

## PHYSICAL AND MECHANICAL PROPERTIES OF RUBBER WOOD FROM KARNATAKA

B. S. Kamala and P. V. Krishna Rao

Kamala, B. S. and Rao, P. V. K. (1993). Physical and mechanical properties of rubber wood from Karnataka. *Indian Journal of Natural Rubber Research*, 6 (1&2) : 131-136.

Strength properties in green and air dry conditions based on tests conducted on small clear specimens obtained from eight logs of *Hevea brasiliensis* (rubber) wood from Sullia region of Karnataka have been reported. The comparative suitability indices and safe working stresses have also been evaluated and reported. The results obtained have been compared with rubber wood from Kerala and Malaysia. The strength properties of rubber wood from Karnataka were slightly higher than those of Kerala rubber wood and less than those of Malaysian rubber wood. Rubber wood from spent *Hevea brasiliensis* trees could be efficiently used for a variety of uses such as furniture, door and window shutters, manufacture of packing cases, tool handles, etc.

Key words : *Hevea brasiliensis*, Rubber wood, Mechanical properties, Safe working stress, Suitability coefficient, India.

B. S. Kamala (for correspondence) and P. V. Krishna Rao, Institute of Wood Science and Technology, Bangalore - 560 003, Karnataka, India.

### INTRODUCTION

In India, wood based industries like furniture, paper and pulp and panel product are facing acute shortage of conventional timber. The alternative is in the use of non-conventional secondary species for different end uses. For furniture, construction and sports goods manufacture, a large number of secondary species have been considered of which *Hevea brasiliensis* (rubber) wood is one. Rubber wood resources in India are sufficiently large. The estimated annual production of rubber wood in the country is about 1.25 million m<sup>3</sup>. (Sunder Rajan, 1989) of which about 60 per cent constitutes stem wood and the rest branch wood. Rubber wood has been hitherto used mainly as fuel (Wong and Razali, 1982). A

preliminary survey of literature on the utilisation of rubber wood outside the country showed that it is already in wide use for various purposes. It was used in wood working as a substitute for high coloured domestic ware and subsequently for furniture (Nielson, 1986). Owing to its low shrinkage, good dimensional stability and attractive colour (Cheow, 1982; Ho and Choo, 1982 and Lew and Sim, 1982), the wood is preferred in Malaysia for furniture and also as an alternative species in the mass production of knock down furniture. Operational trials carried out in Sri Lanka (Rajkovic, 1974) have shown that it is a commercially promising wood for the manufacture of particle boards. It has a potential as cellulosic material (Forest Research Institute Ke Pong, 1980) and inferior