Industry

RUBBER WOOD An Under - Exploited Resource

Malaysia, the world's largest producer and exporter of natural rubber, has awoken to the idea that rubber wood is an exploitable resource. A recent issue of the Planter's Bulletin published by the Malaysian Rubber Research Institute has informed its readership that rubber wood has remained an under exploited resource in Malaysia all these years. This journal draws attention to the fact that two documented reports of their R.R.I., in 1974 and in 1975, showed the feasibility of manufacturing Standard Malaysian Rubber (SMR) pallets and several furniture items from rubber wood. It adds that now there is also scope for its expansion into moulding for wall panels and for parquet flooring materials. Each of these applications, it says, has its own economic value depending on local and overseas market demand and on skill of operation.

Investigations are also under way in Malaysia for use of rubber wood in load bearing structures of wooden buildings such as roof trusses and for non load bearing members such as window and door frames (joineries). What is being emphasised in Malaysia is that this resource could provide numerous employment opportunities through the creation of jobs in the saw mill and wood working sector. Also, such a venture would directly support the marketing of rubberwood derived from small holdings since the small holding sector in Malaysia has an estimated potential supply of 3.3 to 4.5 million tons of rubber wood a year.

Malaysia has now realised the value of this natural resource, which it has in plenty, and which has all these years been utilised only as a waste product as firewood for heating and burning. As early as the 1960's, in Sri Lanka a Senior Assistant Conservator of Forests, A. E. K. Tissaweerasinghe, showed that the key to the utilisation of rubber wood as timber was the prevention from attack of this wood by borers. He advocated a preservative treatment of this wood by the boron diffusion process. This process came to be further developed through his work and that of specialists in the then National Small Industries Corporation, the faculty of Engineering Peradeniya, and the two campuses at Colombo and Vidyodaya.

Tissaweerasinghe showed in 1970, that "the total acreage under rubber in Sri Lanka is about 600,000 acres. The planned programme of replanting is 20,000 acres per year which amounts to a rotation of 30 years. This means that if the planned programme is implemented, there will be a continuous and sustained yield of timber because after 30 years, the first planted area will need replanting. In recent years the rate of replanting has not reached 20,000 acres but a figure close to 12,000 acres.

The next question is the quantity of usable timber available when an acre of old rubber is felled. A firm of consultants assessing the potential of rubber wood for making paper estimated that stem wood (i.e. excluding branches) would amount to something like 1,250 cu. ft. per acre. Since the firm was thinking in terms of paper - making where small-sized billets would suffice, we may conservatively assume that only 40 per cent of the stem wood will be sawable. This gives a figure of 500 cu. ft. per acre available for sawing or six million cu. ft. per year from the 12,000 acres being replanted each year.

The magnitude of this figure will be better appreciated when it is realised that this is about the quantity of timber supplied annually from all the forests in Sri Lanka. A disadvantage in timber from natural forests is the diversity of species. By contrast rubber wood is a uniform raw material which makes processing so much easier."

Tissaweerasinghe foresaw the timber scarcity the country would face by the mid 1970's if this valuable resource was not immediately put to use. An interest was evinced and a pilot plant started, but failed to gain the necessary momentum that would stave off a crisis. Desperate measures had to be a resorted to, such as the exploiting of valuable forest resources like Singharaja and now imports of timber in large quantities to meet the urgent industrial and construction timber requirements of the country.

In the late 60's the National Small Industries Corporation began a practical application of the boron treatment process. One example of its early commercial application would suffice. In 1969 there was an Education Ministry order to the National Small Industries Corporation for manufacture of component furniture, designed by the U.N.'s Asian Regional Institute for School Building Research, to be distributed to 100 schools. At this juncture owing to the scarcity of adequate timber species a discussion between the head of the N.S.I.C. and the Forest Department revealed that, as far back as 1967/68, the Research and Development Division of the Forest Department had carried out tests with rubber wood for furniture manufacture.

This work was lying at the Forest Department research labs. Tissaweerasinghe from the Forest Department, Hope Todd from the N.S.I.C. and Dr. O. S. Peiris of the R.R.I. and Dr. Milton Amaratunga of the Faculty of Engineering, Peradeniya, carried out further tests with this timber and the Education Ministry order, in the magnitude of Rs. 1 million, was executed entirely out of this processed rubber wood.

In the 1970's the Boron Rubberwood Project was brought under the Industrial Development Board and went ahead with the commercial production of timber and household furniture from rubberwood. The process has continued to be used at IDB's Rubber Wood Project where production of timber for furniture, wall panelling, parquet flooring and ceilings has fluctuated around routine levels for the last several years, due to a lack of interest and encouragement at higher official levels. Tissaweerasinghe's original work showed the potential of this valuable natural resource that was going waste. This work has been carried further by our scientists though not encouraged and promoted vigorously enough; and while the country lost his services a few years back in the brain drain, the rubber wood market is on the point of being taken over by the world's largest potential supplier and the debate on how to conserve our valuable natural forest resources continues.