

# CCDRER NEWSLETTER

April 2013

Collective Action to reduce climate disaster risks and enhance the resilience of vulnerable coastal communities around the Sunderbans in Bangladesh and India  
Contract No. DCI-ENV/2010/221-426



## Baseline Survey of CCDRER Project

*“Collective Action to Reduce Climate Disaster Risks and enhancing Resilience of Vulnerable Coastal Communities around the Sunderbans in Bangladesh and India”, in short CCDRER project, with support from European Union, is active in selected clusters of Patharpratima, Basanti, Hingalganj and Sandeshkhali block of Indian Sunderbans and Khulna, Bagerhat and Satkhira districts of Bangladesh. The project is being implemented by DRCSC (India) and BCAS (Bangladesh).*

*The overall goal of the project is to reduce climatic disaster risks and enhance resilience of the coastal communities around the Sunderbans by building capacity of the vulnerable communities, local actors and stakeholders through sustainable natural resource management and disaster risk reduction for promotion of livelihoods as well as by advancing community adaptation to climate change. In Indian part of Sunderbans, the project is targeting 1500 families from small and marginal farming community, fishing community, honey/fuel collectors and the landless community. This newsletter brings the essence of the existing situation of the families, done through*

*baseline exercise in the beginning of the project.*

### Location

1509 families have been selected from 46 villages, 14 Gram Panchayats and 5 Blocks of Patharpratima, Basanti, Hingalganj, Sandeshkhali-I and Sandeshkhali-II in North and South 24 Parganas of West Bengal, India.

### The findings of the baseline survey

In the study areas, illiteracy is extensive. Among the surveyed household, only 1% has passed 12+. Survey team has failed to find out any person with graduate degree in Basanti and Sandeshkhali-I and any female graduate in the study areas. The percentage of illiteracy is 44.03% while 24.66% can only sign. Among the female members, 75.42% cannot read and write.

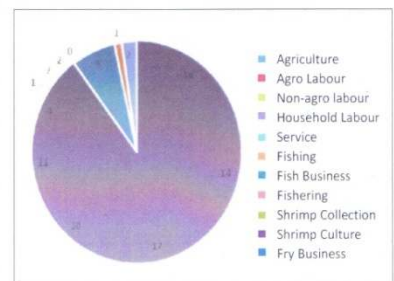
Majority of the households (82%) depend on agriculture and labour work as primary source of livelihood. A slight block level disparity was observed as agriculture is dominant in Hingalganj, Patharpratima and Sandeshkhali-II. However labour as an option is prominent in Basanti and Sandeshkhali-I.

Data reveals that average land



holding is also very low and it varies within 22 decimal to 25 decimal with Patharpratima at the lowest end which denotes that agricultural activities alone cannot fulfill the livelihood needs of a family.

Livelihoods of these regions depend more or less on economic value of Sunderban biosphere. On an average, the households depend for almost 4 months in a



year on Sunderbans (2 in Patharpratima and 5 in Hingalganj and Sandeshkhali-II). Around 27% of household income is generated from the natural resource.

### Impact of Climate Change

Irrespective of the study area, flood, river erosion, salinity and increase in temperature are identified as major climate induced hazards according to respondent's perceptions. They perceived, impact of river erosion on house and homestead lands is highest. Flood is considered as second adverse factor. Salinity comes as third factor that is highly affecting the fertility of the soil and water. Home and homestead land, trees and agricultural land are

considered to be the 3 most affected assets due to climatic threat. Crab and shrimp cultivation are relatively less affected by climatic threats.

### A block level difference in perception of the communities has also been observed.

- In Basanti, flood and river erosion is the major culprit for house and homestead land damage. Crops and vegetables production is relatively less affected by flood and river erosion.
- Flood and river erosion creates maximum hazards in Hingalganj. Increase in temperature has more

damaging capacity than Salinity. According to respondents' observations deterrent effects of salinity is relatively lower than Basanti.

