have permanently left. However, they may still have ties to other units that have been left behind because these units regard themselves as being separate families.

The analyses underpinning this section are mainly based on 28 interviews: 17 with the male heads of the rich, middle, small and landless peasant households in Gorkumarpur and Mollapara villages, two labour sub-contractors, one village elected leader, two NGO staff members and six female heads of households. In the first part of this section, I analyse the great growth in earthwork as a form of employment within the villages. In the second part of the section, I analyse the nature of working in brick kilns.

5.1 Earthwork

The Cyclone Aila victims in Gorkumarpur and Mollapara villages were supported by relief activities run by the government and various NGOs for up to three months after the cyclone. Because these activities stopped, there were very few employment options, except for small-scale agriculture and shrimp farming in Mollapara. No income-earning activities related to agriculture and shrimp farming existed in Gorkumarpur village. Local and national NGOs tried to start earthwork (cash-for-work) programmes to support the peasants in both Gorkumarpur and Mollapara. The main purpose was to repair local embankments and roads and engage local villagers as earth-digging labourers. Later, government agencies also participated in the embankment repair works in Gorkumarpur. A few breached embankments were also repaired by contractors who received contracts from the Bangladesh Water Development Board (BWDB). Those contractors also employed local villagers to repair breached parts of the embankments in Gorkumarpur, Mollapara and neighbouring villages.

5.1.1 Who Could Engage in Earth Work?

Most of the unemployed workers displaced by Cyclone Aila sought labouring jobs inside their own villages. Earthwork provided a crucial alternative employment option in both Mollapara and Gorkumarpur. NGOs recruited earth-digging labourers according to the poverty status of the villagers, with the poorest receiving preference. The elected members of village councils assisted the NGO officials in preparing lists of the poorest villagers. For now, I present a case study to show how villagers were employed in earthwork in Gorkumarpur.

Riazul Kuddus (RK),¹⁰ 60 years of age, was a small peasant and grocery business owner in the Gorkumarpur village market before Cyclone Aila. After the cyclone, he was forced to become an earth digger. There were no other income-generating activities, such as crop production, and shrimp farming in this village even two years after the cyclone because of breached embankments and saltwater intrusion. Before the cyclone, his house was fenced and roofed with tin. Besides his business, he had 45 decimals of agricultural land and 30 decimals of shrimp-farming land. The day before Cyclone Aila, he purchased a total of 30,000 BDT worth of goods and commodities for his small shop. The new supplies, together with the old stock, were all damaged. During the tidal surge, he stood on a wooden bed on the shop floor. He stood chest-deep in water for three hours until later that evening when his younger brother came to his rescue with a boat. The next day, on returning home, they set their bed seven feet off the floor (with bamboo *matcha*) inside the house and began living there. They used bamboo from their own backyard and purchased ropes in the local market to increase the height of the bed. RK borrowed money and bought a boat, which he and his brother used to leave the house during the ebb tide. They remained inside the house during high tide. Until Cyclone Aila, RK was not amongst the poorest of the poor. However, after observing his poor condition, one member of Shushilan¹¹ (the local NGO) put RK's name on the list of people who needed to make living through earthwork. Before Cyclone Aila, his younger son was studying in the 11th grade. The son had to stop studying and also began work digging the earth to augment the family income. After one year, the son went to Dhaka to work at a garment factory. He was only 19 years old.

After the cyclone, RK was unable to reopen the grocery shop. He still owed various loans to wholesalers that had to be repaid after managing the family of four members (he, wife, daughter and younger son). Initially, they provided 500 BDT to travel to Dhaka. Eventually, thanks to family networks, his son was able to stay with relatives in Dhaka and also find work in the garment industry. This case study shows how even a non-poor family's economic condition can be interrupted as a result of a natural catastrophe such as Cyclone Aila. The cyclone spared nobody and provides a powerful reminder of how downward socio-economic mobility can affect even relatively fortunate people. The other important observation to be made about this case study is that RK's son was old enough to travel to Dhaka and work

¹⁰RK, interview in Gorkumarpur village, 15 November 2011.

¹¹Shushilan's web address is <http://www.shushilan.org/>

in the garment industry. I consider examples of other families that were less well-off than RK's in the following sections.

5.1.2 The Role of NGOs and Government Agencies

Of the 17 male heads of households I interviewed, 11 were earth diggers who, for the first time, were working in this menial area. They started this work three months after Cyclone Aila and were also engaged at the time of the fieldwork of this study. Among them were RK, Hazari Mollah (HM), Abidur Khan (AK3), Atiur Rahman (AR2) and Alimullah Sana (AS2). They all explained in detail the kinds of work they were engaged in for NGOs, contractors and the village councils. They worked on repairing different embankments and road construction.¹² Of the 11 earth diggers, one was from Mollapara and ten from Gorkumarpur. It should be noted that there were more earth-digging projects related to broken embankments in the relatively inaccessible Gorkumarpur village than in Mollapara. That is why I interviewed more earth-digging labourers in Gorkumarpur.

AS2 from Gorkumarpur was a sharecropper before the cyclone. Besides agriculture, he caught shrimp fry and sold these at the local market. He has a total of ten decimals of homestead lands and 30 decimals of agricultural lands. On the day of Cyclone Aila, AS2, his wife Majida, and his two daughters and youngest son took shelter in the local mosque. On the morning after Cyclone Aila, he returned to his house to find it destroyed. Since then, another son has been born. He borrowed 100 BDT from his elder brother's son and bought food for his family on the day after Cyclone Aila. Following this, they received rice and other essentials from different relief agencies. He acquired a tent from an NGO two months after the cyclone and set it up on the embankment. AS2 and his family stayed there for two years before receiving 80,000 BDT from CARITAS¹³ for materials with which to build a new house. Two years later, he and his family were able to return to their homestead lands following recovery from the flood. However, he was unable to work as a sharecropper because of the intrusion of salt into the fields, making it impossible to cultivate the land.

¹²HM, interview in Mollapara village, 31 October 2011; RK, interview in Gorkumarpur village, 15 November 2011; AS2, interview in Gorkumarpur village, 20 December 2011; AAAS, interview in Gorkumarpur village, 22 December 2011; AR2, interview in Gorkumarpur village, 22 December 2011; AK3, interview in Gorkumarpur village, 20 December 2011 and 27 January 2012.

¹³A well-known Catholic NGO. Their website is at <http://www.caritasbd.org/>

AS2 with his son (who was 20 years old) earned enough to keep the family viable by working on various earth-digging projects organised by different NGOs. In August 2011, he sent his younger son (20 years old) to India by borrowing 5,000 BDT from Nowanbenki Gonomukhi Foundation (the local NGO).¹⁴ He paid 2,000 BDT to a migration *dalal* who helped the son to cross the Indian border. From October 2011, the younger son remitted between 1,500 BDT to 2,000 BDT per month from his employment as a waste paper and debris collector there. AS2 started to repay the family's loans from the remittance sent by his younger son. AS2 also continued to work as an earth-digging labourer on different projects run by NGOs, government agencies and private contractors. He also caught shrimp fry in the local rivers to sell to shrimp farmers.

The case of AS2 revealed that earnings from earthwork were insufficient to support a peasant family after Cyclone Aila and that their debts accumulated because they had to borrow money from relatives, neighbours and NGOs to send their son to India. The hope was that, in the long run, the son's employment in India would generate income well beyond the debt that had been incurred. As discussed earlier, they paid 2,000 BDT to the *dalal*, and 50 per cent of it was borrowed from relatives. By contrast, most other peasant families had to rely on local sources for income to maintain their families.

