Traditional Food Production and Management in the Coastal Zone of Bangladesh

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The coastal zone of Bangladesh, which is part of the Bay of Bengal, covers 32 percent of the total land area of the country and supports the livelihoods of more than thirty-seven million people. The coastal/marine zone has major natural resources as well as crucial ecosystems such as coral-bearing islands, small islets, reed lands, seagrass beds, mangroves, and tidal wetlands. The distinctive ecosystem has significantly influenced the food production and consumption patterns among the people living in coastal areas. People in this area have traditionally relied on collecting and processing seafood and catching freshwater fish as well as coastal fruit and vegetable cultivation and irrigation. A diverse range of coastal and marine ecosystem flora and faunal resources play an important role in assuring livelihoods of coastal communities, maintaining food security and protein intake for millions of people and contributing to the growth and development of the country through export revenues. Many other coastal livelihood strategies, for example, boatmaking and fishnet making are deeply interconnected with these food production and consumption strategies.

However, the coastal area of Bangladesh is globally marked as one of the most vulnerable to climate change hotspots, and it has a big impact on the historic human-nature relationship of the region. As a result of climate change, the sea level has alarmingly risen in recent decades, producing river erosion in most coastal regions and affecting the livelihoods of coastal communities. In addition, the coastal zone of Bangladesh has been experiencing an increase in salinity, causing a decline in the production of crops, vegetables, seasonal fruits, animal species, eggs, and milk. This scenario has eventually impacted the general food security of the people living in these places.

Between 1970 and 2000, shrimp farming in saline water-based coastal ponds (*ghers*/aquaculture) has increased fast and, over time, has grown to be the second-largest source of foreign income of the country. But due to the massive expansion of industrial shrimp farming, the remaining agricultural fields are being transformed into aquaculture ponds. The fast expansion of shrimp farm development over the previous decades and the use of comprehensive and enhanced aquaculture techniques have raised concerns about the impact of shrimp farming on the coastal environment and conventional agricultural systems. However, among coastal communities, indigenous knowledge-based floating garden cultivation has been reviving as an alternative food cultivation method in recent years.

The coastal mangrove forests play an important role in mitigating the effects of climate change by reducing carbon erosion and minimizing the physical exposure of coastal communities to natural hazards. Moreover, there is a growing interest in ecosystem-based adaptation and building with nature policy in Bangladesh. It is proposed that building with nature can safeguard coastal areas and communities in Bangladesh from erosion and floods and improve the natural defenses of the coast by using living organisms and ecosystems while sustaining the traditional livelihoods of the coastal communities. In addition, the revival of floating-garden cultivation is playing a vital role in building a sustainable food production system in the coastal areas. Also, seaweed production on a larger scale

can potentially be used as an alternative to agricultural products, eliminating the environmental difficulties of land-based production in coastal areas, such as deforestation.

The onshore and near-shore industrial development, industrial supremacy in seafood production and climate change has highly impacted the traditional food consumption patterns and general food security of the coastal communities in recent years. However, policymakers and coastal communities are collaborating to develop a long-term framework for healing the ecosystem while respecting indigenous knowledge systems and guaranteeing food security.