

Forest Management of Natural Forest in Malaysia - Phase II

Final report

PD 24/93 Rev. 2 (F)

I. Introduction

The project was the continuation of the Joint Malaysia-ITTO Project PD 10/87 (F) that was completed on 31 December 1994. The Second Phase of the Project was approved at the Fifteenth ITTC Session in Yokohama for a period of five years.

II. Project Objective

The development objective of the Project was to acquire information on regeneration, growth, yield and development of natural tropical forests in Malaysia under different harvesting regimes and silvicultural treatments so as to decide on the most appropriate forest management and silvicultural system. The development objective would be achieved through four specific objectives, namely establishment of protection levels attainable under various harvesting and silvicultural regimes, development of forest management guidelines for the virgin and logged-over natural forests, in-service and formal training in management procedures and research, and demonstration and dissemination of the project results.

III. Project Strategy and Activities

The strategy of the Project was built on the results of the first phase, but the designs of the experiments were advanced by elaborating on the already established standard scientific layouts. The data already collected was amended by further time series and provided a sound basis for meaningful statistical and system analyses. Under the Phase II of the Project it was possible to test various hypotheses regarding the effects of different treatments, especially on the development of forest growth and yield under different scenarios. The treatments applied cover a wide range of harvesting regimes and silvicultural treatments in different geographic locations.

IV. Project Achievements and Outputs

The Project was completed at the end of 2002 and achieved the following outputs:

- Seventeen plot measurements have been carried out on experimental sites in eight compartments located in four different forest reserves;
- The International Workshop on "Growth and Yield in Managed Tropical Forests" was conducted from 25 to 29 June 2002 and was successfully completed with 16 papers presented to 150 participants, and its proceedings published;

- Five Technical Reports on experimental design and permanent plots, data management and processing, growth and yield models, and guidelines for the management and silviculture of natural production forests in Malaysia have been produced; and
- Training programmes for personnel of the Forestry Department Peninsular Malaysia and graduate studies abroad have been completed.

V. Target Beneficiaries Involvement

In order to ensure successful project implementation, three professional foresters, two sub-professional foresters, and nine research assistants and staff of the Pahang, Perak, Selangor and Trengganu State Forestry Departments were attached to the Project. They were actively involved in the measurements of the study plots, data input and editing, and data management and analyses. In addition, the Directorate of the Forestry Department Peninsular Malaysia and the involved State Forestry Departments actively participated in the daily management of the Project and in the decision making during the Project Technical Working Group and the Project Steering Committee meetings.

VI. Lessons Learnt

The good collaboration between the Federal and State Forestry Departments was fundamental to the successful implementation of the project and also ensures the sustainability of the project benefits. The research plots established by the project will be secured through cooperation between the Federal and State organizations, and so are the maintenance and measurement of plots and the editing and management of the data.

A great deal of time and resources have been invested in the research plots, data management and analyses. The plots will continue to yield a wealth of information in the years to come and procedures to ensure the continuity of the work is crucial. The State and Federal Forestry Departments are fully committed to, and capable of continuing the work under their own programme for which they have sufficiently budgeted the required resources.

VII. Dissemination of Results

Project results have been disseminated through the International Workshop on Growth and Yield in Managed Tropical Forests conducted in Kuala Lumpur in June 2002 and the proceedings of the workshop have been published. The following Technical Reports were produced and widely disseminated:

- No. 1: Manual for Enumerating the ITTO Experimental Plots;
- No. 2: Manual for Editing and Tabulation of Data from the ITTO Experimental Plots;
- No. 3: Manual for the Standtable Projection Simulation Model (STANDPRO.FOR);
- No. 4: Analysis of Growth and Yield Data from the ITTO Experimental Plots; and
- No. 5: Guidelines for Sustainable Forest Management and Silviculture of the Natural Production Forest in Malaysia.

The reports are available from the ITTO Secretariat upon request.

VIII. Recommendations Related to Future Work

The following recommendations are made based on the lessons learnt from project implementation:

- In order to sustain the project benefits, the activities should be continued under the Forestry Department's own programme, and the permanent plots be maintained and measured every 2-4 years. The data collected should be maintained, edited and analyzed immediately after each field measurement;
- There is a need to test a form of liberation thinning in the two research areas for silviculture and logged over forest to replace the treatment with cutting of vines and climbers;
- The instructions for the measurements should be strictly adhered to as given in Technical Report No. 1 and the associated manual in Bahasa Malaysia;
- The training courses need to be provided to all field crews before and during each field season and the work needs to be continuously supervised;
- The data sets should be made available to officers of the Forestry Department for further studies and course work;
- In order to widen the scope of different forest types represented, it would be useful to analyze the data from the other series of the Forestry Department, i.e. the "Growth Plots" and the "Growth and Yield Plots" in conjunction with the ITTO plots;
- The present series of plots covers all the important forest types so that new permanent research plots of this type should only be established in order to replace lost plots; and
- A good collaboration among the institutions involved in the project planning and implementation stages has proven to be fundamental to the successful achievement of the planned outputs and objectives of the project.

IX. Concluding Remarks

As the ITTO Secretariat has received the Project Completion Report, the Project PD 24/93 Rev.2 (F) Phase II can be considered as completed pending the Final Financial Audit Report.