AR2 provided a third case study. He was a 40-years-old landless agricultural labour living in Gorkumarpur with his son (9 years), daughter (6 years) and wife (36 years). Before the cyclone, he was a full-time agricultural labourer and part-time shrimp farm labourer. On the day of Cyclone Aila, he was working on a shrimp farm. When he saw the water approaching their village from Chakla village, he ran to his home and took shelter in the local mosque with his wife and children. They stayed the whole night there without any food. The following day he went to the local market and borrowed some rice from one store. According to him, the shopkeeper was generous and did not ask for money. After that, he received relief support from government agencies and NGOs. When that ended, he worked for the local village council, NGOs and local contractors in several earth-digging and embankment-repair projects. Son and daughters were too young to help the income-generating of the family. His wife used to catch shrimp fry in the

¹⁴The Bengali word *dalal* roughly means middleman, broker or agent in English. It is a neutral word that describes all kinds of middlemen. In Bangladesh, migration between villages and towns is typically organised by a village-based *dalal* who has good connections with employers, business people, border security forces, and slum bosses.

local river, from where she could earn around 75 BDT to 150 BDT, depending on the amount of fry she could catch. These extra earnings greatly helped the family in maintaining their three meals. This case study shows how local shopkeepers sometimes helped the villagers deal with the damage caused by the cyclone in the immediate aftermath when relief and rehabilitation work had not yet commenced. In some cases, the social networks of village life were not damaged by the cyclone despite the poverty of the Gorkumarpur villagers.

The second case study shows that if a family had a young son strong enough to work in the brick-kiln factories, this could make a difference in helping the family survive. HM,¹⁵ 38 years, has a wife (31 years), two sons (15 and 7 years old), and one daughter (9 years). He had no agricultural land, and his income depended on agricultural work before Cyclone Aila. However, unlike AR2, he was too poor to be a sharecropper. On the afternoon of Cyclone Aila, he took shelter with his wife and children in Sirajul's ¹⁶two-storied building in Mollapara with other villagers. He was lucky that only the veranda of his house was damaged. He and his family members returned to their home on the morning of Cyclone Aila. He received five kilograms of rice from the local village council as emergency relief on that day. Over the next 35 days, they received partial relief from several NGOs. At the same time, he caught fish from the local canal and rivers to feed his family. With the phasing over of relief, HM started full-time work as an earth digger. Occasionally he also worked as an agricultural labourer, but earth work remained his main source of income. In October 2010, he sent his 15-year-old son to work as a brick-kiln labourer in Dhaka as family resources remained too scarce to survive. There was a labour contractors' cooperative in Mollapara village that sent those labourers to brick-kiln industries, details have been described in the following brick-kiln section. Labourers even received advance payment from members of that labour supply contractor's cooperative. He said he knew that labouring at a brick kiln was very hard, but he had no other options.

All of these interviews reveal that earth-digging projects run by NGOs, government and private contractors helped local villagers to survive after Cyclone Aila. Eventually, however, villagers were forced to find other casual work or other

¹⁵HM, interview in Gorkumarpur village, 31 October 2011.

¹⁶Sirajul was related to shrimp farming before Cyclone Aila and had a shop in the local village market. He built a two-storied building a few years before Cyclone Aila. On the cyclone hit day, many villagers took shelter in his house. It is common practice in this region. Villagers take shelter at the local buildings like schools, mosques and houses of the rich inhabitants.

sources of income to cover their family expenses. Families that had children old enough to work outside the villages were often sent to the brick kilns or other jobs. In the five studies above, sons were sent away to big cities in Bangladesh and India (in two cases) and brick kilns (in one case). As noted above, short-term migration appears to have been a major coping strategy for the changed circumstances, even if the whole family did not migrate beyond their home villages. Major brick-kiln industries provide seasonal work for their labourers. So, labourers had to return to their villages after six months of contract and wait for the next season.

5.1.3 Female Labourers in Earthwork Projects

The reluctance to employ women was a great obstacle for female-headed households. In addition, their income was lower as they had the less physical capacity to dig. Amongst the neediest women, as is true throughout South Asia, were the widows. Jarina Khatun (JK)¹⁷, a 56-year-old widow, lived in Gorkumarpur with two adult daughters and one adult son. All of her children had their own families, and none lived with her before Cyclone Aila. She had no agricultural land. She had a small hut, and her son had another one on the same two decimals of land owned by her late husband. Before Cyclone Aila, she earned her livelihood by labouring on a shrimp farm. During Cyclone Aila, she was at her home with her daughter-in-law. When her house was flooded, her brother (who lived in the neighbourhood) rescued them by boat. For the next year, she lived in the shops owned by her brother. Later she started living on the embankment in a makeshift plastic paper home. Her son received a new house from an NGO, but she received nothing. When I met her, she was still living on the embankment in her small hut made of plastic paper sheeting and some bamboo sticks. She was engaged in earth-digging projects run by NGOs and the village council, but none of the other private contractors employed her because they thought she was too old and weak to work on heavy earth-digging projects. Her main job was to supply drinking water to the labourers. During the interview, she was uncertain of her future and was reluctant to depend on her married children.

Another widow aged 58 years, Abida Khatun (AK2)¹⁸, had three adult sons. Her eldest son Jahangir left the village after Cyclone Aila with his wife and only daughter. He lived in the Satkhira district town and worked as a salesman in a local shop. He did not provide any food or money to his mother. Her second son left the village to take up coastal fishing. AK2 did not receive any financial support from

¹⁷JK, interview in Gorkumarpur village, 9 November, 2011.

¹⁸AK2, interview in Gorkumarpur village, 9 November 2011.

him either. Her youngest son worked on earth-digging projects in the home village but could not afford to look after his mother.

AK2 had to earn her own income to meet her expenses. When her small hut was destroyed by Cyclone Aila, she took refuge in a makeshift plastic paper home on the embankment. Before Cyclone Aila, she performed agricultural work and caught shrimp fry in the local rivers. After the cyclone, she was unable to do either due to bad weather. At that time, she received relief from government agencies and NGOs. Eventually, fishing became impossible. To fish for shrimp fry, she had to walk to the river at 3 am and catch fry until 7 or 8 am. During low tide, she had to pull the net. Having worked in the river for a long time, she understood the course of low tide and could see in the moonlight. She eventually found work on the earth-digging projects as a provider of drinking water for the workers, but fishing was now impossible. Before Cyclone Aila, she could earn up to 150 BDT per day from fishing but after the cyclone, the demand for the shrimp fry fell, and her earnings also fell to between 38 BDT and 100 BDT a day.

The third widow I met was Aziza Khatun (AZ),¹⁹ who was 50 years old and living alone on the veranda of her second son's house. Two of her sons lived with their own families elsewhere, and none of them supported AZ. Her elder son lived in the Satkhira district town with his wife and worked there as a rickshaw puller. The youngest son has a wife and a three-year-old daughter. He provided accommodation for his mother outside his small hut (veranda), but Ayesha had to fend for her own food and clothing.

Before Cyclone Aila, AZ worked as an agricultural labourer, but, after the cyclone, like other widows, she was employed only to provide drinking water for the labourers. I asked AZ whether she was angry about her son's neglect. In Bangladesh, it is the custom for sons to take care of their elderly parents. She asked how the sons could help her when they could not help themselves in maintaining their own families. On the day of Cyclone Aila, she had returned from fishing in the river and had just finished cooking rice. She saw floodwater entering the village and ran towards the road with her granddaughter. Her granddaughter has almost swept away but was rescued by a man who returned her to AZ. They took refuge in the shop in the village market. They stayed there that night and came back home the next day to find only the veranda of their house had been washed away. The tree that had been the centre of their house fell down, so she used the wood to fence the veranda to provide accommodation. The costs of construction were paid for by the local NGO.

¹⁹AZ, interview in Gorkumarpur village, 9 November 2011.

