

## DESCRIPTION OF THE PROJECT – ACTIVITIES

*Name of the project.*

### **Blue Mangrove Fund – trees plantation for carbon offsetting and for ecosystem and community resilience in coastal Bangladesh**

#### **A. PERSONNEL & MANAGEMENT**

##### **1. Project Management at Head Office level**

In the budget, means are given for human resources and management activities done by Friendship personnel involved in project inception, planning, monitoring and reporting in Bangladesh. Their input also includes project governance, overall management, communication and contacts with government authorities, official institutions such as the Bangladesh Forest Department and other partners such as IUCN.

##### **2. Project Management at field level**

This input concerns all the interventions of Friendship personnel for project implementation, monitoring and reporting at field level. The Operational Project Team includes the Program Managers, the Technical Manager, the Project In-Charge (Supervisors) and the Field Facilitators according to the cases. Their role and tasks are described in the organogram.

#### **B. DIRECT SUPPORT ACTIVITIES LINKED WITH THE PROJECT**

All central services such as Finance, Administration, Procurement, Field Operation, Internal Audit, InfoSys (IT), Research & Evaluation ,NGO Affairs Bureau Liaison, Partnership Development and Human Resources. These support services are essential for the proper functioning of Friendship.

#### **C. PROJECT RUNNING COSTS & PROCUREMENT**

These are mainly procurement of furniture (laptop or motorbike) or services (communication, transportation, utilities, etc.) that are required in day to day work of the Operational Team.

#### **D. PROJECT IMPLEMENTATION ACTIVITIES**

##### **ACTIVITIES RELATED TO THE NURSERIES, PLANTATION AND MAINTENANCE**

##### **Activity 1 – Capacity building training regarding seeds, nurseries and plantation**

One training session is given for each community group comprising around 30 people to teach them the procedure for the preparation of nurseries and plantation (weeding, site layout, etc.). Friendship Agronomist, Supervisor and Field Facilitators will organize and conduct these trainings. Community people will understand the seeds collection process, preservation of seed, germination and other management of mangrove nursery (watering, tending seedlings, etc.).

##### **Activity 2 – Seeds collection**

Bangladesh Forest Department and Bangladesh Forest Research Institute will recommend the sources for seeds collection of mangrove species and test/guarantee their quality. Although seeds selection, collection, processing and storing (temporary) will be explained during the capacity

building training (activity 1), the seeds needed for the nurseries will be either bought on the market or from community people. Indeed, the availability of seeds can be problematic, depending on the season and period of germination. Not all varieties are always available at the nurseries when you want them. This way of doing gives us flexibility in the supply of seeds (and therefore seedlings) so that we can stick as closely as possible to the objective of species diversification and plant density per hectare.

### **Activity 3 – Nurseries preparation for mangrove trees**

Nurseries are created before plantation in or around plantation areas (maybe more, it will depend on the location and circumstances). On average, it will be 1 nursery per 10ha. The nursery beds should be placed close to riverbank with minimal immediate erosion and where tidal water inundates twice a day. The nurseries are prepared and maintained by selected community people. The nurseries established during the first project will be used to supply this second project with saplings and to supply species not available on the market (only Golpata is easily available on the market). The nurseries established under this project will be used for gap filling but also to sustain mangrove planting program on the long-term. Indeed, some people will also be able to pursue mangrove nurseries as a complementary income-generating activity. Community nurseries could become an important supplier of mangrove seedlings in this area (there are very few suppliers with low quality and variety of species).

This activity concerns:

- preparation of nursery bags: gathering mud, removing debris and filling mud in the nursery bags. Local communities will be involved at the first steps of pre-treatment of seeds before sowing and establishment nurseries for planting.
- Nursery bed preparation: making sunken beds, water facility, poles for keeping the nursery bags, etc.
- Sowing of the following mangrove species (recommended by Bangladesh Forest Research Institute).
  - Keora (*Sonneratia apetala*),
  - Baen (*Avicennia officinalis*),
  - Khulshi (*Aegiceras corniculatum*),
  - Kankra (*Bruguiera gymnorrhiza*),
  - Golpata (*Nipa fruticans*),
  - Dhundal (*Xylocarpus granatum*),
  - Goran (*Ceriops dacandra*).

