

Forest and Wood-based Industries

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These extracts are from a paper, by Hope Todd, the manager of the IDB's Boron Rubberwood Project, presented at a symposium on "Forest in the Strategy for the Development of Sri Lanka", which paid special attention to two timbers that are not extracted from the country's forest resources. His paper also dealt in detail with the technical properties and uses of these timbers.

Sri Lanka has a land area of 6,355,000 hectares and a forest cover of 2.4 million hectares of which the total state forests amount to 1.0m. hectares.

The Administration Report of the Conservator of Forests for the year 1979 states:—

"There had been a rapid depletion of the country's forest cover during the last 2 decade from approx. 45% to 25% of the area of the country, resulting in:—

- (1) Shortage of fuelwood, which affects about 90% of the total population, and
- (2) Scarcity of construction timber which is now imported at a premium price by both State and Private organisations.

Added to this depletion will be the systematic clear-felling under the accelerated Mahaweli Scheme of about 650,000 acres of State forests including valuable Teak Plantations in the next few years".

Imports of round timber for 1980

31,675,460 kg. valued at Rs. 129,533,357/-

Exports for 1980

21,323,981 kg. valued at Rs. 213,135,120/-

A report in the Economic Review (February 1978) gives the following allocations on an annual harvest of all timber exploited, to be in the region of 7 million cu. feet.

Plywood	— 3.8 m cu. ft.
Furniture	— 1.5 m cu. ft.
Railway sleepers	— 1.0 m cu. ft.
Packaging industry	— 1.0 m do
Tea chest battens	— 0.5 m do
Match industry	— 0.5 m do
	7.1 m cu. ft.

Rubberwood

World acreage
10 million acres

Sri Lanka
550,000 acres

Sri Lanka has approximately 550,000 acres of plantation rubber and the 25 to 30 year cycle of replanting requires 15/20,000 acres to be replanted *annually continuously*. An analysis of the quantum of timber from an acre of Hevea has been

worked out to be an average of 2,000 cubic feet. The main trunk which is used for conversion into Borwood averages between 4/500 cubic feet per acre. The gross timber available thus from 20,000 acres would be 40 million cubic feet (a lower limit). This quantum is greater than the annual yield of the forests of the country.

The factor which brought about the possibility of using the Hevea tree was based on the work by Tissa-veerasinghe, the then Senior Assistant Conservator of Forests and his workers in the labs of the Forest Department of Sri Lanka as far back as 1967/68. The Forest Department in collaboration with the National Small Industries Corporation, (the author being the General Manager of that Institute at that stage), established at the Forest Department labs a pilot pulant for the sawing, treating, seasoning and selection of the Hevea tree. The main constraint of the Hevea timber is its susceptibility to borer and fungus attack; but the identification of the Entomologist of the National Museum, determined the adequate treatment of the timber.

The Hevea timber is treated with preservations which comprise a mixture of Boron salts toxic to insect but not to humans. The penetration and retention are in accordance with international standards and this is adequate to protect the timber against insect pests. The salts are a deterrent to the attack of dry wood termites.

The development thereafter proceeded with the assistance of the University of Sri Lanka, Faculties of Physical Sciences, Peradeniya and Colombo. Special mention has to be made of Profs. Thuralrajah and Milton Amaratunga whose analysis of the mechanical properties of the timber pointed the way to the extensive work that has been now carried out with this timber.

The timber is medium textured, light creamy colour, pleasant grain and somewhat irregular. As far as the working properties are concerned, it is an easy timber for sawing, planing and moulding and takes paint, lacquer or wax.

All timber is air or kiln seasoned to a moisture content pre-determined prior to sale.

The Industrial Development Board of Sri Lanka, a semi-Government statutory body to which this project was transferred from the National Small Industries Corporation in 1972, has established a semi-commercial pilot plant at Kandana, Horana. The plant at Horana is basic and the programme for refining and expanding has been accepted by the Government of Sri Lanka. The capacity of the plant is to be increased to 10,000 cubic feet of sawn timber a month on a double shift with

facilities for processing and seasoning at the site. The envisaged programme for the country would be a million cubic feet of processed Hevea timber within a 5 year period.

In January 1981 a solar heated forced air timber drier of a 1,000 board feet was established with the assistance of the Forest Products Laboratory, United States Department of Agriculture funded by U.S. Aid Agency. The preliminary results are very promising. The unfortunate power cut and the drop in voltage at the drier site have hindered the efficient functioning of this proto-type research project which has already made available close upon 300 cu. ft. of 1" sawn timber for commercial usage. Moisture content of 9% has been achieved in the 1st two batches of timber.

Coconut wood

World acreage — 5 million acres
Sri Lanka — 1 million acres

According to the Ministry of Plantations and Ministry of Coconut Industries approximately 100,000 coconut trees have to be replanted over a period of 80/100 year cycle. Each coconut tree has approximately 20 cu. ft. of utilisable trunk on a very conservative basis and in the work done in the Forest Department laboratories for a feasibility study made for the implementation of sawing, treating and seasoning coconut trunks affected by the cyclone in the Batticaloa District, the recovery percentage was as high as 70% using the band saw method of sawing.

100,000 coconut trees would thus give approximately two million cubic feet of log and even on an absolutely conservative evaluation a 40% return of 800,000 cubic feet of sawn timber which could be utilised for exotic furniture and structural timbers.

In conclusion I would make a plea that the Forest Department publish whatever information it has on the properties and uses of commercial timbers somewhat on the lines of the Malayan Grading Rules issued by the Malaysian Forest Department. This would be of utmost value to all sectors of the people of this country who would wish to use timber for whatever purpose they would require it.

REFERENCES

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- 4 *Timber Joinery & Applied Ironmongery.* Oxford University Press 1969.