



# FRIENDSHIP

## PROGRAM SUMMARY

### Mangrove plantation for ecosystem and community resilience in coastal Bangladesh

Bangladesh is a huge delta crossed by more than 300 rivers. It is one of the most vulnerable countries to natural disasters such as floods, tropical storms, cyclones, inducing coastal erosion and soil salinization. A 50cm rise in sea level could lead to the disappearance of at least 11% of the country, impacting at least 15 million people living in coastal areas. The poverty of local populations is a factor that increases their vulnerability. Because of very low incomes and no savings, the poorest people are unable to recover after a disaster. Mangrove forests play an important role in reducing the impact of climate change. They are vital for socio-economic development because these ecosystems provide many resources to local communities (shrimp, crabs, fish, wood, fruit, honey) and act as barriers against coastal erosion by mitigating the effect of waves (from 29% to 91% in a good condition mangrove from 50m to 100m). Whether in the *National Adaptation Programme of Action (NAPA)*, the *Nationally Determined Contributions* (requested by the UNFCCC), the *Bangladesh Climate Change Strategy and Action Plan* or the *National Strategy for Accelerated Poverty Reduction II*, the preservation and of development mangroves is presented as a priority adaptation measure in Bangladesh in order to reduce climate impacts. Mangroves also play a mitigation role since they capture 5 times more CO<sub>2</sub> than other types of forests.

In order to contribute to climate change adaptation efforts in Bangladesh, Friendship has developed a mangrove plantation programme with three main objectives:

- increasing the resilience of ecosystems by planting at least 5 species of mangroves on riverbanks exposed to tide. Direct benefits are the limitation of dyke erosion, protection of agricultural soils against salinization and improvement of biodiversity and therefore water productivity;
- increasing the economic resilience of the poorest and most vulnerable households through the diversification and improvement of their livelihoods and income so that they can better cope with climate induced shocks;
- increasing the societal resilience through a better access to certain services (health, public aid, drinking water), a more efficient cooperation between vulnerable population and local authorities and awareness raising about the effects of climate change and the benefits of mangroves.

The Friendship programme is an Ecosystem-based Adaptation (EbA) strategy that introduces nature- and ecosystem-based climate change adaptation measures while addressing poverty-related challenges in the least developed countries. Studies show a multitude of social and environmental co-benefits, especially among the most vulnerable people, especially women. Preserving and restoring mangroves can bring benefits up to ten times greater than the costs of doing nothing.



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Concretely, Friendship's initiative consist in planting tens (initially) or even hundreds (eventually) of hectares of mangroves trees spread over different riverine zones, belonging to the local authorities, in Satkhira District. The saplings are planted on land (mudflats) located between the rivers and dikes to be protected from the tides. The planting is done in a participatory and inclusive way, with a special focus on women and the poorest. Indeed, afforestation experiments carried out by other organisations or the government have shown that the involvement of local people is crucial to ensure not only ownership of the project but also that the planted forests reach maturity.

In communities close to the plantation areas, groups of 30 people are selected and trained to plant the trees. In each group, one Community Caretaker is selected and paid for 3 to 4 years to actively maintain and protect the plantations. The role of the Community Caretakers is to check that the fences are not damaged and thus prevent the intrusion of livestock or people who could destroy the young trees during their growth phase. From the 3<sup>rd</sup> year of the project, the beneficiary groups who did the plantation receive trainings to increase their capacities in alternative livelihoods (adapted, climate resistant and/or alternative agricultural production with appropriate techniques). Once the training cycle has been completed, the beneficiaries should be able to generate new income, without having to cut down the mangroves or exploit these areas as they did before. A distribution in kind of poultry, seeds or coconut trees is also foreseen in each family of the community groups as start-up capital.

Finally, the selected beneficiaries increase their knowledge about the importance and benefits of mangrove forests in their environment on their living conditions and livelihoods. They are also informed about the institutions and public services available, such as the social safety net. Local officials and relevant stakeholders, mainly the Bangladesh Forest Department, are closely involved in the project to ensure their active support during the project period, their involvement after the end of the project and their effective assistance to the needs of the people and their vulnerability to climate change, especially with regard to infrastructure improvements.



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Participative plantation of mangrove saplings by local communities



Friendship mangrove nurseries



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Planted zone protected by a fencing and embankment to preserve from erosion



Example of a recent plantation in Nakna, Satkhira District, Assusuni Upazilla



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Same plantation as above, 8 months later



Community group meeting for capacity building and awareness raising