

A Demonstration Program of Sustainable Utilization of Tropical Forests by Means of Differentiated Management in Hainan Island, China - Phases I, II and III

Report final

PD 14/92 Rev. 2 (F)

I. Introduction

The project was approved in its three phases at the Fourteenth Session of the ITTC, in May 1993. Financing for Phase I was secured at the same Session.

The implementation of Phase I was reported as completed during the Eighteenth Session of the Committee in November 1995. The completion report was documented as PCF(XVIII)/13.

The implementation of Phase II was reported as completed during the Twenty-second Session of the Committee in May 1998. An independent consultant was engaged in March 1998 to review Phase II and to develop the workplan of Phase III (CRF(XXII)/18, 19 and 25). The work plan was approved and financing for Phase III was secured at the 24th Session of ITTC.

Phase III of the project began in October 1998. During the first two phases, four model areas had been established, which were to be used for demonstration purposes in the third phase. In addition, the results of the experimental work carried out during the earlier phases was to be completed and published.

II. Project Objective

The development objective for the third phase of the project focused on demonstration, extension and information dissemination. Specific objectives were to:

- Maintain existing demonstration plantations, establish 600 ha of new demonstration plantations, improve facilities and technology of the central nurseries and increase species testing and tree breeding of indigenous species;
- Improve and expand the system of sustainable management of tropical forests through further studies on the effects of forest operations on biological

- diversity, soil erosion, watershed conservation, soil nutrient cycling, texture and structure, forest regeneration and growth and economic and social benefits. Develop Criteria and Indicators for sustainable management of tropical forests in Hainan;
- Improve the existing silvo-pastoral systems;
 - Enhance the effectiveness of the demonstration areas regarding research, conservation and economic viability and link them with the development of the surrounding areas;
 - Enhance the use of the database and information system in decision making for forestry development, research, training and forestry operations; and
 - Continue training and extension activities in the whole Province, based on project results and experiences.

III. Project Strategy and Activities

The project management system established during the first and second phase was maintained. In addition, networking with other relevant projects and tree breeding programmes was established to complement and enhance the research efforts of the project. Activities concentrated on demonstration, training, extension and completion and dissemination of technical reports.

IV. Project Achievements and Outputs

The project's achievements during the third phase include:

Sub-project 1:

- 600 ha of new forest plantations have been established, including 133 ha of high yielding Eucalyptus.
- An additional 24 ha of experimental plantations have been established.
- Appropriate silvicultural management techniques for tropical forest plantations have been determined for the major sites in western Hainan.
- The nursery has been expanded and modernized and is used for production and breeding purposes.
- A final report on the demonstration plots of tropical plantations has been prepared.

Sub-project 2:

- An additional 42 ha of experimental plots have been established and measurements have been carried out in the new plots as well as the existing ones.
- The Criteria and Indicators for the sustainable management of tropical forests of Hainan Island have been developed.
- Technical reports on lesser-known species, on a management system of forest resources, and on sustainable management of the tropical forests of Hainan Island have been published.

Sub-project 3:

- 10 hectares of intensively managed sugar cane of superior species have been established.
- 29 ha of man-made rangeland was improved through silvo-pastoral systems.
- A study on different models of economic benefits of agro-silvo-pastoral systems has been carried out and reports on social and environmental aspects as well as on the results of the silvo-pastoral demonstration areas have been published.

Sub-project 4:

- A forest fire surveillance system has been installed.
- Permanent plots for ecological observation have been established.
- The publication on the distribution of endangered species of Jianfengling Region has been completed.
- A report has been published on an industrial pattern to substitute logging in Hainan.

Sub-project 5:

- A bibliographical database of tropical forestry in China was established.
- Additional 3,000 references were collected for a total of 16,000 printed materials.
- Four volumes of the Tropical Forestry Newsletter have been published in English and Chinese.
- A large number of technical reports have been published.

Sub-project 6:

- 2062 person days of training have been completed.
- A library and an internet terminal have been established in the tropical forestry training centre.

V. Target Beneficiaries Involvement

Target beneficiaries of the project were:

- The Forestry Bureau of Hainan Province and the managers of the State forestry farms,
- Forest industries,
- Public organizations,
- Farmers,
- The State Forestry Administration,
- The Chinese Academy of Forestry, and
- Similar organizations in other tropical areas of China.

These received training and/or gained scientific and practical knowledge through project activities. The project results have also been incorporated into the forestry development plan of Hainan Province and will therefore be adopted at a wider scale.

VI. Lessons Learnt

The original project design focused mainly on technical aspects. In order to make project results more sustainable, during the third phase, social and economic aspects were given more emphasis, especially the economic activities of the local people and their effect on the management and conservation of forests.

The partnership of the two implementing organizations was a critical factor for the success of the project, as well as intersectorial links and links between the demonstrative areas and the forestry bureaus and farms to which the areas are attached. The beneficiaries themselves implemented the project, which facilitated the adoption of technologies promoted by the project. Another factor contributing to success was an efficient management system for project implementation, which was accepted by all partners. 10 meetings of the Steering Committee and 12 work meetings were organized during the implementation of the project.

VII. Dissemination of Results

The project published and disseminated a number of technical reports, which document the results of the third phase:

- Summary report on the demonstration area of tropical forest plantation (in Chinese and English)
- Criteria and indicators for sustainable management of tropical natural forests in Hainan Island
- Research on and development of lesser-known tree species in the tropical natural forests of Hainan Island
- Research on sustainable management of tropical natural forests in Hainan Island
- Summary report on the demonstration area of sustainable forest management of tropical natural forest (in Chinese and English)
- Investigative study on economic, social and environmental issues of agro-silvo-pastoral systems in Hainan Island (in Chinese and English)
- Summary report on the demonstration area of tropical agro-silvo-pastoral ecosystem (in Chinese and English)
- Report on ecological positioning observation and research of forest ecosystem in Jianfengling (1993-2000)
- Distribution and richness of endangered tree species in tropical forest region of Jianfengling (in Chinese and English)
- Establishment of 4 models for substitute industries after the logging ban and a report on socio-economic investigative study for the implementation area (in Chinese and English)
- Summary report on the demonstration area of the protection of tropical virgin forest (in Chinese and English)
- Basic construction and development of China tropical forestry information (in Chinese and English)
- Personnel training and demonstration extension of tropical forestry in Hainan Province (in Chinese and English)
- World tropical forestry research (in Chinese)

and a series of publications of “Research reports on sustainable development of tropical forestry”

In addition, the project developed and disseminated the following materials:

- China tropical forestry bibliographical database (in Chinese)
- Tropical forestry multi-media database for Hainan Island of China (in Chinese)
- Four issues of “Tropical Forestry Newsletter” (in English) and eight issues of “Tropical Forestry Information” (in Chinese)
- Forest resources management system for the demonstration area of sustainable management of tropical natural forests in Hainan Island (computer software)
- Teaching materials on “Tropical Forestry (Basic Knowledge)”
- Video “Experiment and demonstration of sustainable development of tropical forests by means of differentiated management in Hainan Island of China (in Chinese and English).