There will be at least 5 different commercially important selected mangrove species. Keora and Kulshi trees produce bee flowers and fruit.

### **Activity 4 – Tools distribution**

At the beginning of the nursery and plantation activities, tools for watering, weeding, pest controlling etc. are distributed among selected community participants.

### **Activity 5 – Land preparation**

The selected community people prepare lands (mudflats) provided by the local government institutions for plantation of mangrove species. The development of mangroves depends also on the right choice of site. Community groups, under the supervision of Friendship, prepare the soil in the planting areas by removing the various undesirable substances, if any. In this activity, in some areas, it may be needed to arrange and dig small access channels for boats to go to the river without damaging the fences.

### **Activity 6 – Plantation**

Selected community members plant the mangrove saplings. For the planting itself, it is necessary to dig a hole of an appropriate size, i.e. at least 100% larger than the size of the plant's soil clod,

so that less compacted soil can be placed around the roots in the hole. According to good practices, BFD recommendations and the opinion of the Divisional Forest Officer (DFO), the distance between each tree planted should be 6 feet ( $\pm 1.8\text{m}$ ) on average. For 1 hectare, this corresponds to a little more than 3000 trees. A very important parameter is that the plantation activity is more optimal during summer and rainy season when high tide is flowing over the riverine mudflats.

### **Activity 7 – Group Formation**

The Field Facilitator form the community groups responsible of the plantation the mangrove trees, each group consisting of around 30 people, with a gender balance and a focus on single and poorest women. People living in adjacent areas of the plantation and those who previously exploited the lands resources (mainly shrimps and fish fry and graze for livestock) are selected in priority. Selection will also take into account the different occupations, minority and ages, gender balance and the special focus should be given to people in extreme poverty. The groups are formed during the first 2 years of the project. Each group will take care of a portion of the 50ha plantation. On average, each community group will be responsible for the plantation of around 1.5 hectare. Allocation between groups will not be uniform, it will depend on the location, accessibility, distances to monitor, density of the population in nearby village, etc.

### **Activity 8 – Maps drawing**

Under the supervision of Friendship, community members draw “*social awareness and protection map*” in each area where the plantation is done. Those maps are established in the presence of various stakeholders (Bangladesh Forest Dpt, elderly people who have a good knowledge of the area, local elected officials or representatives of minority groups in the community). A map allows to precisely define the planting area according to dwellings, dikes, access to the river, etc. It also displays geographical situation, population, housing, land use, agriculture, local resources, livestock, means of communication, facilities, etc. A special attention is paid to the access to the river for the boats and therefore the high tide level needs to be marked. Practically, while drawing the maps, we should ask one main question to the communities: *what do they think can happen when we plant and when we put the fences at a specific place?* In other words, participatory community appraisal is expected to determine the land usage for reforestation and plantation. Indeed, those maps are particularly useful tools for identifying more sensitive areas to protect against intrusion and for planning mangrove reforestation and forest maintenance accordingly. One meeting per group is foreseen during the first 2 years of the project to draw this map.

### **Activity 9 – Selection and employment of the Community Caretakers**

Community Caretakers (CC) are selected from the community groups, 1 CC per group. They will start working after the plantation is done. Their involvement will be progressive and spread over the year, according to the progress of the plantations. Globally, we will try to reach 4 years of active protection of the plantation areas. CC are responsible for the maintenance and management of the mangrove plantation (around 1.5 ha per CC) and receive remuneration for their tasks during at least 3 years (depending on when they started). Community Caretakers have to play a significant role in controlling the unexpected intrusion of people, goats, cows or other animals into the plantation area. Due to the adjacent human habitats, some challenges relating to the damage of the plantation may rise. Therefore, the selected Community Caretakers must have strong leadership and conflict management skills in order to mitigate the challenges restricting the intruders to the planted areas. CC will report any problem to the Field Facilitators and may ask for their support when needed, especially to potential conflicts between residents.

