

Flood 2009: Situation Assessment

Climate Change Worsens Disaster Risks for
Communities in Southwest Coastal Region in
Bangladesh

Uttaran

42 Satmosjid Road (3rd Floor)
Dhanmondi, Dhaka
Phone: 88-02-9122302
Email: uttaran@bdonline.com

Climate change-related disaster unleashed on coastal communities in southwest Bangladesh

Heavy monsoon rains, which arrived much later than normal this year, have stranded hundreds of thousands in southeast coastal region in Bangladesh and threatened livelihoods. Communities in southwest have a long history of resilience against natural calamities like tidal surges and cyclones. But increased frequency and intensity of cyclones and tidal surges put them on the frontlines of climate change. The region was wrecked by cyclone SIDR in November 2007 leaving a trail of death and devastation. In May, Cyclone Aila breached the embankments that protected the villages for decades, producing a humanitarian disaster. Three months on, hundreds of thousand of people homeless, clutching at the wreckages and collapsed homes. The people lost their crops, shrimp enclosures, cattle, income sources, assets, trees etc. Roads, embankment, bazaar, educational institutions and other structures were seriously damaged by cyclone Sidr and Aila. Before people could pull themselves off, the region face a devastating flood again.

Every day, high tide brings in fresh inundations of salt water, poisoning the land. The trees are already dying. The people will have to wait a further two months before the rains stop, the water level drops, and the government can start to repair the embankments that keep out the water.

Climate change-related disasters: multiple and interlinked causes

As with all climate change-related disasters, the causes are multiple and interlinked: corruption diverted money away from maintaining the embankments; shrimp farmers needed salt water and nibbled away at the embankments like termites to let it in; and the cyclone coincided with the high tide that accompanies the full moon. But everyone in the area attests to the inexorable rise of sea level, driven by climate change, as a key contributory factor.

In this year, heavy rainfall has started in Bangladesh from August 2009 that resulted to massive flooding of most low-laying areas in the country. The flood situation in southwest region has also been started to deteriorate because of additional rainwater in the waterlogged area and high tidal surge due to depression in the Bay of Bengal on September 5, 2009. The water level has reached up to 5-6 feet high in Tala, Kalroa, Shyamnagor and Assasuni Upazilas of Satkhira district and Paikgach and Kayra Upazilas of Khulna district.

Major causes of this year's flood in southwestern region:

Cyclone Aila: The cyclonic storm Aila hit into the coastal districts of Khulna, Satkhira, Patuakhali, Bagerhat, Barisal, Barguna, Pirojpur, Jhalakathi, Laxmipur, Jessore and Bhola on 25 May 2009. The storm formed in the Bay of Bengal on 23 May 2009. According to the government, some 3 million people of 470,000 families were affected by the Cyclone Aila in the costal belt where 509-km embankments were washed away which caused the flooding in offshore islands. Numerous points of the embankment in Satkhira and Khulna districts were washed out too. As a result, the tidal surges submerged the villages surrounding the embankments. It was not possible to repair the damaged embankment due to heavy current flowing through the damage

points and/or making depth hole at the points. The tidal surge engulfed the villages were stagnated there and the people in the water logged areas were living in vulnerability. Uttaran has been implementing relief and rehabilitation activities in the Aila affected area of Paikgach and Kayra Upazilas of Khulna district and Assasuni and Shyamnagor Upazilas of Satkhira district. The rehabilitation activities are being going on. After Aila, the area has faced heave rainfall which increases the water level in the villages. Moreover the high tidal surge created for depressions in sea entered in the villages too due to unprotected embankment. As a result, devastated flood has been created in the area.

Incessant heavy downpour: Incessant heavy downpour since beginning of September 2009 has caused the flood situation. Relevant authorities forecast the raining will be continued in the coming weeks.

Sea level rise and increased height of river tide: The level of high tide of the sea gets raised because of deep low pressure in the sea. On the other hand, sea level rising due to effect of climate change is overflowing to the coastal areas but the tidal surge can not drain out because of silted-up drainage channel that do not function properly. The tidal surge is increasing salinity in the area. As a result, agriculture production has been decreasing and drinking water is a beg problem in the area. The sea water is entering to Tala, part of Kalaroa, Part of Satkhira Sador, Shyamnagor and Assasuni upazilas of Satkhira district, Paikgach and kayra Upazilas of Khulna district and Kashobpur Upazila of Jessore district through the Kapatakha, Kholpetua, Isamoti and Sibsha river.

