

Livelihoods in rural Bangladesh

Jennifer Pouliotte, Nazrul Islam, Barry Smit and Shafiqul Islam describe how livelihood diversification can influence adaptive capacities in rural Bangladesh

Masura lives in the rural village of Subarnabad in the southwest of Bangladesh. She owns no land, but rents a small piece from her father on which she has built a small mud home for her family. Since her husband left the village five years ago she is the household head and is, therefore, solely responsible for supporting herself and her daughter. To do this she works in a shrimp farm either pulling weeds or repairing embankments. This provides seasonal, part-time labour and pays only 35 taka (about 0.52 US\$) a day. This wage income is supplemented by taking loans from her family or neighbours. She also takes care of the small number of livestock that she owns – two goats. When first visited, Masura had just finished repairing her straw roof from one of the many storms that blow in from the Bay of Bengal. She complained that she could not fully provide her daughter with

basic needs such as nutritious food, adequate shelter, schooling and a dowry.

Current vulnerabilities in Subarnabad

Masura's story is like that of many of the poorest residents of Subarnabad, amongst whom, lack of money to provide for basic needs was repeatedly stated as a primary problem. This

MAIN POINTS

- **The authors** describe local vulnerabilities to environmental problems such as saltwater intrusion and shrimp farm introduction in rural Bangladesh.
- **They explain** how helping people cope with these environmental stresses can

also enhance their adaptive capacity to climate change.

- **Enhancement and diversification** of livelihoods - common development activities - are key components of improving this adaptive capacity.

is related to the environmental changes that have been occurring during the last 25 to 30 years, and the resultant effects on people's environment, health and livelihoods. These changes include a more waterlogged environment, saltwater intrusion and changes in production systems from rice and other land-based crops to saltwater shrimp farming.

Villagers described the past when the area was dominated by rice and other land-based crops, common grazing lands and fresh water. Much of the food that was consumed in the village was grown in the area, either on large farms or small homestead gardens, and villagers relied little on wage incomes to provide basic necessities. These crops were traditionally the main source of employment and subsistence for the residents of Subarnabad, and the change to shrimp farming led to shifts in the livelihoods of many villagers. This change can be attributed to several factors, including the construction of coastal

embankments in the south of Bangladesh, water diversion projects and attempts by successive Bangladeshi governments to liberalize and diversify the economy (shrimp farming is now Bangladesh's second largest export industry). It also reflects changes to the institutions and power relations that determine rights to land and water.

Although most healthy villagers work for a wage income, the labour required on a shrimp farm is much less than on a rice farm. Underemployment has therefore risen sharply and poor village residents lack sufficient land and/or other capital to begin their own shrimp farms. Masura's husband left due to poor employment opportunities in the area and is not expected to return.

The recent environmental changes in Subarnabad have had a number of implications for the poorest villagers. While economic gains from the proliferation of the shrimp industry are very important for the Bangladesh economy, associated environmental and social changes are a growing cause of concern. The increased reliance on a cash economy to provide for basic needs has meant that the poorest villagers have been exposed to new economic, social and cultural stresses. These include a reduction in affordable local food, common resources and livelihood options, and increases in financial expenses, underemployment, family disputes, women-headed households and difficulties educating and marrying off children. In general there has been a decrease in the diversity of livelihood



Village of Subarnabad, southwest Bangladesh

Photo: Jennifer Pouliotte

options for the poorest villagers. Livelihoods used to be associated with rice production, livestock and homestead gardening, but these days they are increasingly dependent on shrimp production and related activities. This has important implications for local adaptive capacity.

Saltwater intrusion in Subarnabad has also meant that the poorest villagers have been exposed to problematic conditions such as decreases in freshwater supplies, crop production and common resource availability,

and increases in health problems and the fragility of mud homes. In the past, for example, access to renewable common property resources provided people with materials for fuel, fodder, building and food. Commonly available wood, shrubs and cow dung were used for cooking and heating. Mud, rice straw and palm leaves were used for housing construction. Grass and shrubs were used as animal fodder, and a variety of fruits were collected for food. The rice fields that were once widespread accommodated villagers'

livestock for grazing when lying fallow. Reduced livestock fodder meant villagers kept fewer cattle, which in turn provided less dung for fuel. Straw from the rice fields after the harvest was used as building materials for villagers' homes. Villagers said that in the past, excess rice from the harvest that was not used or sold by farmers was often given to the poor villagers.

Vulnerability and adaptation to climate change

Observations on environmental changes in the village, and people's ability to cope with these changes, provide insights about how they may be able to cope with future environmental change, including climate change. Concerns related to climate change in Bangladesh include sea-level rise, river flow and coastal geomorphology changes, and increases in cyclones, storms and sa-

lizing the livelihoods of people who depend on this industry.

The United Nations Framework Convention on Climate Change commits parties to aid, develop and implement adaptation measures, particularly in vulnerable developing countries. It is increasingly recognised that effective climate change adaptation needs to be incorporated (or mainstreamed) into other development initiatives such as livelihood enhancement, poverty alleviation, environmental management and sustainable development. Although there has been much progress regarding the analysis of impacts and adaptations to climate change, and a recognition of the need for programmes and policies to implement and facilitate adaptation, to date there are very few practical 'on-the-ground' examples of climate change adaptation initiatives.

