

**ECOLOGY AND CONSERVATION OF RAIN FOREST
MANGROVE ECOSYSTEMS OF SRI LANKA**

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Physiological strategies of tree species growing on nutrient poor soils or of plants subjected to salinity stress and soil biological processes of natural and man-made ecosystems are our main areas of research. There is a great need to identify new species of fast growing multipurpose trees for agro-silviculture and community forestry. There is also a need for tree species capable to growing in semi-arid and saline habitats. These searches along with a better understanding of soil biological processes sustaining the fertility levels of natural and anthropogenic ecosystems must be pursued, if we are to meet the challenges posed by environmental degradation and the ever increasing demands of fodder, fuel and timber of urban and rural people.

The following field surveys and laboratory studies were completed during 1987.

- (1) A survey of soil nutrient status and foliar nutrient contents of key tree species of wetzone and dryzone forests.
- (2) Floristic composition and zonation of lagoon fringing mangroves and riverine mangroves along the southeast coast of Sri Lanka.
- (3) Preliminary studies on salinity tolerances of propagules of some mangroves and the role of sugar alcohols in osmotic adaptation.

Besides the above studies a project on the cause of tree mortality in the montane cloud forests of Horton Plains Nature Reserve was initiated in November 1987. This project is being very enthusiastically carried out by our Junior Research Associate at the IFS.

A pilot project proposal to upgrade the derelict lands in the vicinity of IFS was prepared in June/July 1987. This project proposal has already been discussed with Senior administrators and scientists attached to the Land Use Division, the Forest Department, the National Housing Authority, the Government Agent, Kandy, the Plantation Sector (JEDB) and the Ministry of Health. So far the discussions have been positive and fruitful. We hope this project will gather more momentum during 1988. The scientific aim of this project is to investigate soil factors and soil biological processes likely to promote the establishment and development of a permanent tree cover on degraded grasslands. It is anticipated that the coarse, fire prone patana grasslands can be transformed into species rich, self sustaining permanent forests. The scientific and socioeconomic benefits of this project are enormous. In addition the beauty of the hills around Kandy will be greatly enhanced.

Besides these IFS based projects, we are actively engaged in collecting, identifying and documenting the herbaceous plants of the Sinharaja Man and Biosphere Reserve, the Wasgamuwa National Park and the Knuckles Area. Funds for the Sinharaja project are provided by the UNESCO supported MAB National Programme and for the National Parks from the Mahaweli Environmental Project.