Drainage congestion of rivers: The major rivers of this region are Kapatakha, *Shalta, Bhadra, Hari, humkora, Morichap, Betna, Kholpetua, Sibsha and Isamoti*. The water flow from upper part reaches to the sea through the rivers mentioned above. Because of coastal embankment, the tidal wetland has experienced severe environmental impairments in this region. For example, the river bed of the rivers has been raised by siltation and as a result the rivers have lost navigation and drainage capacity. Moreover there is also siltation in the mouth of sluice gates and drainage canals within the polders have become inoperative.

Development interventions and ecological vulnerability in southwest: waterlogging crisis

Since the early eighties people in southwest region of Bangladesh, especially in Kapatakha, *Shalta, Bhadra, Hari, humkora, Morichap, Betna, Kholpetua, Isamoti, and Sibsha* river basin, have been experiencing a recurrent and chronic environmental disaster. Every year more than 144,521 hectare of land goes under water for 6-8 months, submerging villages after villages. The crisis, known as **waterlogging**, is fast spreading and inundating more areas. The problem of stagnant water is gradually approaching downwards to the south according to the declining slopes of the river basin, inundating more areas. It is estimated that each year ten-twelve thousands hectares of land is becoming permanently waterlogged and the rate is rapidly increasing. It is also estimated that each year seven-ten kilometers stretch of rivers is becoming congested and the possibility draining the stagnant water is shrinking rapidly.

Flood 2009: Damages

Since September 2009, about half of the affected people living in the above area have their lands and homesteads under water. Many villages have been submerged; Communication system is totally collapsed as the roads in the villages are under water. The majority of mud houses have been seriously damaged due to recurring flood causing complete collapse of many houses.



People have been rendered shelter less and consequently are moving to higher ground like embankments or roads, and constructing make-shift shelters. Tube wells and latrines have also been submerged, making safe drinking water scarce and sanitation a major problem, causing an alarming level of water-borne and skin diseases. People have been living in damp environment and crucial situation and they are in high risk of health hazards specially the women, children and old aged people. Approximately 100,000 students have stopped going to schools as the schools both primary and secondary are waterlogged with many of these are severely damaged. Children have also been forced to discontinue their education due to the loss of education materials.

The causes are complex and have a long history. In the 1960s, thousands of kilometers of embankments were constructed in southwest coastal region. A vast network of regulators and sluice gates were constructed on the river system in the region. The objective was to protect the region from tidal surge and enable cultivation of high yielding variety crops (primarily rice) on flood free dry land with controlled irrigation. This massive intervention initially produced result in terms of increased agricultural productivity but undermined the traditional water and river management practices of sediments and river flow management by the communities. Disruption of river system caused deposition of sediment on the river-bed which gradually congested the rivers and drainage of flood water has become problematic. Rivers in the region cannot drain out the floodwater and villages get inundated for months.

The affected people also face a complete loss of livelihoods with an absence of income-earning opportunities leading to increased food insecurity. There is no job available for the day labours and they are in problem to manage their food. The people have started to sell their last belonging with cheaper price to survive their live e.g. goats, cows, poultry, ornaments etc. The livestock are their income source, so they will be in problem in future. Standing crops, for example: paddy and vegetable in the



areas are under water, which as a result, created severe food crisis. Severe fodder crisis, side by side, for the livestock and the absence of any livestock-shelter have destroyed their last resort to survival.

Table # 1: Geographical distribution of affected area

Sl No	District	Upazila	Number of Affected Union	Number of Affected Villages	Number of Affected House Holds	Number of Affected Population
1	Satkhira	Tala	5	148	12500	56250
		Satkhira Sadar (Partly)	3	52	3593	19763
		Kolaroa (Partly)	3	37	860	4700
		Assasuni	6	112	7740	42568
		Shayamnagar	6	160	11065	60810
2	Khulna	Koyra	3	98	4491	24704
		Paikgachha	5	89	6150	33826
3	Jessore	Keshabpur	3	42	750	2980
To tal	3	8	34	738	47149	245601

Situation assessment:

Uttaran formed a flood situation assessment team with its staffs and volunteers. The team members were divided into six groups and sent them to the flood affected areas. Each group was consists of four members. The team members visited the area and filled up the situation assessment forms. They talked to the villagers, local leaders and Union Parisad Chairman and members and Upazila Chairman, UNO and other officials. The situation assessment is given in annexure-01.