Initiatives that aim to contribute to ad-

the stresses and the nature of vulnerabilities based on information provided by the community. Although climatic conditions may acutely affect people's circumstances, they represent just one of the many stresses that people have to cope with now and in the future. Climate change is, therefore, considered in the context of other changing conditions and immediate needs, and climate change adaptation is viewed as something to be integrated into existing policies, management regimes and community priorities. By structuring adaptation initiatives to address existing vulnerabilities and to increase adaptive capacity, they should bring immediate benefits and strengthen people's ability to deal with future threats.

Livelihood strategies and adaptive capacity in Subarnabad

Livelihoods influence exposure and sensitivity to current and future environmental stresses, including climate change related stresses. The ability of livelihoods to withstand shocks and stresses contributes to people's adaptive capacity to deal with climate change, and livelihoods influence people's capacity to build up assets to protect against future risks. Livelihoods can also be a strategic entry point for adaptation by considering local perspectives, capacities and priorities. Strategies to decrease vulnerability can thus be based upon an understanding of how people currently sustain their livelihoods.

Subarnabad residents are resourceful and

“effective climate change adaptation needs to be incorporated (or mainstreamed) into other development initiatives”

line water intrusion. These are expected to increase flooding risks, coastal zone soil erosion, stress on freshwater resources and human migration, as well as negatively affecting human health and disrupting agricultural production. Climate change may also threaten the shrimp farming industry in southwest Bangladesh, thus further jeopard-

adaptation practice now pay more attention to community-based, participatory approaches. These start with an assessment of current system vulnerability (for example the vulnerability of Subarnabad), and then examine the conditions that give rise to that vulnerability. The approach does not assume who is vulnerable and to what, but identifies

have adopted an array of adaptation measures to cope with the changing conditions associated with saltwater intrusion. Certain segments of the population are, however, more resilient than others. When shrimp farming was initially introduced to the area, this offered new livelihood opportunities. The large landowners saw it as a means to increase their profits. Better-off groups were still adversely affected by the changes, but they had more capacity to take advantage of them and more resources to protect themselves from stressful conditions.

Small landowners and other poor and disadvantaged groups could not benefit from the new conditions. The adaptive strategies that the poorest villagers employed to cope with saline water intrusion and associated stresses were mainly autonomous (without government or non-government organization intervention), undertaken by either the individual or household. Taking a loan was the most widely employed strategy. These loans paid for food, children's education, repairing homes or providing dowries for daughters. Other adaptive strategies included selling or leasing a small piece of land, increasing the number of family members working for a wage income (generally women or children), decreasing food intake, working outside the village, using fertilizers, selling livestock, raising goats as an alternative to cattle, theft and prostitution.

These adaptation initiatives addressed immediate needs, but did not generally im-



Subarnabad resident collecting crabs from her pond

Photo: Jennifer Pouliotte

prove people's adaptive capacities. Poverty and little or no access to fertile agricultural land resulted in few opportunities for the poor to escape their circumstances. Limited economic opportunities outside of the shrimp industry often prevented the pursuit of alternative livelihoods.

In Subarnabad this issue is being addressed by the Institute of Development Education for the Advancement of the Landless (IDEAL) within a larger project called Reducing Vulnerability to Climate Change (RVCC), funded by the Canadian International Development Agency and implemented by CARE Canada via CARE Bangladesh. IDEAL is one of a dozen non-government organizations involved in

the RVCC project. It is a local organization, working directly with poor rural villagers for the broad purposes of environmental conservation, and establishing caste, class and gender equity within its working area. Through this project, IDEAL has been implementing adaptation to climate change initiatives in 12 villages.

The initiatives promoted in Subarnabad are generally new livelihood strategies for income and food generation. They include goat, duck and hen rearing, chicken and crab farming, tree planting, introduction of salt-water tolerant vegetable gardens and hand-craft production. IDEAL has also helped raise awareness about climate change, personal

hygiene, sanitation and the construction of latrines and deep tube wells.

Villagers who are also group members of IDEAL can access loans, a savings bank, and training and technical support for new livelihood strategies. For example, through the RVCC project, IDEAL has been helping villagers establish small crab farming enterprises – a viable activity in a saline environment. Villagers purchase young crabs from the local market, raise them in saline ponds until they are mature, and then sell them for profit. Initiatives are still in their early stages, but villagers who were involved in these or similar activities felt they were successful. They were able to slowly pay off their loans and had begun to make some profits. The

initiation of adaptation strategies by some residents also increased other villagers' willingness to try new activities. As people learnt about their neighbours' successes, they were willing to try measures that would otherwise have been deemed too risky. Organizations can be critical mediating factors for livelihoods since they can inhibit or facilitate the adoption of new adaptation initiatives. In Subarnabad, villagers' access to IDEAL and its projects strongly affected the villagers' ability to adopt new livelihood activities.

In Subarnabad, vulnerability is inherently connected with people's livelihoods. Adaptation initiatives undertaken by IDEAL, facilitated through the RVCC project, are sustainable development initiatives that address

pressing community needs, and they are also adaptive strategies that reduce vulnerability to climate change. Promoting initiatives that enhance and diversify livelihoods may be seen as 'business-as-usual' in the field of development, but initiatives such as those in Subarnabad are still uncommon in the climate change field. By addressing local vulnerabilities and concerns, and building capacities in a broad sense, these initiatives can provide practical, effective and contextually-relevant ways to decrease vulnerability and facilitate adaptation to climate change within the context of ongoing development processes. Enhancing and diversifying livelihoods is a key component of this. ■

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