- In Patharpratima the degree of adversity of tidal surge is high, followed by flood and river erosion.
- In Sandeshkhali-I shrimp farming and fish culture are badly affected by flood, river erosion, water logging, increase in temperature and tidal surge as well. Here 50% agricultural lands are under threat of flood and river erosion.
- Cyclone and heavy rainfall are dominating in Sandeshkhali-II.

The following matrix gives an interesting picture of the perception. Date here, are in %.

Damaged/Damaging factor	House and Homestead	Tree	Livestock Poultry	Agricultural land	Crops, Veg.	Shrimp Farming	Fisheries	Crab cultivation	Spawn cultivation
River erosion	75.92	49.3	41.96	44.98	35.78	11.54	30.18	0.64	15.16
Flood	70.14	35.7	31.75	48.18	34.7	4.7	29.9	0.74	12.4
Salinity	43.8	31.06	13.46	15.42	8.38	1.26	3.82	0.14	7.5
Increase temperature	32.7	24.38	22.76	18.56	19.32	10.2	17.7	1.62	5.96
Tidal surge	20.64	21.98	8.92	23.38	13.1	1.72	13.78	1.4	1.26
Heavy rainfall	16.14	10.2	8.38	15.04	18.1	1.08	6.92	0.38	3.12
Water logging	11.24	16.34	7.12	20.04	9.76	1.46	12.72	0.14	2.78
Drought	8.8	8.5	6.58	22.94	16.68	0.62	3.2	0	0.74
Cyclone	5.34	6.56	4.04	7.8	7.84	0.72	3.6	0	0.88

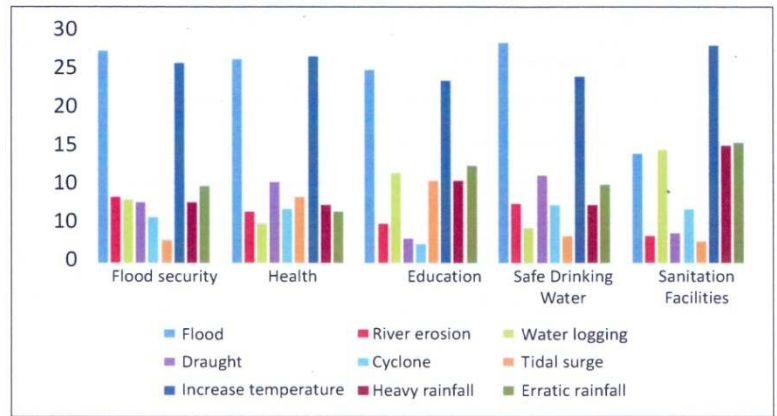


According to perception, increase in temperature and flood are the two major negative contributors to the Human development Index. Adjacent graph, denotes the major negative contributing factors on individual development indexes.