Before the cyclone, AZ also received some help from her neighbours. After the cyclone, nobody was in a position to help her. When relief from the NGOs and government ceased, she began work as an earth digger but her age prevented her from working or earning sufficient income for her basic needs. As an act of charity, the NGO officials and the village council employed her to carry drinking water and food to the earth diggers.

Another widow that I met was Halima Khatun (HK)²⁰, who was 65 years old and living with her younger son, who was 22. When the cyclone hit, she sought refuge in a nearby mosque with her daughter-in-law (the wife of her elder son) and granddaughter. There was no time to bring their own food (rice and pulses). There was nothing to eat all night. The following day, HK purchased rice from the local market and cooked it on the rooftop. They received rice and various foods for almost a month from NGOs and the village council. Later they constructed a tent from bamboo and plastic sheeting on the embankment and lived there for nine months before Shushilan (NGO) provided a free house where they were staying at the time of my interview.

Like the other widows, HK could not dig earth but was given the job of taking drinking water to all the labourers. This earned her 150 BDT daily. Her son worked as an earth digger and supplemented this by labouring as a carpenter's apprentice. At the time of our meeting, the son was working in the neighbouring sub-district of Khulna, i.e., repairing and mending a boat. She also received a monthly old-age allowance from the village council because of her old age. According to the old-age-allowance programme, HK would have received 300 BDT per month as old-age allowance, which is well below the minimum needed to pay for even one meal a day in 2011. I assumed that HK did receive her full entitlement because she did not complain about any *dalal* or middle-man siphoning off a share, even though this does happen throughout South Asia, including Bangladesh. However, two of the women that I spoke to did complain. They had been asked to pay 1,000 BDT to 1,500 BDT to the *dalal* of the Union Parishad to be put into the register and made eligible. The pensions were placed into bank accounts and the money could be collected in person at the bank located in the sub-district.

HK also told me that, after the cyclone, the local shopkeepers treated the neediest villagers generously by donating supplies rather than selling them. She implied that she too had received such assistance although, in most cases, it was a matter of honour to repay the shopkeepers at a later stage when the needy had more resources.

²⁰HK, interview in Gorkumarpur village, 13 November 2011.

This particular case study shows that if a widow had the support of a son who was able to work as well as even a modest pension, her situation was less desperate than that of other widows. Moreover, HK knew she was better off than most of the other widows in the village because her son was unmarried, had no children, and was a skilled carpenter who could diversify his income.

Younger abandoned wives were only slightly better off than widows were after Cyclone Aila. The story of Rahela Khatun (RK2)²¹, a 35-year-old deserted mother, was more encouraging and provided a contrast to the other cases reported above. RK2 lived in her paternal home with her mother, Safura Khatun and her seven-year-old daughter and received plenty of relief and rehabilitation material after the cyclone. She also worked on local earth-digging projects. Sometimes she was given work as an agricultural labourer or as a housemaid for rich families in her village. With this income, she supported three family members and paid for the treatment of her 70-year-old paralysed mother. Her mother did not receive any old-age allowance. However, her story suggests that if a woman was young enough to work, even if her husband had deserted her, she could earn enough to keep the family viable.

Another single mother I interviewed was a 33-year-old Rakhima Mahin (RM).²² She had been deserted by her husband five years ago and had been living on the veranda of her brother's house with her daughter who was studying in Grade 3. She had no land and, even before Cyclone Aila, depended on earthwork and agricultural work. Her brother also worked as a day labourer in the fields.

During Cyclone Aila, the walls and roof of the house collapsed. When she saw the incoming floodwater during the afternoon, she took her immobilised mother on her back, gathered her daughter, and her sister-in-law and crossed the knee-high lake by walking and took refuge on the paved road. From there, they went to Haowaldangi Madrasa in a van. They moved to Shymnagar Mohsin College at around 10 pm and stayed there for two days. There they were fed on khichuri (a preparation of rice and pulses) by government agencies and NGOs. After two days, they returned to their village and stayed on the road, in a makeshift home made out of plastic paper sheeting, for six days. They received five kilograms of rice per day as relief at that time.

²¹RK2, interview in Mollapara village, 7 November 2011.

²²RM, interview in Mollapara village, 3 November 2011.

Later in the summer (during the month of Jaishtho) of 2010, she worked on an earth-digging project for World Vision (an international NGO) for 40 days. After that, she worked as day labour in the fields and at various people's homes as a maid. Agricultural work was only available from Aswhin to Agrahayan (the three months of autumn). These jobs, along with the shelter provided by her brother, helped her to get by. The brother, in this case, could afford to be generous because he had space on his veranda to accommodate her.

All of these interviews with landless agricultural families, in which the female head had been widowed, abandoned or divorced, reveal that earth-digging works played a vital role for female- and male-headed households after Cyclone Aila. However, the older the woman, the more difficult it was to find regular work. The widows I met were especially disadvantaged as they were too old to work in the fields or as maids in private homes. They could only take up light jobs such as carrying water to the labourers in the field, and, as a result, their earnings were meagre. One of them received the old age pension, but this was too small to cover the cost of one meal per day. Female-headed households with younger women in charge fared better because they were younger, stronger and able to take on harder and more diverse work. Since they had a protective brother, this made it much easier for them in terms of access to free accommodation.

A study by Joshi warns us against making simplistic assumptions about female-headed households unless one is able to construct the long-term history of the women, in particular, their upbringing, education and the circumstances of their marriage. She noted that compared with female-headed households in which the husbands lived away from the village in order to earn money and send remittance, widow-headed households were poorer, had fewer assets, had less educated children, and required the children to work before completing school (Joshi, 2004, pp. 21-22). In other words, "female-headedness" was not the determining factor. She suggested that perhaps widow-headed households were poorer partly because the women had smaller or no dowries and had, therefore, married much older men. Thus, the circumstances of women before marriage were an important consideration.

My own research lacked the sophistication of such studies, partly because I did not set out to specifically study female-headed households. Rather, I found myself reporting on these as part of my general attempt to understand the impact of Cyclone Aila on the lives of different groups of villagers. It is how I discovered that female-headed households suffered much more as a consequence of Cyclone Aila than male-headed households.

5.1.4 Payment for Earth Work

Interviews revealed that there were two types of payment methods: government agencies paid in-kind by distributing rice, while NGOs and contractors paid in cash. In a few cases, earth-digging labourers complained about not getting their actual wages, even from the government agencies such as local village councils.

The complaints came not only from workers but also from labour sub-contractors, such as a small landholding peasant Ainul Sohan Sana (ASS)²³ acted as a sub-contractor in repairing a small embankment in Gorkumarpur. The Bangladesh Water Development Board (BWDB) was frequently involved in the underpayment of labourers. Another informant, ASS3,²⁴ a member of the locally elected Union Parishad and sub-contractor for repairing another breach, complained about them. If the BWDB or any other agent defaulted, the labourers could not be paid. NGOs, by contrast, had a better record of meeting their obligations. ASS said that some NGOs paid 150 BDT per day and others 175 BDT per day, depending on the nature of the earth-digging project. If the workers were paid in-kind, they typically received 1.5 mounds²⁵ of rice for 1,000 square feet of earth dugout. This piece-rate contractual system placed women at a disadvantage. They could not dig as much as their male counterparts and thus earned about 50 BDT less than the men (according to the local councillor ASS3, who was responsible for the wages on works run by the local Union Parishad).

Labour supervisors such as the elite, well-connected peasants and shrimp farmers such as Iqbal Jhontu Minu (IJM)²⁶ and Manik Ali Sana (MAS)²⁷ maintained a register of the labourers and supervised the workers. Their (labour

²³ASS, interview in Gorkumarpur village, 9 November 2011. He had one bigha of agricultural land. Before Cyclone Aila, he was a shrimp businessman and sharecropper. After Cyclone Aila, he got a sub-contract to repair several breached points of the embankment from the BWDB through his elder brother ASS3.

