

**TREE BANKS**  
TRIPURA





**A**fforestation and Reforestation are the most viable options to reverse the looming spectre of unprecedented and rapid climate change being witnessed by the world. In conventional planting method there are several challenges that significantly affect the economics and effectiveness of afforestation Programmes. These are:

- High cost of afforestation in avenue plantations due to requirement of costly plant guards to protect the planted seedlings in conventional methods.
- Establishment of green belts on degraded lands, mining rehabilitation areas, rocky terrain etc. is an extremely difficult and costly affair in the conventional method of plantation.
- Poor establishment and growth rates of the planted seedlings in conventional method due to difficulties in providing regular maintenance and protection.
- Planted saplings are highly susceptible to browsing by animals and suppression by weed growth.
- Delay in delivery of ecological services from afforested areas.

Regular and quick afforestation at optimized costs is hence the need of the hour. Successful plantation works for rapid augmentation of green cover require a high post planting survival rate. This is in turn is significantly dependent on the quality and size of planting stick used in plantation works. A Tree Bank is like a nursery but with the difference that here the plants are tended till they reach a much higher height and collar girths. Once the prescribed size parameters are met, these plants are made available for planting in areas that require a rapid development of green cover. Large size plants help reduce post planting mortality being in a better position to withstand cattle grazing and other environmental stresses.

To meet the demand of large size planting stock in various projects in Tripura, "Tree Banks" have been developed by the Tripura Forest Department. Tree Banks are repository of plants of desired species raised till they become pole size (12 feet) and also acquire girth at breast height (gbh) of atleast 20 cm. To facilitate this, plants are raised in a large size poly bags (70cm x 77.5cm). It takes about 2 years for a plant to reach this size in a Tree Bank. This large size planting stock is then made available at a cost of Rs. 350 per plant to agencies engaged in planting operations. Notably, raising a plant to this height in normal field settings would have cost at least Rs.1500 per plant.

### OBJECTIVES

- ENHANCE GREEN COVER EXPEDITIOUSLY.
- REDUCE POST PLANTING MORTALITY OF PLANTS.
- REDUCE COST OF LARGE SIZE HIGH QUALITY PLANTING STOCK.

Tripura Forest Department used black colored polythene bags of size 70 cm x 77.5 cm with 500micron gauge for the purpose. Each polybag was filled up with a homogeneous planting soil mix comprising of 3.5 cf of fertile soil, 0.5 cf of well matured farm yard manure, 100 gms of Urea, 50 gm of Single Super Phosphate and 50 gm of Murate of Potash. Holes were randomly punched in the poly bags to help aeration of soil once they are filled up as well as to facilitate the evacuation of excess moisture. Once the poly bag was ready a one year old healthy seedling of desired plant species, grown in 15cm x 23 cm size poly bag, was selected from a well maintained nursery and transplanted into the filled up large poly bag at its center within the top 1/3 rd height of the bag. This was done to allow space for the root system to grow vertically down as well as horizontally. After transplanting, the plants were supported with a bamboo stake to keep them standing straight. The bags were placed in paired rows, species wise to provide each other mutual support. A distance of 1 meter is maintained between the each pair of rows to facilitate the cultural operations like irrigation, weeding, trimming, pruning, application of fertilizers etc. Irrigation is done manually, minimum twice in a week during the dry period, and none during monsoons. Weeding, trimming and pruning operations are done as per need to ensure a single and healthy leading shoot. Dead and diseased branches are removed immediately as noticed. Additional dose of fertilizer provided are 50 gm urea, 25 gm SSP, 25 gm MoP once every four months and 50 gm dusted Neem cake / poly bag, once every six months over the two year incubation period. This is done by side dabbling method at 5 cm depth at three equidistant places in the bag. Collar girth (in mm) and height (in cm) are recorded species wise, once every month for study and documentation of growth patterns.

### OUTCOMES

- Raising trees (min 20 cm collar girth and 4 mt height) in a short period of 2 years, whose plantation requires no plant guard as the foliage is above the browsing height.
- Creation of greenbelts over night with 100% survival/establishment rate.
- Effective and quick generation of green belts at very low cost along roadsides, avenue lands and for urban beautification.
- Effective establishment of greenery on degraded lands and mining rehabilitation areas, including in areas with rocky soils.
- Significant reduction in cost of plantations due to avoidance of the cost of the plant guards and fencing.
- Quicker commencement of delivery of ecological services.●

