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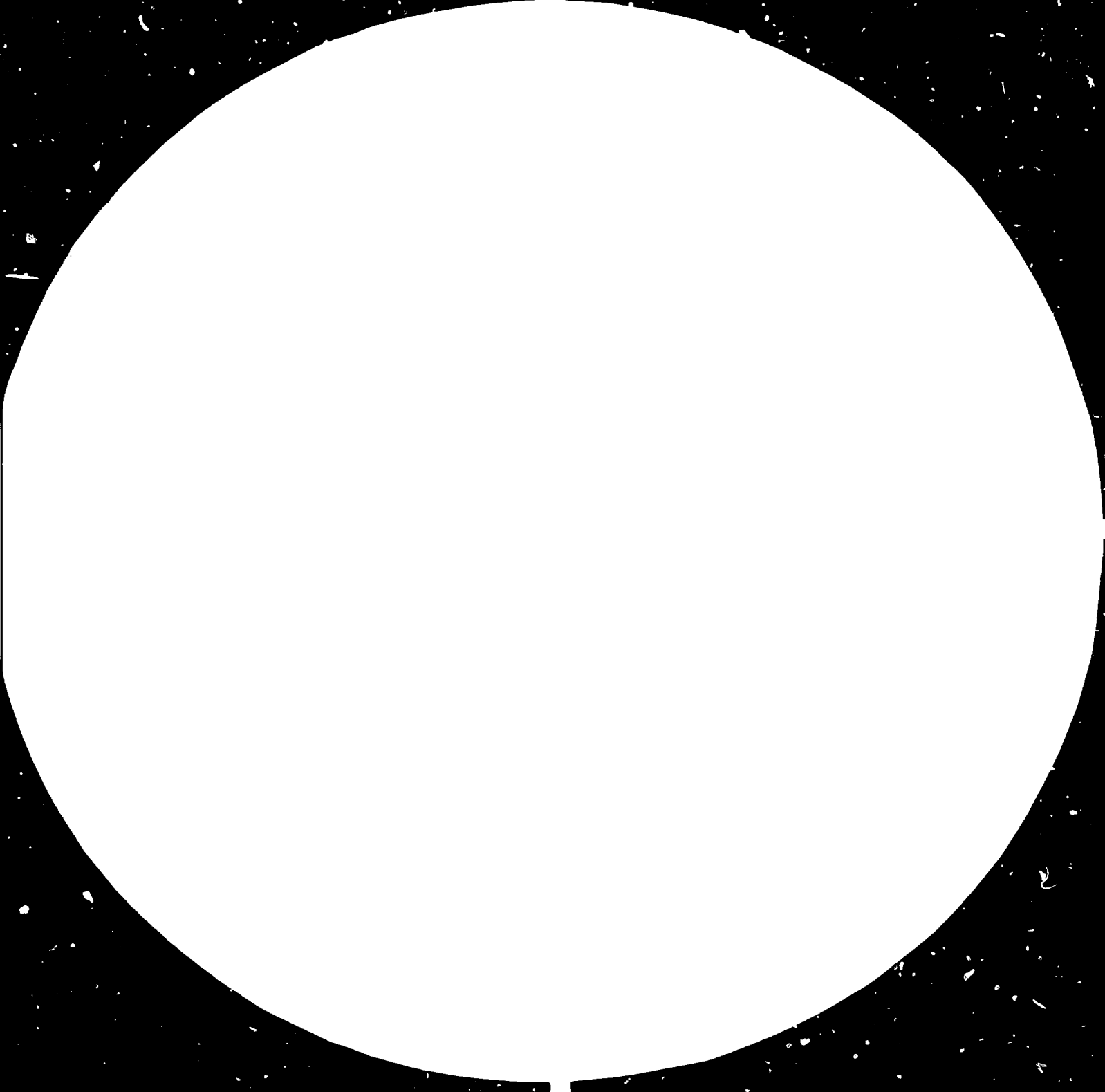
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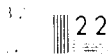
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W. J. VAN DER BIJK, *Dept. of Optics, University of Groningen, The Netherlands*
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A BRIEF REPORT ON THE WOOD AND WOOD PRODUCTS INDUSTRY
IN INDIA *

by

V. Sivananda **

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** Acting Director, Indian Plywood Industries Research Institute, Bangalore

INTRODUCTION

The wood based industry in India consists of about 120 integrated paper and board mills (20 large) more than one hundred plywood mills (20 large), over 9 veneer mills, 9 particle board mills, 3 fibreboard mills, a large number of saw mills, several furniture component industries and sports goods industry. On a cottage industry basis, several factories are producing veneers and match splints, packing cases, furniture and several other wood components for building and constructional use. The industry has provided several thousands of jobs and income opportunities to large numbers of personnel both directly and indirectly. It has been found from studies that there is good scope in this sector for productive employment. Additional inputs of capital and training facilities, which seem to be the two major deficiencies would allow for the upgrading of the technologies presently used, as well as for diversification and qualitative improvements.