²⁴ASS3, interview in Gorkumarpur village, 11 January 2012 and 19 February 2012. ASS3 (a union parishad member) owned 2.5 bighas of shrimp pond before Cyclone Aila. He cultivated 1.5 bighas of land as a sharecropper, from which he received ten mounds of paddy that were washed away at the time of Cyclone Aila. He is the local elected Union Parishad member from Gorkumarpur and two other neighbouring villages.

²⁵Weight of 1 mound is equal to 37.32 kilograms.

²⁶IJM, interview in Gorkumarpur village, 18 October 2011 and 5 February 2012. He acted as a sub-contractor in an embankment-repairing project.

²⁷MAS, interview in Gorkumarpur village, 17 November 2011.

supervisors) remuneration was higher (250 BDT per day) than that of the ordinary workers (only 150 BDT to 175 BDT).

While earthwork was an important source of income for unemployed villagers, all the workers I spoke to reported that their payment was insufficient to meet the daily needs of their families. The gap between income and expenditure created greater personal debt. Usually, a five-member family needed 8,000 BDT per month or 48,000 BDT over six months to meet the basic necessities of food, clothing and medicine (these estimates pertained to 2011, the year of my interviews). Data were based on a personal diary kept by RZ,²⁸ showing his earnings as an earth digger for 898 days. He worked for Shushilan, World Vision and UNDP at two different rates, namely 150 BDT per day for the first two and 175 BDT per day for UNDP.

Altogether, he worked for 231 days in the 898 days that elapsed from the time of the cyclone to the time of my interview. The income from this work was insufficient to support his family of five, as shown in Table II.

TABLE II
INCOME FROM EARTH WORK AND FAMILY EXPENDITURE
OF RZ FOR 898 DAYS AFTER CYCLONE AILA TO
THE TIME OF INTERVIEW (IN BDT)

Source	Shushilan and World Vision	UNDP	Total
Wage per day	150	175	
Total days of work	201	30	
Total income	30,150	5,250	35,400
Total family needs over 898 days (8,000 per month)			239,466
Gap between income & needs of a family of five over 898 days			204,066

Source: RZ, Interview in Gorkumarpur Village, 10 November 2011.

His total earnings over the 898 days were 35,400 BDT. He needed at least 8,000 BDT per month to support the family of five members which adds up to a minimum of 239,466 BDT for the 898 days. There was, therefore, a shortfall of 204,066 BDT, a significant amount of money. Given this situation, he had to fish in the local rivers, sacrifice many meals and borrow about 20,000 BDT from a local NGO to restart his vegetable business. RK (described earlier in this section)

²⁸Raziuddin (RZ), interview in Gorkumarpur village, 10 November 2011. He was a vegetable seller before the cyclone.

also became indebted for 20,000 BDT after the cyclone. Other earth diggers also mentioned different amounts of money they borrowed.

5.2 Brick-kiln Work

Labouring on the brick kilns, by contrast, had the primary benefit of providing work for periods of 6 months and could remit a maximum of BDT 29,000 to their home villages for the maintenance of their family during each contract period. In both cases, there was a serious shortfall between earnings and family needs and the only way to make up the difference was either to eat less or borrow money.

5.2.1 Brick-kiln Contractors and Labourers

Apart from earthwork, the other available alternative employment was to go to other districts in Bangladesh as temporary workers in brick kilns or agriculture. Both agricultural work and brick-kiln factory work are seasonal, but at least with the latter, the dry season lasts for six continuous months. There was a tradition in Mollapara village before Cyclone Aila to go to other districts as brick-kiln labourers. It was facilitated by a cooperative of labour contractors who were residents of Mollapara and neighbouring villages. Villagers used this network when there was insufficient work as agricultural and shrimp-farming labour after Cyclone Aila. As we shall see, the poorer Gorkumarpur village, however, had no such cooperative labour contractors in their village. In terms of road connectivity, Gorkumarpur is more backward than Mollapara. That is why brick-kiln managers preferred to come from Dhaka and Jessore to Mollapara easily using direct road transport and met with the labour contractors at the Mollapara village market. Brick-kiln managers had to cross the river and then took a motorcycle ride of around five kilometres to go to Gorkumarpur, which was inconvenient for them. As a result, a cooperative of brick-kiln labour contractors was established in Mollapara village. So, the labourers from Gorkumarpur village, thus, had to initiate contact through that co-operative, suggesting a sign of their underprivileged position due to geographical backwardness.

The local co-operative of brick-kiln labour contractors was established in Mollapara in 2007 by Mostafizur Rahman (the son of the rich peasant and retired school teacher Miru Ullah Mollah (MUM²⁹) to connect the available workers with the factory managers. At the time of my fieldwork, 28 labour contractors from different villages in the Shymnagar sub-district were members of this cooperative.

²⁹MUM, interview in Mollapara village, 12 December 2012.

I talked with two sub-contractors: Kitab Uddin (KD)³⁰ from Mollapara and Abi Kuraish (AK)³¹ from Gorkumarpur. While Gorkumarpur had no co-operative of its own, AK somehow managed to join the co-operative in Mollapara. Both KD and AK stated that this cooperative office played a significant role in providing employment for local casual labourers. Any brick kiln manager looking for more workers would come to this office.

KD explained the process of obtaining labourers for the brick kiln manager and detailed the process of labour supply and payment. KD has one son aged ten years. He owned no land for cultivation; however, Cyclone Aila, he cultivated 90 decimals of agricultural land as a sharecropper.

KD started this labour-contracting business in 2007 and acted as a middleman to supply 20 labourers per season to the owner of a brick kiln located in Dhaka. There are usually four mills in a single brick kiln. One mill has a machine that makes paste from local mud. The labour contractor enters into a contract at the mill to make raw bricks from mud paste. They can prepare 25 lac bricks (2,500,000) with the help of 20 labourers in every season from Kartik [October-November] until Choitro [March-April]; 40,000 BDT was given per six-month contract to each worker as remuneration on average. During the year of Cyclone Aila, this was 30,000 BDT. The second year after Cyclone Aila, this was 35,000 BDT. The lower remuneration immediately after Cyclone Aila reflected the huge oversupply of labourers in the local market.

The labour contractors have to carry risks even when the labour supply is plentiful. The following calculations show this. Along with labour payments, 60 litres of oil had to be supplied by the contractor to lubricate each machine per six-month season. The price of this amount of oil was about 3,000 BDT. In addition, 300 BDT had to be spent on transport for each labour. Altogether, a contractor paid 809,000 BDT for 20 labourers and oil and could produce 2.5 million bricks using these resources.

The brick contractor received 1,250,000 BDT for producing each 2.5 million group of bricks, which meant that after spending 809,000 BDT, the contractors'

³⁰KD, a landless peasant (sharecropper) and brick-kiln labour supply businessman, interview in Mollapara village, 8 December 2011.

³¹AK, interview in Gorkumarpur village, 16 November 2011. He was a small peasant and brick-kiln labour-supply contractor, with 60 decimals of agricultural and 30 decimals of homestead lands. He started his brick-kiln labour-supply business in 2008.

profit was 441,000 BDT for each group of 20 labourers per mill for a season. This profit was based on the expenditure incurred before Cyclone Aila. Immediately after the cyclone, the contractors' profits increased by an extra 200,000 BDT per mill because the price of labour fell.