### **Activity 10 – Fencing supply**

The fences are made of concrete poles and solid quality net. In addition to being stronger and more effective against intrusion, the type of net chosen (not the blue one) is also more aesthetic. The concrete poles are manufactured on site. Although they have a higher cost, these poles have a much longer life span and are stronger than bamboo poles which are subject to rot because they

are often submerged (the effect of tides remains significant in these regions; even 60 km inland there is a difference of nearly 2m between low and high tide).

### **Activity 11 – Fencing installation**

The fences are erected by selected community members at the bottom of the embankments on the river side, in the mudflats, 12 feet ( $\pm$  3.6m) from the top of the embankments, in compliance with the rules and regulations of the Government of Bangladesh. Indeed, since the embankments are under the monitoring of the Water Management Authority, they cannot be touched or modified without their authorization. The “*social awareness and protection map*” helps to choose where to put the fences. The length must be appropriate and the layout carefully chosen with a special focus on the applicability regarding local residents’ habits. For example, gates in the fences and access to the river must be foreseen. When it is felt to be difficult, a compromise should be found with the nearby stakeholders. For example, a space could be left here and there to park the boats.

### **Activity 12 – Fencing maintenance and reparation**

Each of the selected Community Caretakers is solely responsible for the maintenance of around 1.5 ha of mangrove plantations. They actively take care of the plants through effective patrol and preservation against intrusion of livestock and degradation (fencing, pest control, gap filling), weeding and removing died plants. It is an important task to guarantee the sustainability of the plantation.

### **Activity 13 – Gap filling in plantation**

Maintenance of plantation requires filling the gaps when plants are damaged or dead.

### **Activity 14 – Mangrove plantation management and monitoring**

This activity is basically the job of the Supervisors and the Field Facilitators. They monitor all the preparation and plantation activities in order to ensure results and objectives are met. Ongoing management and supervision of the involved people (be it staff or community people) is also highly needed, especially regarding the Community Caretakers because their daily work regarding the care of the fences is crucial. Ongoing discussion and awareness raising with the local people about the utility and the use of the fences and the importance of their careful involvement is essential. People management and even conflict management is an important part of this activity.

## **ACTIVITIES RELATED TO CAPACITY BUILDING AND LIVELIHOOD DEVELOPMENT**

### **Activity 15 – Provide support in-kind (seeds, coconut trees or poultry)**

It is proposed to distribute various types of summer and winter vegetable seeds to the beneficiary families. Usually, the land around the beneficiaries’ homes is not used much for vegetable gardening. Thanks to the project and seeds distribution (+ trainings, see activity 16), family gardening is strongly encouraged. Households with less arable land are introduced to sack gardening to produce their vegetables. This distribution of seeds should also be an opportunity to introduce varieties of plants tolerant to higher soil salinity. A focus is given to crops providing higher return. That is why coconut are given to some families (when and where it is suitable to plant).

In terms of support in-kind, the project introduces beneficiaries to poultry farming. This type of livestock farming often represents a farmer’s first investment as a way to increase his income and get out of poverty. It is also an important source of quality protein easily accessible to the poorest populations. Due to the increase in soil salinity, grasslands and livestock feed sources are increasingly lacking in the coastal area of Bangladesh in winter. Poultry breeding is therefore more suitable for this purpose. Friendship distributes “Khaki Campbell” ducks because they are easy to

raise and very profitable and "Sonali" chickens because they are well adapted to the country's environmental conditions, requiring less care and attention than other breeds, making them easier to raise.

### **Activity 16 – Capacity building trainings regarding livelihood development**

These bimonthly trainings given during 3 years to the community groups of 30 people aim to improve the economic situation of the most vulnerable beneficiaries through the strengthening of skills and knowledge about the diversification of livelihoods, the most adapted livelihoods or the improvement of yield. Friendship's experience has shown that the income of beneficiaries can easily increase by 50% after completion of these trainings. Here are some examples of topics that can be addressed during the trainings:

