

State of biodiversity in the eastern coast

Restoration measures must be in place to check degradation

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THE coastal zone in Bangladesh is about 710 km in length from Badar Mokam in the east to Haribhanga river in the west (ESCAP, 1989). Its ecological habitat consists of mangroves, coral reef, algal beds, salt marshes, sandy beach and mudflats. (Kabir, D.S., 2000)

A rapid survey of the coast from Feni River to Badar Mokam was conducted in July 2003 by a team of teachers and students of IUB to assess biodiversity in the eastern coast of Bangladesh. GPS was used to record the co-ordinates of the area. Eight random quadrates (1mx1m) were sampled in the main beach and another eight were sampled at Inani. Strainers were used to sift living organisms from muddy water. The intertidal zone was measured during low tide. Binoculars were used to identify birds. Local people, fishermen were interviewed and photographs were taken to record the prevailing situation.

Human interference such as tourism, littering and over-extraction of shells, snails, larvae etc were the main causes of degradation of the ecology. Land grabbing and commercial construction close to the main beach were also affecting the system.

Mud flats and mangrove forests: Huge expanses of mud flats are available along the coast. The team could explore only those along the Bakkhali. Small patches of mangrove were studied. It was recorded that Keora, *Sonneratia apetala*, is dominant along with some beans.



Ship breaking industry: Polluted environment.

Avicennia officinalis, Keora, being the most adaptable one, is planted in different mudflats and accreted islands. Although littering and oil spillage from fishing boats is common, mudskipper, common crab, red feeder crab etc are present in good number. Interviews suggested the need for good governance (management).

Chokoria Sunderban -- the last sign of natural mangrove: Only 19 Sundari trees, *Heritiera fomes*, of over 60 years of age were recorded. Since water from the Matamuhuri cannot be flushed to inundate the area, the last sign of mangrove might soon be wiped out. Once the mangrove forest covered around 8,000 ha with about 19 species of



Endangered Sundari trees in Chokoria Sundarban

trees and many species of wildlife but today ADB and World Bank financed shrimp farms have turned this fragile ecosystem into a saline desert. However, Several interviews led to the conclusion that the degradation is massive but some scientists believe it has potential for restoration. Besides, The local people are exposed to natural calamities like cyclones and tidal surges. Hence, future environmental projects should consider Chokoria as an important site for restoration.

Survey of coral market and fish harbour: Due to time limitation the team was unable to pay a visit to St Martin. But numerous reports suggest a grim ecological scenario of the island. Nautilus, horseshoe crabs, corals of different sizes and shapes, invertebrate shells, shell-fishes, snails etc were on sale at the fish harbour, although extraction was prohibited. Most of the corals were collected from St.Martin. Eight species of corals were identified in shops. Some species of globally endangered sharks were seen in the market as major catches. Over-extraction with fine nets has led coastal fishing to a great decline.

Recommendations: An Integrated coastal zone management (ICZM) plan is an urgent need. New legislation ought to replace old laws. Specific and focused research needs to be undertaken in collaboration with the government, NGOs and academic institutions. Awareness raising programmes including ecotourism need to be pursued. Intensive afforestation has to be carried on to help stabilise the



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coastlines and provide food and shelter for many species of aquatic organisms and fauna.

Conclusions: The eastern coast of the country is blessed with many types of critical coastal habitats, which unfortunately are under threat. There is still a hope for restoration but it may take some efforts. What is needed at the moment is an umbrella body

composed of different sectors to seek new legislation and people's participation as well as enforce an integrated coastal zone management (ICZM) plan to reverse the trend.

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Invertebrates (above) and corals (below) are on sale unabated.