Despite this advantage, contractors suffered when some labourers left the mill before the end of their six-month contract from Kartik [October-November] until Chaitro [March-April]. It is relevant to discover why some labourers failed to complete their six-month contracts. What caused them to abandon this option of diversifying their employment opportunities? One reason is the arduous nature of the work. They started making mud paste at 3.00 am and had breakfast at 6.30 am. After breakfast, they had to place the mud paste into another area where a different group of labourers fashioned clay bricks using wooden casts. There was a lunch break at 2.00 pm, after which they had to start digging soil for the next day's brick-making until 6.00 pm. The work was harder than earthwork or agricultural labouring, and they had to stay away from their family for six months at a time, creating psychological pressure. Many brick-kiln labourers left before the end of the contracts for these reasons. In this case of leaving labourers, if the contractors failed to produce the contracted total of 2.5 million bricks, they received less payment from the brick-kiln owner. In the case of workers who left before the end of their contracts, the contractors could also sustain financial losses as they had to pay an advance, about a quarter of the total wage, to the workers. The labour contractors also had to bear the cost of transporting the labourers to the brick kilns. So, even if replacement workers could be found, in the event of some workers failing to complete their contracts, the labour contractors had to pay the extra travel costs for those workers who had to be recruited as a replacement. On balance, however, the uncertainty of the labour supply vanished after Cyclone Aila because all workers were desperate for jobs, and few jobs remained in the villages.³² It demonstrates the extent to which the villagers, even in the more prosperous Mollapara, were in distress, some sections of society, in this case, the labour contractors employed by the owners of the brick-kiln factories, profited from the disaster caused by the cyclone.

³²One year before Cyclone Aila, KD sent 20 labourers to the Nobinagar sub-district in Dhaka. One of them returned home after working for one and half months. KD complained of local Union Parishad chairman. The chairman had assured KD that he would help KD to recover the money that KD paid as an advance. But KD told me at the time of the interview that he was unable to recover that money.

My second case study of a labour contractor is AK,³³ who worked at the Mongla seaport until 2008 and returned to Gorkumarpur after receiving 100,000 BDT as a pension payout when he was forced to take early retirement due to the new policies of the port authority. He used his retirement money to start the labour-supply business to service the needs of the brick kiln at Dohar in Dhaka. He also owned 60 decimals of agricultural land and 30 decimals of homestead land with sufficient space to produce vegetables for his family before Cyclone Aila. All of his lands were flooded by Cyclone Aila.

AK sent 20 labourers to the brick kiln at Dohar in 2011. Their main task was to make mud paste for raw bricks, which is produced after excavating the soil. Specialised labour is needed to make raw bricks from this mud paste. This work is called *kacha reza* (raw brick). When the bricks are dried in the sun, they are carried to the chimney. This stage is called *pucca reza* (dried brick) and is carried out by a different group of labourers. The third group of labourers performs the next stage, which involves loading the raw brick into the kiln. It is called *clean furnishing*. In the fourth stage, six specialised workers help fire the bricks in the kiln. Another group of workers handles the final stage of collecting fired bricks and stacking them in an area before transport to the market.

According to AK, the labourers from his district only work on the first part of the process--making mud paste. More skilled labourers are needed for the later stages of brick-kiln production. In the villages of Gorkumarpur and Mollapara, there are only unskilled labourers. It takes three to four years of on-the-job training to become a skilled labourer for the second stage of making the raw bricks. Most of the villagers chose not to undertake training, so they remained unskilled. This was equally true of Mollapara and Gorkumarpur. In both cases, the labour contractors did not encourage villagers to improve their skills, preferring to recruit unskilled labourers via the labour co-operative based in Mollapara village. Unskilled labours produce mud paste and receive the lowest tier of payment. The next two tiers making *kacha reza* (raw brick) and *pucca reza* (dried brick) needed on-the-job skill training for around two to four years. And labourers of these groups received better payment than unskilled labourers in the first stage of producing mud paste.

³³AK, interview in Gorkumarpur village, 16 November 2011.

5.2.2 Payment for Brick-kiln Work

Many villagers of Gorkumarpur (15 per cent, Figure 4) and Mollapara (13 per cent, Figure 2) became dependent on labour contractors for getting jobs in the brick kilns either for themselves or for their sons. I interviewed four labourers who were compelled to join the brick kilns and were the main breadwinners of each family. Their experiences with paymasters (labour contractors) are explained below.

My first case study is of a landless labourer from Gorkumarpur village. Before Cyclone Aila, Kazi Ali Khan (KAK),³⁴ 36 years old, lived in a house built on the slope of the old embankment. He had no land and worked by labouring in the fields and on a shrimp farm. During the cyclone, KAK, his wife, his 14 years old daughter-in-law, and 19 years old son took refuge in a shop on the road. After Cyclone Aila, he received some relief from different NGOs and was engaged in several earth-digging works within Gorkumarpur. In October 2009, he started work as a brick-kiln labourer and received 15,000 BDT in advance (a common practice in the brick kiln sector, but not in earthwork) from the labour contractor. He left the money with his wife for their maintenance. He reported that brick-kiln work was the hardest ever he had. Work began at 3:00 am and finished at dusk, with just two meal breaks.

Before Cyclone Aila, he and his family lived in his in-law's house; however, this was damaged by the cyclone. After Cyclone Aila, he started living in a temporary house built on the slope of the embankment (on government *Khasland*, not registered in their name). His son also worked as an earth digger for 30 days, and when I met them, his son was again engaged in earth-digging work organised by Shushilan (an NGO). Eventually, KAK was forced to go to the brick kilns in Dhaka because NGOs did not allow two persons from any family to be engaged in earth-digging work. The NGO's priority was to spread the available work across as many families as possible. This case study first alerted me to the equity-based policies of the NGO, but it also meant that a family with extra mouths to feed had to search for aid beyond the village.

The second case study concerns Noab Mollah (NM),³⁵ 42 years old, who used to live on homestead land inherited from his grandfather, with his wife, son and daughter (10 and 8 years old, respectively). Before Cyclone Aila, he and his brother were engaged as labourers in the agricultural and shrimp farming sectors.

³⁴KAK, interview in Gorkumarpur village, 12 November 2011.

³⁵NM, interview in Mollapara village, 30 November 2011.

On the day of Cyclone Aila, NM, along with his father, mother, wife, children, younger brother and sister-in-law, took shelter at Sirajul's two-story house near the local village market. When they reached that house, there was no place to sit. They were compelled to stand for the entire night. The following morning, they moved to Shyamnagar Girls School and stayed there for a month before returning home. On returning to their broken home, NM supported his family for fifteen days by catching fish supplemented by a loan from a relative. NM also started to work at the brick kiln, where he received 35,000 BDT from the labour contractor for a period of six months. With that income, his immediate family led a hand-to-mouth existence while he still had a debt of 20,000 BDT to his maternal uncle.

Given the value of working in brick kilns, it is relevant to discover why some labourers failed to complete their six-month contracts. What caused them to abandon this option of diversifying their employment opportunities? One reason is the arduous nature of the work. Another is the psychological stress of being separated from their families for six months at a time. My discussions with KAK and NM focussed on the first reason.

A revealing case study involved Abu Saidul Sardar (ASS2),³⁶ a 28-year-old landless sharecropper and agricultural labourer. He was living in Mollapara with his mother, wife and unmarried brother. After Cyclone Aila, he received 50 kilograms of wheat, ten kilograms of rice, five kilograms of oil and one tent as relief from NGOs and government agencies. Immediately after Cyclone Aila, he and his brother bought a boat after borrowing 10,000 BDT from a local NGO. They used to earn 500 BDT per day transporting relief goods for a month and a half after Cyclone Aila. When the relief activities ended, they sold their boat for 7,000 BDT to repay the loan. Then, he was engaged in earth-digging projects for two months. His family faced great hardship after that and both he and his younger brother, 26 years old, were forced to join the brick-kiln industry. In 2009, they were paid 30,000 BDT each; the following year 35,000 BDT each, and in 2011 they were paid 40,000 BDT each for taking up contracts to work at the brick kiln. According to ASS2, they started making mud paste at 3.00 am. They had breakfast at 6.30 am. After breakfast, they had to place the mud paste into another area where a different group of labourers fashioned clay bricks using wooden casts. There was a lunch break at 2.00 pm, after which they had to start digging soil for the next day's brick-making until 6.00 pm. The work was harder than earthwork or agricultural labour, and they had to stay away from their family for six months at

³⁶ASS2, interview in Mollapara village, 14 December 2011.

a time, creating psychological pressure. Many brick-kiln labourers left before the end of the contracts for these reasons. Although ASS2 completed his contracts, according to AS2, other labours from his own village and neighbouring villages abandoned the kilns.

