PROJECT PROFILE

Title	Natural Regeneration Studies on Important Trees in Silent Valley National Park, Kerala
Principal Investigator	Dr.C.Kunhikannan, Scientist D
Project Associate	Dr. N.Venkatasubramanian
Start and Completion dates	April 2004. March 2009

Objectives

1. To study the dynamics of natural regeneration of woody species in different forest ecosystems in Silent valley National Park.

2. To identify problems of regeneration specific to the dominant species through phenological, demographic and phytosociological studies

Funding Agency	ICFRE, Dehradun
Total budget outlay	Rs.4.90 Lakhs

SUMMARY

Three types of ecosystems like Forest, Grasslands and their ecotone were selected for the study. Basic data on the regeneration of trees such as number of species, number of individuals in each species under different categories like seedlings, saplings and trees, girth at breast height (GBH), for trees was collected by laying out quadrates of 2500 sq.m square shape for trees and two plots each of 25sq. m in each tree quadrat for enumeration of seedlings and saplings in the three ecosystems. These data was used to deduce the secondary attributes like density, frequency, basal area, relative density, relative frequency and relative basal area and importance value index and diversity indices. GBH was used to prepare the population structure for important species.

A total number of 169 species of trees were recorded from these forest areas. No seedlings were recorded in 70 species and no saplings in 70 species. Regeneration status of dominant tree species like *Cullinia exarillata, Dimocarpus longan, Drypetes alata, Litsea olioides, Mesua ferrea, Myristica dactyloides, Prunus ceylanica, Palaquium ellipticum, Reinwardtiodendron anamallayanum* and other important trees species like *Bischofia javanica, Canarium strictum, Gomphandra tetrandra, Holigarna arnotiana, Litsea stocksii, Litsea floribunda, Symplocos cochinchinensis, Symplococos racemosa, Syzygium cumini, Syzygium leatum, Turpenia malabarica* etc. in forests were recorded and the regeneration of dominant species like *Palaquium ellipticum, Myristica dactyloides, Reinwardtiodendron anamallayanum, Syzygium laetum, Litsea oleoides, Dimocarpus longan, Mesua ferrea, Aglaia lawii, Cullenia exarillata* and *Drypetes elata* etc. was found to be frequent.

The regeneration of species like *Actinodaphne lawsonii, Aphanamixis polystachya, Appollonias arnottii, Diospyros nilagirica, Epiprinus mallotiformis, Holigarna nigra, Hydnocarpus alpina and Sysygium densiflorum* was found to be infrequent.

127 woody species were recorded from the Forest-grassland ecotone and no seedlings were recorded in 70 species and no saplings in 72 species among them. Highest seedling and sapling densities were recorded for *Maesa indica* in the ecotone area. In grasslands, there were 40 species of trees regenerating in their various stages of developments. Out of forty, 35 species represented seedling class, 27 represented sapling class and 26 species represented the mature tree group. *Wendlandia thyrsoidea, Glochidion ellipticum, Elaeocarpus serratus, Ligustrum perrottetii, Symplocos cochinchinensis, Symplocos racemosa, Syzygium cumini, Phyllanthus emblica, Apodytes dimidiata, Ziziphus rugosa* and *Maesa indica* are the major tree species recorded in the grasslands.