

Displacement, migration, land loss, and climate change: The case of Shyamnagar and Koyra sub-districts of Bangladesh

*Prepared by
A K M Bulbul Ahmed, Program Officer (Law), ALRD*

Bangladesh is one of the world's most disaster-prone countries as it sits on the flood plains of major rivers, making its population of some 165 million people vulnerable to natural disasters such as sea level rise and cyclones that are increasing in frequency and strength due to climate change.

Aila, one of the most catastrophic cyclones that formed in the Indian Ocean, hit Bangladesh in 2009.

Climate change, as felt and seen in the Indian Ocean, is also disrupting traditional rain patterns — drought in some areas, unexpected deluge in others — and boosting silt-heavy runoff from glaciers in the Himalaya Mountains, leading to an increase in flooding and riverbank erosion (Aktar, 2013).

Sea-level rise, meanwhile, is pushing saltwater into coastal agricultural areas and is threatening to permanently submerge large swaths of land.

Because of these disasters, as many as 4.4 million Bangladeshis were forced to evacuate to safety in 2020, according to the Internal Displacement Monitoring Centre (IDMC, 2021).

And this number of Bangladeshis likely to be displaced by various disasters arising from climate change may even reach 13.3 million by 2050, making climate change the main driver of internal migration, according to a March 2018 World Bank report (McDonnell, 2019).

The Stern Review Report on Economics of Climate Change likewise made the grim prediction that one in every seven Bangladeshis - about 22.8 million - will be displaced by 2050 due to the impacts of climate change.

Study area

This case study focuses on the Satkhira district (Shyamnagar sub-district) and Khulna (Koyra), which have similar geographic characteristics and vulnerabilities to climate change.

Koyra is the largest sub-district of Khulna district and most of the residents depend on agriculture. It faces various hazards such as waterlogging, saline intrusion, storm surge, sea-level rise, and floods (WARPO, 2001).

Shymnagar, meanwhile, is a sub-district of the Satkhira District. In addition, like Koyra, residents here depend heavily on agriculture.

Disaster events experienced in the community

By definition, Aila is considered a weak Category 1 cyclone, but its economic impact has been severe, bringing in long-term sufferings to the people in the southwestern portion of Bangladesh.

Particularly hit are those in the Satkhira and Khulna districts, killing 325 people and causing massive damage to infrastructure.

The tidal surge reaching 10 to 13 meters washed away households, lives, livestock, crops, and other resources. Only a few managed to escape to cyclone shelters. Most rushed to the roads and roofs of the schools, colleges, *madrashas*, mosques, and local government buildings (Baten and Kumar, 2010).

Effects of disaster in the community

Hardest hit by cyclone Aila are the Koyra, Dacope (Khulna) and Shyamnagar (Satkhira) sub-districts at the southwest coastal belt of Bangladesh.

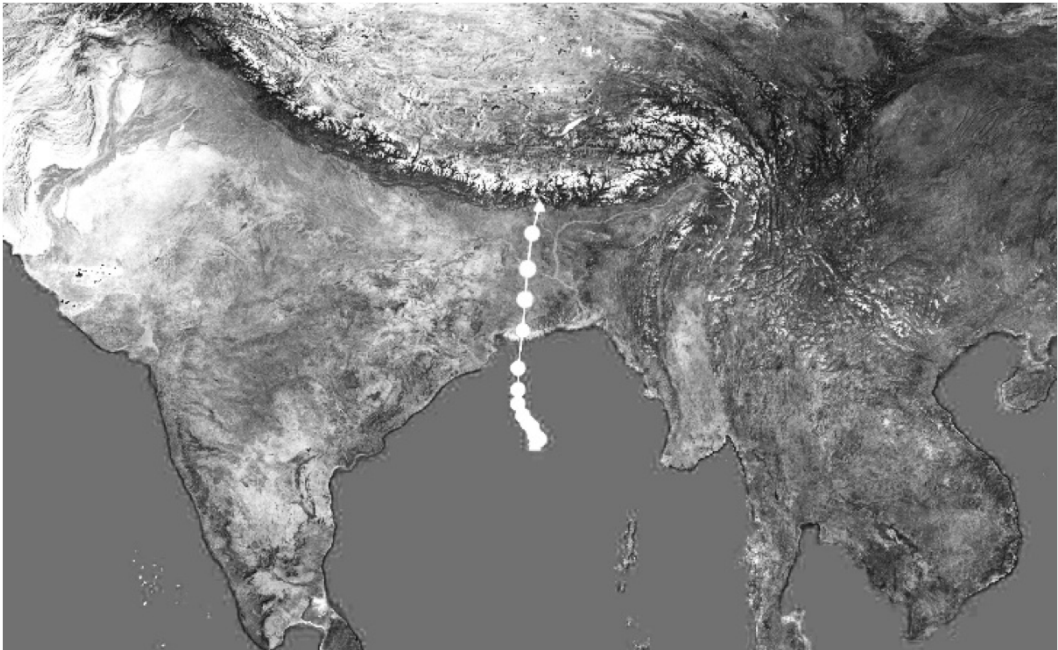


Figure 1: Track of Cyclone Aila

(Source: <http://www.storm-surge.info/cyclone-aila-2009>)

In Koyra, Aila damaged, among others, 81 kilometers of embankments, 163.5 kilometers of asphalt roads, 49 bridge culverts, 42,440 houses, crops on 11,500 hectares of land, and 10,364 aquaculture farms (Sadik, et al., 2018).