Rakhin Mollah (RM),³⁷ a 32 years old brick-kiln labourer from Mollapara, reported that he had received 15,000 BDT as an advance before leaving for the brick kiln. Had he left his job before the end of the contract, it would have taken a long time for the contractor to get back his advance. RM was a sharecropper and day labourer before Cyclone Aila. He had no land of his own. With the lack of agricultural work in the village, he had no choice but to work as a brick-kiln worker to support his family of five (mother, wife and two daughters).

None of the brick-kiln labourers wanted to work as makers of mud bricks. It was difficult as well as isolating work. Yet the impact of Cyclone Aila gave them no choice, even despite repeated illness. All four brick-kiln workers said they typically caught coughs and flu three to four times per contract, and the recovery took two to three days each time. They lived in a hut (made of tin, bamboo and plastic) made by the owner of the kiln on brick kilns land and they (labourers) had to prepare their own meal using firewood or coal, which were used in that kiln. Between 20 and 30 days, for every contract of six months, lost owing to illness; it also meant non-payment of wages for that period. In fact, they were the lucky ones as labour was in oversupply after Cyclone Aila. And competition for all jobs, even the hardest, was intense. So, despite the income lost because of illness, they were better off than their fellow villagers who did not get contracts to work at the brick-kiln factories.

5.3 Assessment of Coping Strategies

5.3.1 The Growing Debts of the Peasant Families after Cyclone Aila

As discussed earlier, the villagers of Gorkumarpur and Mollapara were forced to take up the brick kiln and earthwork labouring work as a coping strategy, but is such employment sustainable? I begin with a general overview of the relationship between income and family needs. This general pattern indicates how peasants would cover the gap between income and need, either by (a) eating less or (b) borrowing money. The following case studies document this general observation.

Interviews with brick-kiln labourers such as NM, KAK, RM and ASS2 showed that it was difficult for them to maintain their households from their earnings as

³⁷RM, interview in Mollapara village, 8 December 2011.

brick-kiln labourers (between 30,000 BDT and 40,000 BDT for six months). These peasants had between three and six dependents per household. Moreover, household income had to pay not only for food and any medical costs that are indirectly related to workplace injuries. Money was needed to treat flu or other diseases caught during their time at the brick kilns. After covering the cost of treatment, a worker could typically send 25,000 BDT to 35,000 BDT back to their villages every six months. This amount was not sufficient to support their families. Thus, they sought loans from relatives, local rich people or NGOs. These loans had to be repaid in weekly or monthly instalments. ASS2, for example, had 35,000 BDT worth of loans from two local NGOs that provided micro-credit. He was making repayments in weekly instalments; to meet these commitments, he worked in other districts as an agricultural labourer. Before I met him, he used to receive ten mounds of rice as payment during harvest time. Another brick-kiln labourer, KAK, borrowed 10,000 BDT from a local NGO. He also worked in other districts as an agricultural labourer when there was no work in the brick-kiln industry. Without this extra work, repayment of the loans was impossible. Usually, NGOs charged 12.5 per cent to 25 per cent interest per annum. NGO loans were available in both villages, so none of the brick-kiln labourers borrowed from other sources where the interest charges would have been even higher.

How did the earth diggers of Gorkumarpur and Mollapara fare? One peasant and vegetable seller in Gorkumarpur, Raziuddin (RZ),³⁸ was able to give me some estimates from his personal diary.

Before the cyclone, RZ, a well-known local poet, sold vegetables in the village market. He also taught at an informal primary school operating in the house of a member of the village council. His wife worked as a seamstress before the cyclone, and they had two young children: a boy of seven and a girl of three. He took refuge in the house of Manik Ali Sana (MAS)³⁹ with his family on the day of Cyclone

³⁸RZ, interview in Gorkumarpur village, 10 November, 2011.

³⁹ Manik Ali Sana (MAS), interview in Gorkumarpur village, 17 November 2011. He is one of the rich peasants in Gorkumarpur village and owns three acres of land. Now, he lives, in part, on the income of his one son (who works at a multinational electronic company) and earnings of another son from casual work as a supervisor in the earth-digging work. Before Cyclone Aila, he used to do shrimp farming in his 25 bighas of ponds. He had two partners in his shrimp business: one is the Union Parishad (UP) chairman Mr. Amin. MAS had an investment of 10 lacs BDT (1 lac = 0.1 million) in this business before the cyclone. He also undertook crop cultivation on the remainder of his land. At the time of Aila, he had 15 mounds (1 mound=37.23 kg.) of paddy upstairs and another 15 mounds downstairs. With the help of two men, he took that upstairs. During the No. 7 signal, he returned home from the shrimp farm. When he got there, he saw no space for him to go upstairs. Most of the villagers had taken shelter in his home. The following morning, he

Aila. On that day, he joined 16 other villagers to prevent further erosion of the embankment by reinforcing it with mud. But the work was in vain, and he finally sought refuge with his family in MAS's building. Some 20 to 25 kilograms of rice stored at his home was lost, along with 1,400 BDT cash from vegetable sales. His cousin provided puffed rice from Dhaka. He distributed this rice among his entire extended family. The following day they received five kilograms of rice from the local Union Parishad. He eventually received 13 stainless steel sheets, wood, bamboo and 5,000 BDT from Shushilan, a local NGO, to rebuild his house six months after the cyclone.

In his diary, he had kept a record of his earth-digging work. Altogether, he worked for 231 days in the 898 days that elapsed from the time of the cyclone to the time of my interview. The income from this work was clearly insufficient to support his family of five.

His total earnings over the 898 days were 35,400 BDT. He needed at least 8,000 BDT per month to support of the family the five members, which adds up to a minimum of 239,466 BDT for the 898 days. There was, therefore, a shortfall of 204,066 BDT, a significant amount of money. Given this situation, he had to fish in the local rivers, sacrifice many meals and borrow about 20,000 BDT from a local NGO to restart his vegetable business.

RK also became indebted for 20,000 BDT after the cyclone. Other earth diggers also mentioned different amounts of money they borrowed. Even a rich peasant and shrimp farmer like IJM was forced to borrow money from a friend to survive.

My conclusion is that most earth diggers were in debt due to Cyclone Aila. Even the brick-kiln labourers borrowed money from several sources. Latif Khondoker (LK),⁴⁰ the chief executive of a local NGO called the Nowabenki Gonomukhi Foundation, ordered his staff not to pressure the villagers to repay their instalments at this time. He also encouraged them to sanction new low-interest loans. LK held out against pressure on him from the donors who supported the NGO's loan scheme. In some cases, he had to wait up to two years for the loans

fed all with the stored rice. His wife was a former UP member. Since they have a two-storey house, they did not receive any relief from any NGO. Fifty percent of his land was submerged by a lake that was created on the east side of the village, due to the high pressure of the tidal surge. There was about 6 inches to 3 feet of sand deposited in the rest of his land. Thus, agriculture or shrimp farming was not possible without removing this sand from the land. MAS tried to re-cultivate paddy in some of his high lands. He sowed about 4.5 mounds of seed rice, all of which were ruined.

⁴⁰LK, interview in Mollapara village, 9 January 2012 and 16 February 2012.

to repay. He tolerated this because, as a local resident, he was sympathetic to the villagers whose traditional livelihoods had been lost following the cyclone. He agreed that his NGO was not unusual and that others also gave villagers more generous terms to repay their debts. Some NGOs were also able to employ villagers on earth-digging projects and other kinds of employment.

