

International Symposium on Silvicultural Technologies

Sponsored by

Tropical Agriculture Research Center, Ministry of Agriculture, Forestry and Fisheries
and held jointly with

Forestry and Forest Products Research Institute, Ministry of Agriculture,
Forestry and Fisheries

October 2-7, 1978, Tsukuba, Ibaraki



The objective of the Symposium was to exchange the latest information on problems pertaining to silvicultural technologies so as to enhance international cooperation, in particular in the tropics, for improving the productivity of the forests and of their by-products while ensuring that such precious natural resources do not become depleted.

Indeed, sound silvicultural practices are crucial in these regions if the beneficial role of forests on soil conservation, water supply and climate stability as well as the wealth of

the genetic resources they contain is to be preserved. Logging operations which are at the basis of forestry activities are often destructive for the forests as regeneration of trees is a lengthy process.

Silvicultural technologies have, therefore, an important role to play in enabling the reproduction of a large amount of trees of good quality within a short period of time. Research on regeneration techniques has just begun and the fact that many problems remain to be solved was pointed out in the



reports presented at the Symposium. The Japanese saying which goes as follows: "The right technique for the right tree on the right site" is nowhere else but in the tropics more appropriate, implying that the development of techniques adapted to the soil and environmental conditions of a region is of paramount importance. Such principle was always borne in mind by the participants in the Symposium during which there were debates as to whether it is preferable to adopt artificial or natural regeneration, clear cutting or selection cutting, pure stand or mixed stand, short-term or long-term rotation. It was also emphasized that as tropical forests represent ecosystems characterized by a diverse composition of species and a complex structure, silvicultural techniques should be designed so as to match such diversity and complexity.

Problems relating to agro-forestry or agri-silviculture which combines forestry and agricultural activities were taken up as, under the tropical conditions, there are ecological and sociological reasons for establishing such a system in some areas.

The difficulties encountered in overcoming the constraints to seed production and storage were also discussed while the importance of provenance and tree species was emphasized, pointing to the need for developing tree species adapted to the local conditions.

It was concluded that the future of tropical forests will depend on the need for striking a balance between profitable exploitation of

the natural forests and conservation of genetic resources and ecosystems.

A range of interesting and diverse reports was presented by 12 scientists from overseas and 8 specialists from Japan along with a representative of the FAO who presided over the general discussion.

The program of the Symposium and the names of the speakers are listed as follows:

Opening address

Shiro Okabe

Director, Tropical Agriculture Research Center

Welcome address

Haruhiko Horikawa

Director-General, Secretariat of Agriculture, Forestry and Fisheries Research Council

Mitsuma Matsui

Director, Forestry and Forest Products Research Institute

Presentations

- Silvicultural practices in the Philippines
Antonio Glori (Philippines)
- Height increment of *Pinus caribaea* var. *hondurensis* in Thailand
Prasert Bhodthipuks (Thailand)
- Observations on the growth and characteristics of Caribbean pine at the test plantation established in Malaysia
Shigeru Chiba (Japan)
- Problems relating to studies on natural re-

- generation and afforestation in rain forest of Sabah
Liew That Chim (Malaysia)
- Natural regeneration of deciduous forest in Thailand
Choob Khemnark (Thailand)
 - Tending of commercial natural regeneration in shrubs at a logged-over tropical rain forest in East Kalimantan
Hendi Suhaendi (Indonesia)
 - Natural regeneration and reforestation in the peat swamp forest of Sarawak
Lee Hua Seng (Malaysia)
 - The problems in the tropical rain forest related to the research on forest fertilization in Balikpapan, Kalimantan, Timor, Indonesia
Akira Kawana (Japan)
 - Some notes on natural regeneration in East Kalimantan
Wawan Kustiawan and Soedrajai Soeradji (Indonesia)
 - Physiological study on Malaysian tropical tree species. Study on storage and germination of Leguminosae and Dipterocarpaceae seeds
Satohiko Sasaki (Japan)
 - Some aspects of artificial regeneration in Burma with particular reference to teak (*Tectona grandis* Linn f.) and *Eucalyptus* spp.
U Mya Aung (Burma)
 - Some observations of natural regeneration of teak (*Tectona grandis* Linn f.) in teak-bearing forests of Burma
U Tun Hla (Burma)
 - Some notes on artificial reforestation in East Kalimantan
Sambas Wirakusumah (Indonesia)
 - Site Classification based on soil in Northern Malaysia
Yasuo Osumi (Japan)
 - The causal agent of Benguet Pine deterioration in the Philippines
Hiroaki Yamaguchi (Japan)
 - Phenology of Philippine dipterocarps
Ireneo L. Domingo (Philippines)
 - Tumpang Sari method for establishment of teak plantations in Java
Yunus Kartasubrata (Indonesia)
 - Eucalypts for South-East Asia
Richard L. Willan (F A O)
 - Studies on multiplication by different growth types of bamboo rhizomes
Etsuzo Uchimura (Japan)
 - Regeneration of hill dipterocarp forests in Peninsular Malaysia: The selective management system
Zulmukhshar Md. Shaari (Malaysia)
 - Technology of regeneration of natural forest in Japan
Taisitiroo Satoo (Japan)
 - Tending techniques of forest in Japan
Takao Fujimori (Japan)
- General discussion**
Chaired by Richard L. Willan (F A O)
- Closing Remarks**
Mitsuma Matsui