Then in the Shyamnagar sub-district that was first hit by Aila, more than 34,000 people were rendered homeless. As many as 28,000 of them are still staying in makeshift tents or near embankments.

In addition, 359.55 square kilometers of land were completely inundated by surge water and this is particularly damaging to the area where the vast majority of the population are engaged in agriculture and fisheries, such as shrimp culture (Baten and Kumar, 2010).

Indeed, the coastal people here depend almost exclusively on natural resources for their livelihood. With their major occupations being fishing and farming, cyclone Aila dealt them a particularly heavy blow.

Aila also damaged most of the drinking water sources of Shyamnagar, mainly ponds and wells.

According to a study by Chakraborty and Kabir (2016), almost seven of ten households in the sub-district say they are still not able to source enough water for drinking and household uses during disasters because almost all of the drinking water resources were destroyed by the cyclone.

High tide surges have also contaminated all fresh water sources with salty water. Because of the shortage, most of the people had no choice but to use polluted water for drinking and cooking (Chakraborty, et al., 2016).

The polders or the embankments that protect the valuable shrimp farms from high tide surges also collapsed due to the pressure from the high tide, leading to waterlogging and salt water intrusion into the shrimp farms.

The salinity of the soil has likewise increased two years after Aila, thus many farmers have been unable to restore their farms (Abdullah, et al., as cited in Subhani and Ahmad, 2019).

The productivity of agricultural land has been reduced, forcing many households to desperately look for other sources of income. Such poor conditions, combined with the financial losses from the crop damage, led to the increase in the number of landless and marginal farmers (Subhani and Ahmad, 2019).

Small farmers' ability to adapt to these climate change-induced disasters is hampered because it is not as easy for them to look for alternative income sources.

Their poor socioeconomic standing, social networks, and limited access to information, education, and technology all weigh down on their ability to cope with these disasters.

For many of them, the only choices left are to move or migrate to other places or just stay where they are, trapped and unable to move despite the more challenging conditions (Subhani and Ahmad, 2019).

Responses to the disaster event

Cyclone Aila hit the southwestern coastal region just when the government was rehabilitating areas damaged by a powerful cyclone that struck in 2007, and some funds and projects geared toward the recovery from the earlier cyclone Sidr were used to initiate cyclone Aila recovery projects. For example, rural roads were initially reconstructed by modifying the World Bank's Emergency 2007 Cyclone (Sidr) Recovery and Restoration Project.

The government later on adopted specific plans for Aila recovery. These plans followed two approaches: a) segmenting and prioritizing the reconstruction activities under the Annual Development Plan (ADP) of the government; and, b) formulating special initiatives (with foreign aid) for large-scale projects.

The ADP and Rehabilitation of Aila-Affected Rural Infrastructure Project (RAARIP) were formulated to complete the unfinished rehabilitation tasks (Sadik et al., 2017). However, not one of these projects incorporated new disaster risk reduction (DRR) measures (Sadik, et al., 2018).

Agricultural farm-based households often adopted various disaster-response strategies themselves to reduce the impact of climate change on them such as diversifying their income sources, changing cropping practices, and crop diversification (McLeman, 2014).

The coastal communities affected by Aila were encouraged to adapt to climate change or reduce their vulnerability to natural disasters by, among others, using saline water-tolerant crops and diversifying into vegetables such as eggplant and spinach that do not require major irrigation systems (Rabbani, et al, as cited in Subhani and Ahmad, 2019).

However, while these strategies are sound, there are more for long-term planning and do not address immediate needs. In fact, it was found that less than 20 percent of the households tried to change their cropping patterns after cyclone Aila.

The immediate impact was the use of savings, reduced expenses on health and education. Some even stopped sending their children to school so they can work and contribute to the household income.

This will have dire consequences on the quality of labor and education in the years ahead. Previous studies had indeed found that in both rural and urban households, children's school attainment decreased after a disaster (Subhani and Ahmad, 2019).

Generally, the community members do not know enough about existing interventions on climate change, although they do know about disaster management and response initiatives.

Climate change, migration/displacement, and tenure security

The devastating effects of climate change such as those witnessed in the aftermath of cyclone Aila extend to migration/displacement and tenure security.