The case studies above show the nature of the hand-to-mouth existence that many peasants had to adapt to survive after Cyclone Aila. The limited numbers of new jobs available were insufficient to provide income for their families. In most cases, the peasants had to borrow money; however, in desperate cases, they had to send family members of working age to Dhaka, the capital of Bangladesh, or even further away to India.

Both before and after Cyclone Aila, small loans were given to groups of women, small business holders, peasants, and shrimp farmers. The function of these small groups was to provide moral support to each other and encourage others in the group to repay their loans with interest in a timely manner. Microcredit institutions in Bangladesh usually form *Karmadal* (working group) from the target beneficiaries to provide loans and training and also to generate savings from those groups, which is the basic foundation of distributing loans among poor people in Bangladesh (Bhuyan et al., 2018; Bhuyan & Islam, 2020). The individuals who were given loans were also given NGO passports indicating the size of their original debt, the repayments of capital and interest. The interest rate was almost the same as the national interest rate of 12.5 to 25 per cent. Despite the emphasis of the Grameen microcredit model on timely repayments, the executive director of one of the largest microcredit providers told me that after Cyclone Aila they were not pressing for immediate repayments. They were flexible. It was this flexibility that allowed some local residents to finance their migration to another part of Bangladesh or India.

5.3.2 The Unequal Impact of the Casualisation of Labour and Temporary Migration

Case studies show that almost 52 per cent of the families interviewed had sent one or two members, mainly male teenagers, out of the village for short-term or long-term casual work in the cities of Bangladesh and, in a few cases, in India, where jobs were available. It was an important supplement to family income in the villages. The casualisation of labour by an earthwork and other activities increased to a great extent inside both villages after the cyclone (as already shown in Figures 1, 2, 3 and 4) and as Appendix Tables A.1, A.2, A.3 and A.4 show: in the case of

Mollapara village, from 4.1 per cent to 21 per cent and for Gorkumarpur, from about 9 per cent to 70 per cent, or almost the entire village workforce. An equally significant index of economic distress was the increase in short-term migration to the brick kilns of Dhaka: the percentage of villagers involved in brick kilns went up from 3.4 per cent to 14 per cent in the case of Mollapara and from almost nil (0.2 per cent) to 15 per cent in the case of Gorkumarpur. Short-term migration also involved the casualisation of labour, as the labour contracts lasted for only six months, putting families under strain for the remaining six months of each year.

Cyclone Aila also had a differential impact on different categories of peasants. In Gorkumarpur, before the cyclone, not a single medium or rich/large peasant worked in the brick kilns or earthwork and other menial rural work (Appendix Table A.3). After the cyclone, these categories of peasants became caught up in the disaster that the cyclone brought in its train. While not a single medium or rich/large peasant was forced to work in the brick kilns of Dhaka, the story was different when it came to earthwork in the village---43 medium and three rich/large peasants were compelled to join the rural labourers working on the earthworks. However, most of the casualisation of labour impacted the marginally landless.

Appendix Tables A.1 and A.2 present a paradoxically different situation for Mollapara village. Before the cyclone, one rich peasant was working in the brick kilns, and two medium peasants and one small peasant were casual labourers. After the cyclone, even these seemingly better-off categories of residents suffered: now there were three medium and one rich peasant working in the brick kilns, and seven medium peasants had joined the casual workforce of earth diggers. One thing that Mollapara shared with Gorkumarpur was that the bulk of the casualisation of labour affected the marginally landless.

As already discussed, the negative impact of Cyclone Aila was much higher on the village of Gorkumarpur than on Mollapara, and the appendix tables support that. The capacity of peasants in Mollapara to resume their normal routines was much higher for the reasons already discussed in an earlier section.

These findings support the view of Toufique & Yunus (2013) that in terms of their livelihood vulnerability index, households living in less accessible parts of Bangladesh (e.g., Gorkumarpur village) are more vulnerable to climate change and disasters, caused by natural hazards, as described in detail in the methodology section above, than those living in well-connected areas.

Another conclusion from this analysis supports the view that the peasant households of Gorkumarpur and Mollapara were engaged in the kind of “*lower-*

return activities” described by Barrett (2005) and Carter et al. (2006) (cited in Van Den Berg, 2010, p. 594) as part of their strategies for coping with the extreme situation created by Cyclone Aila. This type of coping and behavioural change can be considered a part of their resilience. Even the widow and separated women, who were the head of their households, were engaged in earthwork and fishing in the local river for survival. On the other hand, young aged children, especially the boys, were involved in earthwork and brick-kiln work as part of their earning livelihood for themselves and family members after Cyclone Aila.

VI. DISCUSSION AND CONCLUSIONS

This paper explains the short-term responses by the peasants to Cyclone Aila—first, their acceptance of aid from within and outside the village, and second, their turning to labouring jobs on village earthwork and taking up six-month contracts in the brick kilns. These initiatives allowed the peasants to cope with the destructive aftermath of the cyclone by supplementing their incomes. How effective were these different strategies? What conclusions can we draw from these about the resilience of Bangladeshi peasants living in high-risk areas?

The short-term coping strategies analysed here did not produce sufficient income for those families that had lost so much of their livelihood. The villagers of Gorkumarpur suffered more than those in Mollapara, partly because it was a poorer village with less access to wider earning opportunities. Earthwork did not generate sufficient income for family maintenance, so growing indebtedness became common. Working in brick kilns generated more income but typically fell short of what was needed if the main breadwinner fell sick and lost the wages he would otherwise have earned during his six-month contract. In any case, casual labouring work and six-month contracts could not fully replace the livelihoods lost during Cyclone Aila. Ongoing charity and loans from family, friends and NGOs became the norm. Nevertheless, the extra income from brick-kiln work provided essential inputs into family resources.

This pattern had been confirmed recently when the World Bank noted that “*in Bangladesh, temporary migrants to Dhaka send up to 60 per cent of their income to family members in their home places*” (World Bank, 2009, p. 166). But why was migration necessary at all? What prevented the peasants from building their local businesses in Gorkumarpur and Mollapara? For example, why did the six-month contracts take villagers to Dhaka, almost 400 kilometres away, rather than to the local community building their brick kilns? The overwhelming poverty of this

Sundarbans region provides the answer. First, the capital investment for brick kilns was beyond the capacity of peasants and local small businesses. Second, the local demand for bricks was too limited because peasants had resources only to build mud-brick homes (i.e., *kutcha* rather than *pucca* houses).

Despite the limitations of the short-term coping strategies discussed in this paper, the peasants interviewed were still slowly putting their lives back together; there was no evidence to suggest that, after the cyclone, the death rates were rising. To this extent, the coping strategies were casual labouring, and the peasants were resilient in terms of improving their lives and livelihoods to move out of crisis after Cyclone Aila (Pasteur, 2011; Maitrot et al. 2021). But it was a resilience reconstructed at the margins of poverty and existence. This paper demonstrates the ability of the Bangladeshi peasants to cope with the devastations of natural disasters like Cyclone Aila.

I was driven largely by the question of whether there was any evidence of peasant fatalism and passivity as recorded in, for example, the classical Marxist literature. My professional background as an employee at a think tank, at first, made me very sympathetic to this classical position. I quickly began to change my orientation in response to reading, for example, Eric Wolf, James Scott, Joel Migdal and Michael Lipton-called ‘moral economists’ by Popkin (1979)-addressing the question of peasant security or what some of them called the “...*safety first*...” principle (Lipton, 1969, p.279; Scott, 1976, p.5). According to this school of thought, poor peasants try to secure their family’s consumption first rather than thinking about production for the market. Their insecure subsistence position gives rise to a general fear that a small drop in their limited production capacities will throw their families into disastrous circumstances. In this scenario, they work to minimise the risks relating to production, which can be treated as the ‘safety first’ principle (Lipton, 1969 p.279; Scott, 1976, p.5). Even peasants in my study villages took earth work and brick kiln work to secure their family consumption, which is the basis of this ‘safety first’ principle.