- use of adapted agricultural techniques such as soil preparation, fertilization, irrigation, space organization, seed quality, raised beds, mixed crops, crop rotation, mulch, manual pollination, pest control, etc.
- conversion to adapted and more resistant crops or saline tolerant crops. Homestead plant diversity is playing a role on the socio-economic development of rural people in coastal region. It can ensure food security, mainly for landless people, and can provide alternative and/or additional income generation. *For example:*
  - mustard, papaya, potatoes, jujube, coconut, melon (green-, rock-, water-). These crops grow well in saline conditions.
  - there is a coconut variety ready to produce 2 or 3 years after plantation. It is an interesting alternative to improve income because coconuts have a fairly high selling price (3 to 5\$/piece) and a tree from this special variety (hybrid dwarf variety) can produce 350 to 400 coconuts. It is not a mangrove tree and hence must not be planted in the mudflats...
  - BINA rice variety developed by BINA (Bangladesh Institute of Nuclear Agriculture) is a saline tolerant rice. It was developed by selection but is not a GMO (they provoke mutation and see which one is more tolerant).
- poultry farming (where appropriate).
- fish or crab farming (where appropriate). This relates to that fact that usually baby crabs used for the crab fattening hatcheries are caught/collected in the Sundarbans mangrove forests.
- inform about market linkage opportunities to sell their products (vegetables) and ensure actual price and select those with higher return.
- awareness raising about savings and market production management.

If seeds and poultry are distributed, to ensure the sustainability of this distribution and guarantee that beneficiaries make good use of them, trainings should include this matter, in synergy with the Sustainable Economic Development (SED) sector of Friendship and the Government's Department of Livestock.

Proper training of beneficiaries about voluntary savings is not possible in this project but whenever possible in the trainings, the benefits of savings is promoted. Indeed, experience has shown us that savings, however small, can initiate a transition from a life ultra-poor to a slightly more comfortable and resilient life in the event of a disaster. When possible, Friendship also introduces beneficiaries to SED sector and Mushti, an entity related to Friendship but legally separate and licensed by the Microfinance Regulatory Authority to carry out microfinance activities and provide loan services for agricultural support, among others.

## **ACTIVITIES RELATED TO KNOWLEDGE BUILDING AND EMPOWERMENT**

### **Activity 17 – Follow-up bi-monthly meetings with Community Groups**

The bi-monthly meetings occur during 2 years, during and right after the plantation phase. These follow-up meetings aim at maintaining the contact between Friendship Field Facilitators and the groups of people after the first training and during the plantation phase in order to strengthen community acceptance of the project. Through these meetings, community people increase awareness, understanding of the project and cooperation among them. The topics addressed during these awareness meetings are:

- feedback and discussion about plantations, security and management issues
- information about the benefits of mangrove forest, i.e. protection of embankments and fields beyond and generation of new livelihoods and other important issues related to their immediate environment
- information about other services provided by Friendship, especially linking with healthcare services (Friendship Hospital Shyamnagar is in nearby area) because in Satkhira District, one of the first requests from the beneficiaries is to have access to healthcare. Community people said they have enough schools but lack proper healthcare.
- awareness raising about the Friendship Code of Ethics<sup>1</sup>.

### **Activity 18 – Capacity building trainings on public services and legal rights**

These bimonthly trainings start from year 3 of the project and are conducted every 2 months with each of the community groups. During the first meeting, the selected groups update the “*social awareness and protection maps*” in order to include the potential changes resulting from the plantation but also add other information such as access to water and sanitation, access to facilities and public services and problematic infrastructure or infrastructure likely to be damaged in the event of a disaster. Ultimately, the map should become a “*poverty map*” of the area identifying the main causes (geographical or related to lack of infrastructure) of poverty and vulnerability. Based on these poverty maps, local communities will be able to prioritize problems and find feasible solutions, together with local government institutions (see activity 20).

During the next meetings, community groups receive training on the public support services provided by institutions to citizens such as social safety net, benefit card, subsidies, insurance, etc. and on legal and human rights. Friendship trainers conduct and facilitate those periodic awareness sessions with a special focus on women to inform them about their legal and civic rights, how the state works, existing legal aids and benefits, family and social issues, or education. These awareness sessions are based on the specific curriculum developed by the Friendship teams.