A study by Subhani and Ahmad (2019) shows that functionally landless people living on 0.1 to 0.49 acre (approximately 0.04 to 0.20 hectare) of land are interested in migrating. There is greater possibility that they will migrate because they have to change occupations or find another means of livelihood. In addition, households who are no longer able to eat three times a day are forced to migrate from their original location.

The said study also showed that factors influencing the decision to migrate include ability to learn adaptation strategies and opportunities to earn from alternative income sources.

A survey conducted by ALRD (Ali and Hossain, 2017) looked into the main cause that triggered the relocation of the sample population. It was determined that across the three districts (Satkhira, Khulna, and Noakhali), there were common reasons for migration. These include lack of employment opportunities and the impact of natural disasters. In Satkhira (Shyamnagar), most of the displaced households moved due to Aila.

Those who did not have their own land could not stay because they were left without work. River erosion and cyclones such as Aila have left people homeless in Satkhira (40 percent) and Khulna (33 percent).

The study by Ali and Hossain (2017) thus concluded that the primary reason residents leave their home after being devastated by natural disasters is due to being landless or land-poor. This was mentioned by 84 percent of the studied households.

About 75 percent of the respondents also mentioned the lack of work opportunities in their original homes or areas as their reason for considering staying in their new settlements. About 40 percent of the respondents also said that they were considering making a permanent home in their new settlements because there was no one left in their village to return.

Such loss of human ties is a critical element of psychosocial detachment with their place of origin.

About the same number also mentioned that they no longer have any space in their original communities. This feeling of isolation is making it extra difficult for them to imagine a return to their origin.

In contrast, the respondents who said they were not considering migrating pointed to their having land at their origin as a reason. They also cited poor housing at the settlements; lack of social dignity; and, that they preferred work opportunities at their original home. This is why they are not considering migration as a permanent solution to their difficulties that arose due to natural disasters.

The study also revealed that those who had to migrate or were displaced because of natural disasters induced by climate change adopt different strategies to be able to stay permanently or gain social acceptance in their host communities. One of these is to gain land at their new place.

Around a quarter of the migrant households have already gained some form of access or ownership at their new places. About a tenth got some land in Satkhira and about a third in Khulna (Koyra).

Aside from getting the chance to claim *khas* land, the financial capacity to buy land, and the capability to access NGOs or informal sources of finance, those displaced by climate change also emphasized the need to gain the acceptance of the host community, kinship with host community, and the ability of taking *dakhal* (i.e. possession) of land as critical factors in owning land at their new areas.

Lessons learned and way forward

Zones vulnerable to natural disasters brought about by climate change are taking on permanent characteristics such as salinity, river erosion, and water scarcity that are making it extremely difficult for people to remain in these areas. These then provide the conditions that make people migrate or move.

Indeed, the loss or damage to natural resources, such as land that becomes unproductive because of salt water intrusion, lingers on after a natural disaster like a cyclone strikes. This means there is a need to develop a different form of disaster preparedness for climate change affected zones.

This will involve informing the population of the risks they have to face and the likelihood that they may have to look for another home because of their constant vulnerability to climate change. They must also recognize the strong possibility that their livelihood will be wiped away because of dire conditions such as high salinity, loss of land fertility, and lack of potable water.

There is a need based on the case findings that the people living in high-risk zones, most of whom are poor and marginalized, have to be prepared for natural disasters. In addition, there should be a

proactive strategy in place on climate change mitigation as well as evacuation that the people can immediately adopt.

It must be stressed that the government, as well as non-government organizations, must be ready with social safety net programs. Without these, displaced people as well as those who will be forced to migrate post-disaster, will have greater difficulties in making the transition.

At the same time, since displaced populations usually consider their shift “permanent,” it will be more appropriate for the government or other institutions to help them integrate well in these locations instead of helping them return. This will only work after all if there is available land or work opportunities in their place of origin. Without these, their return will not be sustainable.

The issue of dignity needs to be taken into consideration. The displaced population aspires to be treated better and be recognized in their new area, the way that they were not in their place of origin.

There is a need for new legal structures and tools to establish the rights of the climate-affected and displaced to livelihood and food security along with access to resources including land for their home and livelihood.

This proposed legal framework can also work to hold relevant decision or policymakers responsible for planning, implementing, and monitoring programs geared toward climate change-affected population. These programs include those relating to adaptation and rehabilitation.

Not to be forgotten are land issues and policies. These should be key considerations in adaptation planning, to strengthen land tenure and management at the most basic levels.

It is also worth noting that the women of the displaced/migrant households have become much more involved in paid work. However, this was forced by circumstances because of the primary need to survive in their new places.

This can be an opportunity for more women to have greater participation in the labor force and this should be supported through behavioral change, through the promotion of gender awareness both at origin (climate change affected zones) and destinations (where the victims are moving in). Hopefully, this will lead to greater acceptance of women as important contributors to the economy. After all, women’s status does not necessary improve even if their economic visibility improves after displacement. ■

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