PROJECT FACTSHEET

Community-based Adaptation to Climate Change through Coastal Afforestation

CONTEXT

Bangladesh is highly vulnerable to the impacts of climate change. Climate change will exacerbate many of the natural hazards the country already faces, posing a significant challenge for future development. Multiple national assessments, including the Government's own National Adaptation Programme for Action have suggested that climate change impacts of particular relevance to Bangladesh will include the increased frequency and severity of climatic events, such as flooding, cyclones and drought, leading to increased mortality and loss of assets and livelihoods; the undermining of macro-economic growth; reductions in food security; and increasing migration pressures. For instance, over 20 million people presently live in the Haor basin, an area particularly vulnerable to flash floods. In recent years, flash flooding has been occurring earlier than ever previously recorded threatening both the lives and livelihoods of this single-crop winter rice growing region.

The threats are particularly acute for coastal communities living in the low-lying deltaic regions in Bangladesh. The Intergovernmental Panel on Climate Change Fourth Assessment Report of 2007 suggests that an expected sea level rise by up to 45 cm, will directly affect the lives of 35 million people living in coastal areas.

For such communities, a weak local economy heavily reliant on climate sensitive natural resources such as forests or fishery stocks as a source of livelihoods, and widespread poverty means a low adaptive capacity, reducing their ability to respond and withstand climate-induced threats.

ACTION

The objective of the 'Community-based Adaptation to Climate Change through Coastal Afforestation' project is to reduce the vulnerability of coastal communities to the impact of climate change-induced risks, and to strengthen institutional mechanisms to support these communities to adapt to climate change impacts.

The project is the first global LDCF adaptation project, innovative in the way that it draws together climate change adaptation and economic development, through coastal afforestation that address mitigation concerns and that will help push back the impact of climate change. As a pilot, the project is working across 14kms of Bangladesh's 710km coastline, which is particularly vulnerable to the impacts of climate change.

At the four project sites of Char Kukri-Mukri in Bhola, Raipur in Chittagong, Sukhchar in Noakhali, and Naltuna in Borguna the project is establishing 6,100 ha of mangrove plantations and 935 ha of

PROJECT SNAPSHOT

OFFICIAL TITLE: Community-based Adaptation for Climate Change through Coastal Afforestation

TIMEFRAME: April 2009 – March 2013

IMPLEMENTING PARTNER: Ministry of Forests and Environment

DEVELOPMENT PARTNER: GEF, UNDP, GoB

OVERALL BUDGET: US$ 5.4 million

- GEF: US$ 3.3 million
- UNDP: US$ 1.1 million
- GoB: US$ 1 million

KEY RESULTS :

- Livelihood diversification for over 85,000 people through training in plantation techniques and management and cash-for-work programmes
- Climate change mitigation through increased carbon sink capacity of over 600,000 tons of carbon over project's life
- Increased siltation through mangrove plantations across 14km's of pilot project sites improving natural protection against climate change-related storms, tidal surges and other disasters
- Piloting of global first knowledge for replication and up-scaling across Bangladesh, in the region and internationally

non-mangrove plantations, planted and managed by local administrations and communities. At these sites, UNDP is working with the Forestry Department and the communities themselves to plant mangroves, interspersed with timber species and fruit trees, to increase livelihood options along the highly exposed coastlines which surround them, as well as support adaptation and mitigation to climate change.

The project is focused on:

- Enhancing **resilience of communities and protective ecosystems through adaptation** interventions;
- Enhancing the capacity of **authorities and sectoral planners to understand climate risk dynamics to incorporate risk reduction** measures into coastal area management;
- Reviewing and revising **national policies to increase community resilience** to climate change impacts in coastal areas; and
- **Collecting, sharing and disseminating lessons and knowledge across the region** and beyond, as well as with other coastal afforestation and livelihood programmes in Bangladesh.

In partnership with the implementing Ministry of Forests and Environment, the project also draws expertise from other relevant ministries, national research institutes for forests, rice, and agriculture, local government committees, as well as community-based organizations and locals

IMPACT

Mangrove forests act as extremely effective carbon sinks, able to absorb 97.57 ton of carbon per hectare, or more than three times the absorptive capacity of non-mangrove forests. With a total of 6100 ha of mangrove plantation anticipated throughout the project, and combined with the 923 ha of non-mangrove plantation, it is expected that the 4 project sites alone will absorb more than 610,000 tons of carbon.

Mangrove vegetation also provides physical protection, with some species are expected to trap sediment in their intricate root structure at such a high rate that they can potentially reverse the effects of sea level rise. Every year, millions of tons of sediment are washed through Bangladesh's river delta, offering one of the few natural lifelines the country can harness to protect against the impacts of climate change. Through this pilot project, UNDP is testing a range of species and planting approaches to determine which combinations trap the largest amount of sediment, and thus best reversing the effects of erosion. This regeneration of natural protection can make a huge difference is guarding vulnerable communities from the increasing severity and intensity of climatic events, as well as reclaiming usable land.

Furthermore, by anchoring mitigation and adaptation elements with increased livelihoods options of communities, the project is helping to secure the sustainability of the measures. Training in nursery and forest management, combined with a cash-for-work program means that, over 5000 families have benefited from the project to date, and they are encouraged to see and use their limited natural resources in alternative and more sustainable ways. This sustainability is promoted through close ties with Upazilla administrations who, as representative bodies responsible for much local level development work, will help to secure these measures after the project's life.

The project's impact will also be felt beyond these four communities and beyond the borders of Bangladesh. Many countries in the region and globally are struggling with the effects of sea level rise and increased storms caused by climate change, and particularly the challenges in green belts along the coast. As the first LDCF adaptation project globally, the piloting work being done by Bangladesh in selecting the best mangrove species and trialing optimum management practices for plantations, is providing knowledge and best practices that are fed into national planning as well being extremely valuable learning to countries across the region like India, the Philippines and Indonesia.

DONORS: gef

IMPLEMENTING PARTNER:

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