## **ACTIVITIES RELATED TO ADVOCACY AND AWARENESS RAISING**

### **Activity 19 – Bi-monthly meetings and liaison with Forest Department**

Bangladesh Forest Department (BFD) has a special responsibility for conservation of mangrove forests. The Friendship project team (i.e. program manager, technical manager and supervisor) together with local community representatives (i.e. a small group nominated in each community group) conduct bimonthly meetings with the District or Upazila Forest Department to update, gather and share knowledge on the management of mangrove plantation. Upon request, Forest Department can provide technical assistance to the project team. The Upazila Forest Officer (UFO) can also attend these meetings as a resource person to bring his input on technical matters such as intercultural operations, pest management, local forest service, etc.

---

<sup>1</sup> <https://friendship.ngo/wp-content/uploads/2021/02/Friendship-Code-of-Ethics.pdf>

In the second half of the project, the question of the exit strategy must be tackled during these meetings because the local forest department will take care for the management and ensure the conservation of the planted forest after the 5 years. The law in Bangladesh prohibits cutting the mangrove trees but sometimes, due to lack of awareness in the population and lack of means for the appointed forestry officers, it can happen that trees are cut (poverty usually being a strong driver to do so). Thanks to these advocacy meetings with the authorities (and the awareness raised among the populations), the specific risk of destruction is limited because every member of the community, every informal leader, every formal local authority, including police officers, are made aware of their duties and rights in relation to the project. Regional and central authorities are informed and involved. This creates an environment where the authorities are made to apply the laws and all stakeholders to respect them in the interest of the most disadvantaged and the community in general, thus creating a sense of citizenship. Furthermore, Friendship is a respected player in the region thanks to its health, education and microfinance programmes. This long-term presence will ensure continuity and conservation of the forest.

### **Activity 20 – Bi-monthly meetings with Union Parishad<sup>2</sup> and other relevant local government institutions**

In the first half of the project, Friendship project team and community groups consult regularly with the Union Chairman to communicate on the activities carried out under the project, to share learning and to discuss on the issues related to the lands of mangrove plantation. As access to land (mudflats) for plantations is under the responsibility of this government institution and the problem of land use (property and encroachment of mudflats) is particularly prominent, it is essential to create a strong link with them, to advocate for our project model and to enhance the sense of mutual responsibility. The question of social forestry and forest management with permitted logging, targeted cuttings and replanting can also be addressed during these meetings. A proper forest management of grown plantation could not only contribute to reduce carbon dioxide in atmosphere but also increase livelihoods of community people as well as reducing unauthorized entrance into the Sundarbans.

In the second half of the project, these advocacy meetings aim to enhance the mobilization of local government institutions in the fight against poverty through poverty/social maps and integrating local communities into government supported social safety net programme (see activity 18). On the basis of these maps, Union Parishads is able to address geographic poverty and improve local infrastructure and access to drinking water installations for use in daily life. In brief, the needs of the communities can be presented to the local government institutions in order to obtain their commitment and effective support in terms of infrastructure improvement works. This has proven its efficiency in another project where infrastructure works were funded entirely by the local Union Parishad and conducted with the workforce of the local community members. Advocating Union Parishad can also help local communities to better access the social safety net programme such as VGD (Vulnerable Group Development) entitling 30kg of rice per month during two years or VGF (Vulnerable Group Feeding), a one-off assistance for the poorest rural households after a disaster or on the occasion of the Eid festival.

### **Activity 21 – Presence in the local or national media**

Each time it is possible, publicity and media coverage of the project, its results and various activities are given, be it on local, national or, if possible, international press (written, online or TV).

### **Activity 22 – Observation Days**

The Project Team and community people observe various days such as World Environment Day jointly with Upazila and District Administration to create awareness among mass people and media during the project tenure. International Mother Language Day, Disaster Preparedness Day,

---

<sup>2</sup> The smallest rural and local administrative units in Bangladesh.



Independent Day, etc. are also celebrated as it is usually done by Friendship in its projects. This is a simple and effective way to involve local people alongside the NGO.

**Activity 23 – Project Evaluation through Field Surveys (baseline – mid-term – endline)**

The project includes baseline, mid-term and end-line surveys with a view to comparing the results of the project. Ongoing data collection from the field is done by the Field Facilitators and validated by the Supervisors and regularly transmitted to the Project Manager.