Fieldwork in the Sundarbans area demonstrated that the single most crucial problem in rural Bangladesh is unemployment. Cyclone Aila indeed brought additional massive unemployment into study villages, with large numbers of landless labourers begin compelled to work as earth diggers wherever such work could be found.

Given the “push” factors that have compelled the villagers of Gorkumarpur and Mollapara to leave their ancestral villages for other parts of Bangladesh, what

sustainable solutions can be found to promote the innate abilities of these peasants to adjust to changing circumstances? In particular, what can be done to promote local employment in a manner that benefits the large numbers of landless labourers rather than the better-off peasants? My interviews reveal that whatever approaches are designed, they need to protect agricultural land from saltwater intrusion. Without that, no one can use the land productively. Two distinct strategies can be identified in responding to the above questions. First, there is the option of using existing technological knowledge to maintain the integrity of the embankments; second, new technologies from outside can be brought into the area to provide protection against saltwater intrusion or to restore degraded lands. Both approaches could help generate sufficient resources to provide residents with long-term, sustainable solutions to the particular devastation caused by cyclones.

Engineering projects in the Netherlands and Venice suggest that a permanent and highly effective barrier against water intrusion is technically possible (Batista, 2003; Karim et al., 2004; de Moel, Bouwer, & Aerts, 2014; Ribiere, 2001; Woldringh & New, 1999), but beyond the financial resources accessible to Bangladesh, given its current policies. Such a project, however, could be developed if the government and international agencies placed the problem of unstable embankments at the top of their priorities.

If the government was unable to initiate such a huge project with the help of international donor agencies, what would be the solution? In this case, salt-tolerant rice variety could be developed by local scientists to help the peasants to cultivate; also, massive income-generating programmes could be undertaken by the government and NGOs to help the poor peasants living on the fringe of Sundarbans. Replanting the coastal areas with mangroves is another approach to reducing the risks of saltwater inundation. Research in various countries, including Bangladesh, has shown that mangrove forests reduce the speed and height of waves that characterise the tidal surges accompanying cyclones. A study for the super Cyclone Sidr-affected region of Bangladesh concluded that “...a relatively narrow band of trees (150 metres) may result in a fairly large reduction in water levels (0.8 metres) when the effect of vegetation on wind waves is also taken into account...” (Tanaka, 2008 cited in McIvor et al., 2012, p. 21).

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Appendix

Table A.1: **Occupation, Casualisation of Labour and Migration in Mollapara Village before Cyclone Aila**

Occupation/ Land ownership**	Absolutely landless	Marginally landless	Small	Medium	Rich/ Large	Total	% migration in total households
Casual labour and short-term migration							
Brick-kiln labour	0	9 (90)	0	0	1 (10)	10 (100)	3.4
Other labour (mainly earthwork)	0	9 (75)	1 (8.3)	2 (16.7)	0	12 (100)	4.1
Permanent migration							
Migrated to other districts in Bangladesh	2 (15.4)	10 (76.9)	0	1 (7.7)	0	13 (100)	4.5
Total village households	9 (3.1)	182 (62.1)	32 (10.9)	46 (15.7)	24 (8.2)	293 (100)	

Note:* Row percentages are in parentheses. ** Absolutely landless group has 0 decimal⁴¹ land, marginally landless group owns 0.5 decimals to 49 decimals, small has 50 to 99 decimals, medium occupies 100 to 249 decimals, and rich/large households have more than 250 decimals land.

Source: Village Survey 2011.

⁴¹Area of 100 decimals is equivalent to 1 acre or 0.4047 hectares or 43,560 square feet or 4,047 square meters.

Table A.2: Occupation, Casualisation of Labour and Migration in Mollapara Village after Cyclone Aila

Occupation/ Land ownership**	Absolutely landless	Marginally landless	Small	Medium	Rich/ Large	Total	% migration in total households
Casual labour and short-term migration							
Brick-kiln labour	0	35 (83.5)	3 (7.1)	3 (7.1)	1 (2.4)	42 (100)	14.3
Other labour (mainly earth work)	2 (3.3)	45 (75)	6 (10)	7 (11.7)	0	60 (100)	20.5
Permanent migration							
Migrated to India	3 (8.8)	27 (79.4)	0	3 (8.8)	1 (2.9)	34 (100)	11.6
Migrated to other districts in Bangladesh	1 (20)	3 (60)	1 (20)	0	0	5 (100)	1.7
Total village households	9 (3.1)	182 (62.1)	32 (10.9)	46 (15.7)	24 (8.2)	293 (100)	

Note:* Row percentages are in parentheses. ** Absolutely landless group has 0 decimal⁴² land, marginally landless group owns 0.5 decimals to 49 decimals, small has 50 to 99 decimals, medium occupies 100 to 249 decimals, and rich/large households have more than 250 decimals land.

Source: Village Survey 2011.

Table A.3: Occupation, Casualisation of Labour and Migration in Gorkumarpur Village before Cyclone Aila

Occupation/ Land ownership**	Absolutely landless	Marginally landless	Small	Medium	Rich/ Large	Total	% migration in total households
Casual labour and short-term migration							
Brick-kiln labour	1 (100)	0	0	0	0	1 (100)	0.18
Other labour (mainly earth work)	5 (9.6)	45 (86.5)	2 (3.8)	0	0	52 (100)	9.3
Permanent migration (see Chapter 6 for discussion)							
Migrated to other districts in Bangladesh	0	0	0	1 (100)	0	1 (100)	0.18
Total village households	16 (2.9)	426 (76.5)	60 (10.8)	52 (9.3)	3 (0.5)	557 (100)	

Note:* Row percentages are in parentheses. ** Absolutely landless group has 0 decimal⁴³ land, marginally landless group owns 0.5 decimals to 49 decimals, small has 50 to 99 decimals, medium occupies 100 to 249 decimals, and rich/large households have more than 250 decimals land.

Source: Village Survey 2011.

⁴²Area of 100 decimals is equivalent to 1 acre or 0.4047 hectares or 43,560 square feet or 4,047 square meters.

⁴³Area of 100 decimals is equivalent to 1 acre or 0.4047 hectares or 43,560 square feet or 4,047 square meters.

Table A.4: Occupation, Casualisation of Labour and Migration in Gorkumarpur Village after Cyclone Aila

Occupation/ Land ownership**	Absolutel y landless	Marginall y landless	Small	Medium	Rich/ Large	Total	% migration in total households
Casual labour and short-term migration							
Brick-kiln labour	4 (4.6)	79 (91.9)	3 (3.5)	0	0	86 (100)	15.4
Other labour (mainly earth work)	10 (2.6)	286 (73.1)	49 (12.5)	43 (11)	3 (0.8)	391 (100)	70.2
Permanent migration							
Migrated to India	0	5 (100)	0	0	0	5	0.9
Migrated to other districts in Bangladesh	0	8 (100)	0	0	0	8 (100)	1.4
Total village households	16 (2.9)	426 (76.5)	60 (10.8)	52 (9.3)	3 (0.5)	557 (100)	

Note:* Row percentages are in parentheses. ** Absolutely landless group has 0 decimal⁴⁴ land, marginally landless group owns 0.5 decimals to 49 decimals, small has 50 to 99 decimals, medium occupies 100 to 249 decimals, and rich/large households have more than 250 decimals land.

Source: Village Survey 2011.

⁴⁴Area of 100 decimals is equivalent to 1 acre or 0.4047 hectares or 43,560 square feet or 4,047 square meters.