### The gender discrimination factor

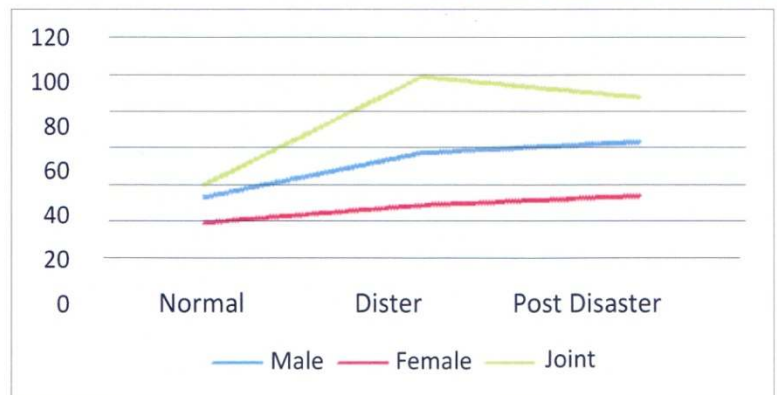
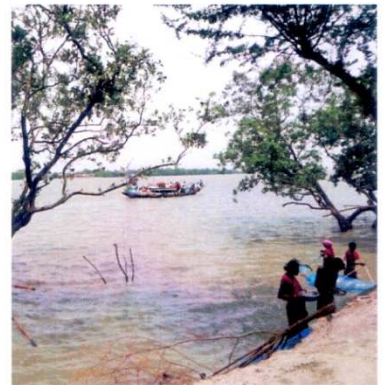
In the study areas 94% of household's annual income varies within Rs 10,000 mark. Remaining 6% are within the limit of Rs.19,999. Whereas the annual income contributed by women varies widely from Rs. 1603 to Rs.7759, on an average which is close to halfway mark. The responsibility of collection of fuel wood and drinking water from different sources is fully dependent on women member. 50% of women were anemic during pregnancy and lactation period. 58% girl child are underweight and 18% of them are malnourished. Number of women marginal labour increased sharply due to unavailability of shrimp of fry due to restriction of water resource. Data indicates, as analysed in the adjacent graph, that in adverse situations women's participation is more for household welfares and livelihood but normally the decision making power is with the male member.

Irrespective of the study areas, popularity of disaster rescue center among women is low and membership of women in Disaster Risk Reduction Institutes are also negligible. Over congestion, inadequate sanitation system, lack



of separate arrangement are found to be major barriers restricting them from going to disaster rescue center. As measures, the community proposed:

- Separate arrangement for women,
- Better security
- Increased number of center
- Adequate sanitation
- Space for domestic animals.



### Current coping strategies

- **Food security-** Dependence on relief and migration.
- **Drinking water-** Drinking water from other's ponds and tube wells, rationing in water use.

- **Agriculture** - Collection of semi ripe crop at the time of early cyclone and tidal surge warning, cultivate saline tolerant crops.
- **Fisheries** - Untimely fish harvesting during EW of cyclone, tidal surge and flood, culture



saline tolerant fish with local species.

- **Livestock** - Keeping livestock in safe place after getting early warning (EW) of cyclone/tidal surge/flood, selling livestock in low price.
- **House** - Using pillars for protection of house before disaster and plantation around the house.
- **Loan** - Loan from different sources like Money lender/relative/friends/NGO/bank, rationing food intake and selling property.
- **Shrimp culture** - Selling their stock even in low price.
- **Water Tank** - Net for stopping fish movement.
- **Sanitation** - Initiative as per need for protection of sanitation system and use of neighbour toilet.
- **Health** - Advice from quack doctors and pharmacy. Sending emergency patient to hospital, if possible.

### Post disaster assistance

Half of households of the study areas did not receive any post disaster assistance during past. Maximum assistance from different sources are available in Sandeshkhali-I and Hingalganj, which is about 67%. Welfare assistance for temporary shelter, repair of house, building a new house, food, cloth, financial assistance to start agriculture etc are identified as the basic concern of the disaster affected household.

### Other important issues of baseline survey

- The surveyed household members were found to be highly dependent on the Sunderbans; the dependency is evident in income generation activities, fire wood collection, honey collection, etc. Average number of months in a year for which people depend on Sunderbans have been estimated to 4 (four). On an average 25-30 p.c. of family income has been observed to have originated from Sunderbans.
- Access to fresh water (for drinking) is limited for the targeted households and females are more involved in collection of water from different sources.



Baseline survey in progress

- The respondents were found to have moderate understanding of the concept of weather and climate change.
- Almost all the targeted households can anticipate that climate is changing and the intensity of different natural hazards would change in the near future.
- The targeted households do not have proper future strategies for water and sanitation, livelihoods, shelter and health sectors to cope with or to adapt to climate induced change.



Household tracking through GPS

Developed by Anshuman Das | Rahul Adak | Kaustuv Roy

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