Experience sharing of the assessment team:

Uttaran called an emergency meeting for sharing the situation assessment report and making planning for remedy the vulnerability of the flood affected people. Uttaran's senior staffs, NGO network members and Paani Committee (a forum of civil society working on water management in southwest costal region of Bangladesh, patronizing by Uttaran) participated in the meeting. The assessment team shared their experience to the participants as follows:



The nature of the flood in the South-West region is a bit different from the floods in other (north and central) parts of the country according to their observation and information collection from the villagers.

This is 10th consecutive year (since 2000) that floods have hit in this region and the local estimation is that the duration and depth of the floods is increasing cumulatively. This causes cumulative damages, losses and suffering of the people. This year it affected 23 unions of Tala, part of Kolaroa, Part of Satkhira Sador, Shyamnagor and Assasuni Upazilas of Shatkhira District ,8 unions of Paikgach and Koyra Upazilas of Khulna District and 3 Unions of Kashobpur Upazila of Jessore district. More than 3374 families have been living in



temporary shelters (such as cyclone centers, schools, public buildings, roads and embankments side, etc.) since 7 September 2009. This number is increasing daily as those who are living in marooned situations are no longer able to cope with their day to day living situation. Temporary shelter places were found to be ill-managed with inadequate sanitation and safe drinking water facilities available to the people living there. Locally available materials (like straw, coconut leaves, bamboo) used for the construction of temporary shelters are not enough to protect them from rain and the upcoming cold winter weather. The small shelters where all the family members are living together along with the livestock make it very difficult for the women and adolescents to maintain privacy and personal hygiene. Since this is an accumulative effect from flooding on the lives and livelihood of people living in this region, this year the people are suffering more than in the past. They were not able to plant aman and there is no possibility for winter crop (robi) planting. There are no employment opportunities available to them, which are influencing them to migrate to non-affected areas in search for work. This is hampering the family integrity and making women more vulnerable.

The experts and villagers have forecasted the water will not remove from the area before 5-6 months which means the economical activities will be disrupted for a long period. The farmers have lost their standing crops and they can't cultivate crops in next season too as well as they can't back to their houses. So, it will be a major problem for the day labours. They will suffer from food insecurity and other problems.

The coming winter season is another threat to people living in shelter places and in marooned situations as well. Neither donors nor any international NGOs have visited this area for an assessment before Uttaran's recent visit. The government and non governmental organizations were found not to have developed any concrete plan to reduce the sufferings of the affected people. Considering the above fact, the assessment team has come to the conclusion that a response is required immediately in the affected areas by the relevant stakeholders.

Response by the government and others agencies:

On emergency basis the government has allocated some relief aids for the affected people but it is not sufficient in terms of requirement. The NGOs intervention is also not significant yet.

Uttaran's initiatives:

The senior management team and response team had meetings several times to analyze situation and future steps. One liaison officer has been deputized for communication and facilitating coordination from Uttaran Head Office, Dhaka. Moreover a Flood Situation Monitoring Cell is open at Uttaran, Tala, Satkhira for updating the information. Uttaran's Shanjog network members (NGOs network) and Pani Committee members have been put on alert for any possible intervention. Uttaran is mobilizing volunteers to intervene the serious flood situation.

Apart of this, Uttaran made contact to the MP of this constituency, district government administration, Upazila Chairman, UNOs and other offices of Tala upazila, Chairman of Union Parishad, Civil society, Pani Committee, Journalists for discussion about coping up the situation.

Uttaran distributed temporary shelter materials (Parma tent) to 150 families, dry food to 1000 families, tube wells 15 sets, ring slab 30 units in Tala Upazila under Satkhira district on emergency basis from its own resources. Five sets of motors have been using to drain out the floodwater from the public places. These are inadequate in terms of requirements. External support is badly needed to save the life in the area; otherwise we will have to face human disaster in future.

