



BANGLADESH

Community-Based Adaptation to Climate Change through Coastal Afforestation in Bangladesh

LEAST DEVELOPED COUNTRIES FUND	
LDCF grant	\$3,740,000
Cofinancing	\$7,150,000
NAPA completion	November 2005
Inclusion in LDCF Work Program	September 2007
CEO endorsement	December 2008
Implementation start and completion	March 2009–February 2013
GEF Agency	United Nations Development Programme (UNDP)
Other executing partner	Forest Department, Ministry of Environment and Forest

Bangladesh is one of the most vulnerable countries to the impacts of climate change. According to Bangladesh’s National Adaptation Programme of Action (NAPA), and numerous other scientific-based assessments, the primary anticipated impacts of projected climate change, including variability, range from increased saline water intrusion to inundation of coastal lands. Key risks include drainage congestion, reduced freshwater availability, disturbance of morphologic processes, and increased intensity of flooding. These risks are classified as arising from gradual long-term climate change, changes in the frequency and intensity of extreme events (climate variability), or both.

In addition to placing coastal communities at higher risk, these projected changes will affect the

development potential of coastal regions in Bangladesh. Exposure to climate risks will be pronounced for several reasons. According to estimates by a World Bank assessment of climate change impacts in Bangladesh, a small change in peak discharge may result in about a 20 percent increase in the area flooded. Similarly, riverbank erosion is exponentially related to maximum flood levels. There is also low awareness and lack of capacity, including mechanisms to respond to anticipated impacts. Building resilience requires changes in attitude and strategic institutional arrangements, for example, integrated planning and management that incorporate the risk posed by climate change, including variability. At the same time, coastal development in Bangladesh has been suboptimal for both climatic and nonclimatic reasons.



On the one hand, vulnerability has increased due to anthropogenic activities, particularly the massive conversion of mangroves into commercial shrimp farms and demand for fuel wood, which have reduced mangrove cover that otherwise function as a natural protective barrier to coastline erosion. Along coastlines, salt-making industries and sand mining have led to the shifting and/or degradation of coastal sand dunes, thereby undermining their effectiveness both as physical barriers against flooding and as sedimentary stocks allowing for beach reorganization. The continuous increase in soil and water salinity due to receding coastlines, which result from unauthorized settlements, is also contributing to the further degradation of natural defenses.

Project Activities and Expected Impacts

The objective of the Community-Based Adaptation to Climate Change through Coastal Afforestation in Bangladesh project is to reduce vulnerability of coastal communities to the impacts of climate change-induced risks in four upazilas in the coastal districts of Barguna and Patuakhali (Western Region), Bhola (Central Region), Noakhali (Central Region), and Chittagong (Eastern Region). The project implements effective community-based adaptation measures in coastal areas that reduce vulnerability and improve adaptive capacity to climate change and sea-level rise. The project uses demonstration measures aligned with local conditions, which encompass community-based systems for the management of protective ecosystems, sustainable use of climate-sensitive natural resources, and diversification of vulnerable livelihoods. The project outcomes include enhanced resilience of vulnerable communities and protective systems to climate risks, the incorporation of climate risk reduction measures into coastal area management frameworks, and revision of national policies to increase climate risk resilience of coastal communities.

The project uses demonstration measures aligned with local conditions, which encompass community-based systems for the management of protective ecosystems, sustainable use of climate-sensitive natural resources, and diversification of vulnerable livelihoods. Envisaged demonstration projects focus on opportunities for community-based afforestation, mangrove regeneration and plantation management, erosion prevention and participative protection of coastal sediment barriers, reduction of manmade stresses on coral reefs and protective ecosystems, diversification of crops and agricultural practices, optimization of freshwater and irrigation management, and improved information flows in climate information and early warning systems.

The project also enables a strategic revision of national and subnational policies and programs to incorporate climate change risk considerations and adaptation strategies into financial decision processes, and to develop coordination and harmonization among different sectoral interventions. The project enhances the adaptive capacity of local communities to anticipate dynamic climate-related threats and protect their livelihoods, as well as improve individual, institutional, and systemic capacity at all levels of public administration to plan for, and respond to, climate change risks in coastal areas.

Synergies and Coordination

This project is coordinated with the UNDP-GEF Community-Based Adaptation (CBA) Programme and the Comprehensive Disaster Management Programme (CDMP) to ensure that the project activities on afforestation, alternative livelihoods, climate-resilient policy making, and capacity building complement ongoing community-based adaptation and disaster risk reduction activities in coastal areas. Further cooperation is done, for example, with the Bangladesh Agricultural Research Institute (BARI), the Bangladesh Rice Research Institute (BRRI), and the Coastal Land Zoning Project (CLZP) of the Ministry of Land.

For More Information

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