

COMPLETED EXTERNALLY AIDED PROJECTS

Project 1: Conservation of productive land and promising flora of Majuli Island in Brahmaputra River [RFRI/EP-05/2003-08]

Findings: Planting of grasses with *Ipomea* spp. were found to be effective in checking sand deposition on productive lands. Banana also performed better with grasses. High density planting of flood tolerant nitrogen fixing leguminous species *Sesbania sesban* during May-June (Flood time) was found to enrich soil fertility status and its harvesting in October- November provided fuel wood and fibre for local use. Thereafter, farmers were advised to cultivate mustard, potato, vegetables and other crops to utilize the land resources properly. These reclaimed areas have shown very encouraging results when put under different agroforestry models. The local people have very much appreciated and adopted the method for replication in other nearby areas.

Project 2: Control of soil and river bank erosion in Majuli through bamboo based vegetative embankment [RFRI/EP-08/2004-07]

Findings: Zero zone plantation of *Ipomea* spp. and grasses gave good results in arresting soils from surface erosion. Bamboo mats provided shelter to sandy soil. First zone plantations of *Bambusa nana*, *Dalbergia sissoo*, *Bombax ceiba* and second zone plantation of *Bambusa bambos*, *B. nutans*, *B. tulda* and *Dendrocalamus hamiltonii* showed good performance. Bamboo treatment unit provided to Bamboo Co-operative Society, Majuli had motivated local people to a great extent and more than one hundred seventy people have used this facility.

Project 3: Study of the current market prices of timber in Nagaland. [RFRI/EP-17/2007-08]

Findings: Current market price of different timbers was collected from Tizit, Mokokchang and Dimapur (Nagaland) timber markets and submitted to Resource Survey and Management Division, Forest Research Institute (FRI), Dehradun for further processing.

Project- 4 Improvement of infrastructure facilities in Botanical Garden /Centres of *ex-situ* conservation at, Rain Forest Research Institute Jorhat, Assam [RFRI/EP/09/2003-2006]

Findings: Introduced as many as 7 species each of bamboo and Rattan, more than 39 of orchid species, 24 commercially important tree species and 12 species of endangered and rare plants of North-East India in the botanical garden at RFRI campus.



Orchids in shade house



General view of RFRI Botanical garden

Project 5: Augmentation of entomopathogenic fungi for the management of *Calopepla leayana* on *Gmelina arborea*: an eco-friendly approach [RFRI/EP-10/2005-07]

Findings: Population dynamics of *Calopepla leayana* was monitored in the study areas. The population trends were correlated with abiotic factors (temperature, relative humidity, and rain fall) of the study site, which exhibited a significant dependence on the abiotic factors such as temperature, relative humidity, and rain fall. Regression equation was also arrived to predict population of *C. leayana* based on abiotic factors. Entomopathogenic fungi viz., *Beauveria bassiana* and *Metarhizium anisopliae* were isolated and identified as natural enemies of *Calopepla leayana* from different insect groups. It was found that both the fungi were effective against both larval and adult stages of *C. leayana*. Mass production of *B. bassiana* using different substrates was tried to harvest ample amount of spores. Bakery waste/desolate bread was identified as one of the suitable substrates for the mass production of *B. bassiana*. 72-93% mortality of targeted insect was observed in field condition. Isolates of *B. bassiana* was harmless to silkworm and all of them attained healthy pupa (cocoon).