Uttaran experience in disaster experience:

Uttaran has been working in southwest region of Bangladesh for socio-economic development of underprivileged people for last 21 years. The area is recognized as a disaster prone area. The people in the area face various types of natural disasters frequently such as water logging, flood, and cyclone. Uttaran has commitment to stand beside the affected people as it has been working with these people in this area. Since 1986 Uttaran has been standing up to communities whenever natural calamities hit them, with support from development partners. Apart from emergency response, Uttaran also works for rehabilitation of communities. After the cyclone Sidr Uttaran launched a program on agricultural rehabilitation that is still going on.

Uttaran knows the areas very well and it has excellent working relationship with the district and Upazila government administration, local political leaders, Upazila Chairman, UP Chairman and members and Civil society. The organization has a Disaster Response Cell under Disaster Risk Reduction Department. Uttaran has a group of skilled workers and volunteers to work in disaster response effectively and efficiently.

Support needed:

Understanding from the meeting with different stakeholders that the interventions should be in three steps given below:

Immediate steps or intervention:

The flood affected people have been living in miserable condition both in living in camps and houses covered by drowned in water. They have neither income source nor food in house and passing the days on fasting. Job is not available in the affected area for the day labours. The people have been living in unhygienic situation which is a threat of health hazards. WASH is totally collapsed. Old ages people and children may become sick due to lack of cloths. There is a crisis of fodder. So the following supports are needed on emergency basis:

- Food
- Household utensils
- Cloths for old people and children
- Safe drinking water
- Sanitation facility
- Medical support in flood affected area
- Establishment of temporary shelter
- Distribution of baby food
- Distribution of sanitary napkin and kits
- Distribution of fodders

Mid-term intervention

It is assuming that the people will not go back to their normal job and economic activities for a long period that will increase their vulnerability. The following interventions will be needed to reduce their vulnerabilities:

- Employment generation through cash for work such as road and embankment repairing, ground rising of School, College and bazaars.
- Small capital for small business such as groceries, hawker business, handicrafts, bamboo and cane works
- Agriculture Rehabilitation
- Construction of damaged houses
- Construction of damaged schools and distribution educational materials to the Schools/colleges as well as to students
- Re-excavation of canals for facilitation of the drainage system

Long-term intervention

Just relief and rehabilitation support is not enough to the current flooding. A shift should take place and a long-term strategy should be adopted which will give stress on risk reduction as well as development of an environment-friendly drainage system i.e. appropriate technology for tidal water and silt management. Disaster is a regular phenomenon that poses risk for livelihoods and human habitation in southwest region

in Bangladesh. So the donors need to come forward along with local NGOs to prepare the people of this region to cope with disaster like flood so that development of alternative livelihood strategy is a must.

Climate change related disaster in southwest region: preparing for the future

Experts have long alerted that we must prepare for more climate change related natural disasters. Tropical cyclones will likely become more frequent and more intense, rainfall will increase and sea level may rise by up to nearly a metre as tropical sea surface temperatures increase. Climate change is also expected to bring more natural disasters such as drought and flooding. Such changes will inevitably affect the southwest coastal region, leading up to impoverishment of the marginal communities. Government institutions and development organizations urgently need to develop strategies to face the challenges.

Annexure-1

Flood in Southwest Region of Bangladesh: Damage Assessment (9 September, 2009)

District	Upazila	Affected Area/ Village	Affected HH	Affected People	Affected Child	Affected Roads (Km)	Damage			Affected School Collage	Affected Service Delivery Institution		
							House	Crops/ hector land	Emban kment km		Clin ic	Post Off	Bank
Satkhira	Tala	148	12500	56250	855	18	3775	20475	6	12	-	-	-
	Satkhira Sador (partly)	52	3593	19763	458	9	826	3123	-	6	-	-	-
	Kalaroa (partly)	37	860	4700	810	59	235	2120	4	44	-	-	-
	Assassuni	112	7740	42568	951	46	1940	75	8	25	-	-	-
	Shyamnagar	160	11065	60810	1322	99	2766	124	11	50	1	1	-
Khulna	Koyra	65	4491	24704	495	125	1123	20	10	9 Full 70 Partly	1	-	-
	Paikgacha	89	6150	33826	677	160	1537	80	7	59	-	-	-
Jessore	Kashobpur	42	750	2980	79	11	40	3100	-	11	-	-	-

Note: The Figure is changing everyday

Further information:

<http://riversandcommunities.wordpress.com>

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