ENVIRONMENTAL MANAGEMENT IN FORESTRY DEVELOPMENTS PROJECT

CONSERVATION EVALUATION OF SOME NATURAL FORESTS IN SRI LANKA

A Project of the

Forest Department
Ministry of Lands, Irrigation and Mahaweli Development

in association with

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EXECUTIVE SUMMARY

The recently created Environmental Management Division within the Forest Department is currently undertaking a National Conservation Review (NCR) of all remaining natural forest and related grasslands within Sri Lanka, as part of the Environmental Management Component of the Environmental Management in Forestry Developments Project. The NCR addresses the biological importance of natural forests, largely in terms of their species diversity, together with their value for soil conservation and hydrology. It is being carried out by a team of scientists comprising three national consultants (botanist, zoologist and hydrologist) and an Assistant Conservator of Forests, with technical assistance provided by an international consultant. This document consists of a description of the methodologies used to evaluate the importance of natural forests, a report on the results of fieldwork undertaken to date, and an assessment of the additional resources required to complete the NCR.

A method of rapidly assessing biological diversity within natural forest has been developed by the NCR team and is fully described in **Part A**. Known as gradsect sampling, it is based on sampling along environmental gradients to provide a description of the full range of species diversity within forests, overcoming problems of inadequate representative sampling and accessibility while minimising survey costs. Sampling is limited to woody plants, vertebrates and selected invertebrate groups (molluscs and butterflies). Part A was originally prepared as manual for a workshop on *Assessing the Biological Diversity of Sri Lanka's Natural Forests*, held in Sinharaja National Heritage Wilderness Area, 2-5 December 1992.

Rapid techniques for assessing the hydrological value of forests and their importance for soil conservation have been developed using four main criteria. These are control of soil erosion and flooding, protection of headwaters of river systems and, in the case of forests at higher altitudes, contribution of additional moisture through interception of fog. The methodology is described in **Part B.**

Southern Province, comprising Galle, Matara and Hambantota districts and representing approximately 10% of the country, has been surveyed to date. The results of this survey are presented in **Part C**. Many species of plants and animals, including endemics and rarities, have been recorded in new localities and some species thought to be new to science have been discovered. An analysis of species' distribution patterns and topographic variables, such as rainfall, slope, soil type and stream frequency, shows that virtually all remaining natural forests in the Province are of considerable importance for biological diversity, as well as for control of soil erosion and flooding and for protection of headwaters. Optimal networks of forests which meet a range of conservation criteria are identified. The results of this survey are preliminary, however, until such time as the NCR is completed and the importance of these forests can be evaluated within a national context. The need to review the legal conservation status of many of these forests is clearly demonstrated.

Progress achieved to date by the NCR is reviewed in **Part D**. It is estimated that remaining districts in the wet and dry zones will each take another two years of fieldwork. This is well beyond the resources of the present Project, and a strategy for completing the NCR within the overall time frame of the Environmental Management in Forestry Developments Project is elaborated. Natural forests to be surveyed are identified and a future programme of work is outlined.

Completion of the NCR will represent a major achievement for the Environmental Management Division, enabling an optimal network of conservation forests to be defined and providing the basis for informed decisions to be made concerning the future use of forest resources. In the longer term, the information generated by the NCR represents an extremely powerful tool for evaluating the potential impact of proposed development projects on forests, for monitoring changes in the biota and for management planning, particularly with respect to zonation.