

RESEARCH STUDY

Climate Error: Misconceiving the Development Issue

A Hardline View of the Water Resource Management Project of ADB in Bangladesh

By Md. Sarwar Hossain

The Asian Development Bank (ADB) has been funding water management projects in Bangladesh since the 1960s as it implements its policy of “Water for All.” With financial support from ADB, several construction-based water management projects have been implemented, especially in the coastal areas of the country. Unfortunately, there exist several examples of failure in project implementation, primarily due to misconceived project designs by the ADB in terms of environmental sustainability, community participation and local needs.

Our investigation involved the assessment of the risk of climate change through the People’s Environmental Impact Assessment (EIA) and of whether the ADB was concerned with climate change in designing the project for a coastal wetland system (*ChenchuriBeel*) located in *Narail* district in the southern part of Bangladesh where the ADB has planned to implement an Integrated Water Resource Management (IWRM) project.

The People’s EIA consisted of a historical chronology of community risk assessment, development of causal loops, matrix and scoring system, and livelihoods mapping, among others. Seasonal calendar, case studies, and a problem matrix to identify and prioritize the risk being faced by the communities were some of the key components of the People’s EIA.

Community perceptions of common risks throughout the year are mostly related to hydro-meteorological phenomena. The community’s experience over the last two decades suggests that the main risk persisting is that of the shifting period of hydro-meteorological events occurring over the year which is, at the same time, expanding in length. This means communities are facing variable risk events for a longer and unusual time, ultimately threatening their adaptation capacities. The concept of risk events suggests that most of the threats are posed by the rising temperature. For example, early season drought, mid-season drought, salinity and water scarcity -- all consequences of elevated temperature -- are affecting the livelihoods of the wetland community. Temperature was observed to rise in all seasons, especially from March to September

and even in winter season. Before the 90s, the period from March to May and the month of August were the periods of early season and mid-season which have since extended from March to August. Variation of temperature over time has also affected the sensitivity and production of the ecosystem in the region. The season of ‘fish unavailability’ has shifted periods along with drought conditions.

Salinity, a rare phenomenon before the 90s, is severely affecting the communities nowadays. Communities reported that with the rise in temperature, they are facing more salinity problems in the area, the severity of which almost parallels those of the drought conditions, and has even worsened at least twofolds over the last 30 years. Hailstorms have been observed to increase while the severity of cyclones and floods has been reported as negligible in the area. Fogs have increased while winters have shortened over time and gotten warmer by the day. Seasonal rainfalls have likewise undergone substantial changes in terms of the shifting of peak season, the amount of rainfall, etc. Communities reported that they have observed more erratic rainfalls recently. Rainfall intensity has increased, but the peak rainfall season has shifted and has become very harmful for agriculture these days. The amount of rain has increased during summer, monsoons have decreased and winter has gotten drier. The cultivation time of local varieties of rice has not changed but farmers reported that their production cost has increased substantially while actual production decreased by up to 50 percent in the last 5 years due to the extended length of fogs, unusual summer heat, irregular rainfalls and

Dying biodiversity in beel area due to rising salinity.



Photo courtesy of USS Jessor, Bangladesh.

extensive salinity. Costs of chemical fertilizers and groundwater irrigation have increased manifold over the last 15 years whereas these costs were somewhat near 'zero' even during the 90s. The length of the fishing season has gotten shorter since the 90s as well. Due to water scarcity and salinity during the breeding season, the fish population in the region has also declined.

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The problem matrix and causal loop analysis suggest that the sources of livelihoods, including alternative livelihoods, are getting depleted in communities while the required time to be spent for such livelihoods is increasing rapidly. The pattern of labor demand and seasonal migration has also changed in the region over time. In the past, 'day labor' as a source of livelihood was absent but, these days, it has become very much common because

people are migrating from traditional occupations such as fishery and agriculture as a result of high cost and low production. The problem matrix prepared by the communities suggests that climatic events such as rainfall, temperature, drought and salinity are affecting livelihoods. Also, the chart 'Trends of Livelihood' constructed by the communities reports that agriculture and direct nature-based sources of livelihoods are declining over time while new kinds of jobs, most of which were absent in past, like glossary shop and day labor are increasing. This indicates that natural productivity is falling sharply, responding to the environmental changes that are occurring in the region.

The causal loop diagrams, problem matrix, seasonal calendar and case studies developed by the communities suggest that climate change might have triggered the changes in livelihood patterns in the region through the influence of the hydro-meteorological events.

Based on the EIA report of the project, ADB was not concerned with climate change while designing the project, ignoring the long-term impact of the proposed activities on the climatic condition in the project area. That is why it was not endorsed unless adequate measures, as proposed in the EIA, have been undertaken for climate change adaptation and mitigation.

The study has revealed that the effects of climate change, as well as the morphological changes, are severe in the project area. A review of National Adaptation Programme of Action (NAPA) and other studies coincides with these facts. This study and the NAPA document conclude that the project area (Narail Bangladesh) is one of the most drought-prone areas in Bangladesh.

ADB has failed to assess the impact of the proposed project and Khulna-Jessore Drainage Rehabilitation Project (KJDRP) is one of the examples where people are still suffering from ADB's mismanagement. The EIA report has not even indicated anything about whether or not this proposed project would have any influence or impact in the climatic condition.

As per the proposed project's inception report that has been submitted in mid-2007, the project has to follow a participatory approach during the implementation.

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Khal excavation is one of the activities in the proposed project that adopted the approach for adaptation to climate change. But the recommendation in the NAPA, such as flood shelter, has totally been ignored. Moreover, the most important finding is that the community stated that its is not experiencing flood in a way that demands for huge infrastructural work. The establishment of infrastructures in the vulnerable zone for river erosion in the project area is the right decision, but the vulnerable areas should first be identified using technology and the community participation. A community, demand-driven approach needs to be ensured here but, based on the review, this concern is absent.

Credit, tree plantation, fisheries development and others are supposed to be the main approaches but, unfortunately, these related activities are not

clear during the project conception. NAPA has been published in 2005 and the project inception report was submitted in 2007. Thus, climate change should have already been an issue while the project was being designed. The ADB has undertaken a big project but no research activity has been included in the NAPA where one of the recommendations could be the conduct of studies that would understand the local coping mechanism in the face of drought, invention of drought resistance, saline-tolerant crop and the no-tillage cultivation approach among others. In the project objectives, the enhancement of livelihood through agriculture and fishery development was specified as an important issue. The ADB, however, has failed to indicate whose development and what development it was carrying out. Moreover, in Bangladesh, since we really want to develop the agriculture and the fisheries sector, the issues of climate change should be given priority. The NAPA and the Poverty Reduction Strategy Papers (PRSP) (“Strategic Block II: Critical Sectors for Pro-poor Economic Growth” section of PRSP) has identified climate change as one of the important concerns for water resource management. This study finding demands a similar concern. It is evident from the science of climate change and from impact studies that the severity of impact and its frequency will increase in the future and, therefore, the limitation of existing coping strategies needs to be assessed. ADB has failed to mainstream and link the climate change issue in the said development project, and to predict the impact of the proposed project, if any, through their EIA process. This failure is nothing new for the ADB.

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No water in Chachuri beel during the rainy season.