Plywood, fibreboard and particle board are the important sheet materials grouped under the common name, wood-based panels industry. Among these three plywood is the most important product in India for two reasons. It converts over 50 species of secondary grade into value added products (higher unit price); it is labour intensive and generates more employment besides securing some foreign exchange through exports.

The estimated total plywood production in the country during 1976 was about 240 thousand cu. m. (4 mm basis) against the installed capacity of 440 thousand cu.m. This does not include production of units in cottage industries sector. The decision taken by the Government of India in July 1977 to impose a ban on export of timber raw material gave a spurt to the starting of many rosewood processing industries in the country.

The main constraints of the wood-based panels industry in India are: an acute shortage of veneer logs and prohibitive prices of adhesives. The future of the wood-based panels industry rests completely on regular wood raw material supplies. India exports only a small portion of the total production of wood based panels, plywood, hardwood and rosewood veneers and some furniture due to the existence of big domestic market.

The industry gives priority to quality standards. The Indian Standards Institution (ISI) has laid down various standards for different species of timber and timber products. These ISI standards are followed by the industry and the trade. The industry has built up adequate infrastructure and has enough technological capabilities. The help and assistance from UN agencies are needed to provide better training facilities and information services. The facilities available at the Indian Plywood Industries Research-Institute (IPIRI) Bangalore could further be strengthened under the United Nations system for training technicians, supervisors, managers, etc. and also for information exchange by giving IPIRI a Regional Status.

Plywood and Veneer Industry

Plywood industry is the major wood panel industry in India. Two plywood mills commenced its operation in 1918 to meet the requirements of packing tea. It was located in the State of Assam which is now the biggest producer of plywood with 36 factories. Today, the Indian Plywood Industry with a network of about 100 plywood units and a number of small-scale units is making 15 different varieties of products from tea-chests to sophisticated products like shuttering, aircraft and marine plywoods. The estimated total production of plywood during 1979 was about 240 thousand cu.m. This output was 55 per cent of the installed capacity. In the decade 1971-80 plywood production increased by 96 thousand cu.m. This implied a decade growth rate of 66 per cent against 144 per cent in the previous decade 1961-1970.

Particle Board and Fibre Board Industries

Particle Board Industry in India started in a small way and has not been able to develop much because of the very high cost of resin. The installed capacity of the particle board industry is about 80,000 tonnes per annum with the actual production reaching a figure of 30,000 tonnes in 1980. Particle board plants in India are of small size, typically suited for developing countries. The actual capacity utilisation of the industry in 1980 was only 38 per cent.

India has three fibreboard plants adopting both dry and wet processes. During 1980, the estimated production of fibreboard in the country was around 25,000 tonnes against the installed capacity of 70,000 tonnes.

In sum, shortages of timber, prohibitive prices of adhesives, heavy incidence of excise duties and low return on investment appear to be the major critical factors affecting the sustained growth of wood panels industries in India. A breakdown of plywood manufacturing costs reveals that about 65 per cent of the production costs is shared by two items namely: wood (50%) and adhesives (15%).

Forests and Timber Trends of India

Against a national target of 33.3 per cent, India has today 22.8 per cent of land under forests spread over 75 million hectares. According to certain estimates the effective area is only 57 million hectares or 17.4 per cent. Different estimates put the growing stock in our forests between 2000 and 2400 million cu.m. The gross annual increment is estimated at 33 million cu.m.

Of the total forest area, 94 per cent (64.8 million hectares) comprises broad leaved forests with a number of hardwood species while coniferous forests account for the balance. The important timber species of the broad leaved forests are: Teak (*Tectona grandis*), Sal (*Shorea robusta*), Gurjan (*Dipterocarpus* spp.)

Hollock (*Terminalia myriocarpa*), Laurel (*Terminalia tomentosa*), Bijasal (*Pterocarpus marsupium*), Rosewood (*Dalbergia latifolia*), Chaplash (*Artocarpus chaplasha*), Padauk (*Pterocarpus dalbergioides*), Siris (*Albizia spp.*), Walnut (*Juglans regia*), Semul (*Bombax ceiba*), Mango (*Mangifera indica*) and Salai (*Eoswellia serrata*). These forests also contain a wide variety of secondary species which differ in their properties. There are about 2.4 million hectares of man-made forests which consist of valuable teak wood and other miscellaneous species. According to FAC estimates timber production in India was 26.4 million cu.m. in 1977. The production of industrial wood during the same year was 13.2 million cu.m. as against the estimated demand of about 16 million cu.m.

The projected demand for industrial wood for the next two decades as per the assessment of the National Commission on Agriculture is given in Table 1.

Table 1.

<u>Item</u>	('000 m ³)	
	<u>Period</u>	
	<u>1985</u>	<u>2000</u>
1. Sawn wood	18,300	29,650
2. Panel products	1,090	2,355
3. Pulp and paper	6,055	17,695
4. Match wood	680	1,415
5. Other Round wood	9,055	13,375
Total	35,180	64,430
	*****	*****

The requirements will thus rise to 35 million m³ in 1985 and 64 million m³ in 2000 AD.

Increasing industrial wood scarcity has not gone totally unnoticed by the Union and State Governments. Plans are drawn for forest-building on Scientific lines. The National Commission on Agriculture has suggested to bring a total area of 15.1 million hectares under man-made forests by 2000 AD to meet the growing demand for industrial wood. To achieve this, about 12 million hectares have to be planted in the coming 18 years, i.e., target about 5 times what it was in 1972. Numerous research projects are also under way to develop new fast growing tree species and appropriate management practices. Under Indian conditions fast growing species such as Gmelina, Ailanthus, Albizzia and Bombax which could be harvested in about 30 years may yield increased industrial wood production particularly for the plywood industry.

India's Place in the World of Timber Trade

An analysis of timber trends in the world, in Asia and Far East and in India reveals that out of a total production of 2554 (FAO) million cu.m. of round wood in 1977, the total production of round wood in Asia was 735 million cu.m., India's share being only 134 million cu.m. (5 per cent).

Machinery for Plywood Industry

The progress made in India on manufacture of machine required by Plywood Industry has been satisfactory and over 50 per cent of the equipments required by the industry is produced indigenously.

Education and Training Facilities

Two research institutes, namely: the Forest Research Institute and Colleges (FRI), Dehra Dun and the Indian Plywood Industries Research Institute (IPIRI), Bangalore are currently engaged in researches related to wood and wood-based products in India. The Central Building Research Institute (CBRI), Roorkee and the National Building Organisation (NEO), New Delhi are also working on promotinal aspects. While the scope of FRI is very broad covering all aspects of wood science and technology, IPIRI is the only Institute in the country devoted to Research and Development

activities on plywood and other panel products. IPIRI was set up by the plywood industry in India as a co-operative research institute with part financial assistance from the Government of India. IPIRI has its main laboratory and pilot plant in Bangalore and two regional centres in Calcutta and Assam. Besides Research and Development work, it imparts training in the field of plywood and panel products extending to three to four months. The Institute also takes up sponsored projects and consultancy work in wood based panels and allied fields.

IPIRI has built up competence and expertise to handle Research and Development problems in the field of wood and wood-based products. The Institute has the potential to play a vital role in the development of wood panel industries not only in India but also in other developing countries in the Asia-Pacific region.

SUMMARY AND CONCLUSIONS

Plywood, particle board and fibreboard are the principal wood-based panels produced in India today. India's per capita plywood consumption at an estimated 0.03 cu.m. per year is the lowest in the world. The growth rate of all panel products in India are well below the potential. Three key factors responsible for this are: 1) non-availability of suitable wood raw material and 2) prohibitive prices of adhesives and 3) lack of education and training facilities in the field of wood science and technology.

To take the industry forward, better recovery and efficiency and consequent cost reduction are vital. Increase in production and productivity is possible only by improvement in process technology and development of the necessary management skills. Since the plywood industry in India is labour intensive, any improvement in process technology by automation or computerisation is not practical. The only alternative is to make efforts to introduce improved management methods which require a good mix of managers, supervisors and skilled workers. This calls for the immediate creation of an Institution to impart education and training in wood science and technology.

Table 2

Regional Distribution of Installed Capacity and Production
of Plywood in 1979 in Mills Registered with the Directorate
General of Technical Development (DGTD)

Region	Capacity (1 000 m ³)	Production (1 000 m ³)
<u>North East</u>	<u>209</u>	<u>133</u>
of which Assam	149	117
Arunachal Pradesh	45	10
Nagaland	7	2
Meghalaya	8	n.a.
<u>South</u>	<u>68</u>	<u>28</u>
of which Kerala	32	17
Karnataka	30	21
<u>Andaman Islands</u>	<u>28</u>	<u>16</u>
<u>Other areas</u>	<u>25</u>	<u>9</u>
of which Maharashtra	13	3
Uttar Pradesh	2	1
West Bengal	4	n.a.
Jammu and Kashmir	6	n.a.
Grand Total	320	196

Table 3

Installed Capacity and Production of Plywood
Units Registered with D.G.T.D. (million m³)

STATE	1977			1978			1979		
	Capacity	Product	%	Capacity	Product	%	Capacity	Product	%
Assam	32.727	21.413	65	32.727	24.631	75	37.326	29.287	78
Arunachal Pradesh	1.423	2.276	n.a.	1.423	2.408	n.a.	11.183	2.372	21
Nagaland	-	-	-	-	-	-	1.800	0.543	30
Meghalaya	-	-	-	-	-	-	2.000	n.a.	-
Kerala	9.540	5.089	53	9.540	4.411	46	9.540	4.177	44
Karnataka	7.475	6.235	83	7.475	6.853	92	7.475	5.196	69
Andaman Islands	4.395	3.859	88	4.395	4.247	97	7.000	4.161	59
Maharashtra	3.237	0.589	18	3.273	0.605	18	3.273	0.834	25
Uttar Pradesh	0.558	0.128	23	0.558	0.130	23	0.558	0.292	52
West Bengal	1.058	-	-	1.057	-	-	1.057	-	-
Jammu and Kashmir	1.395	-	-	1.395	-	-	1.395	-	-

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