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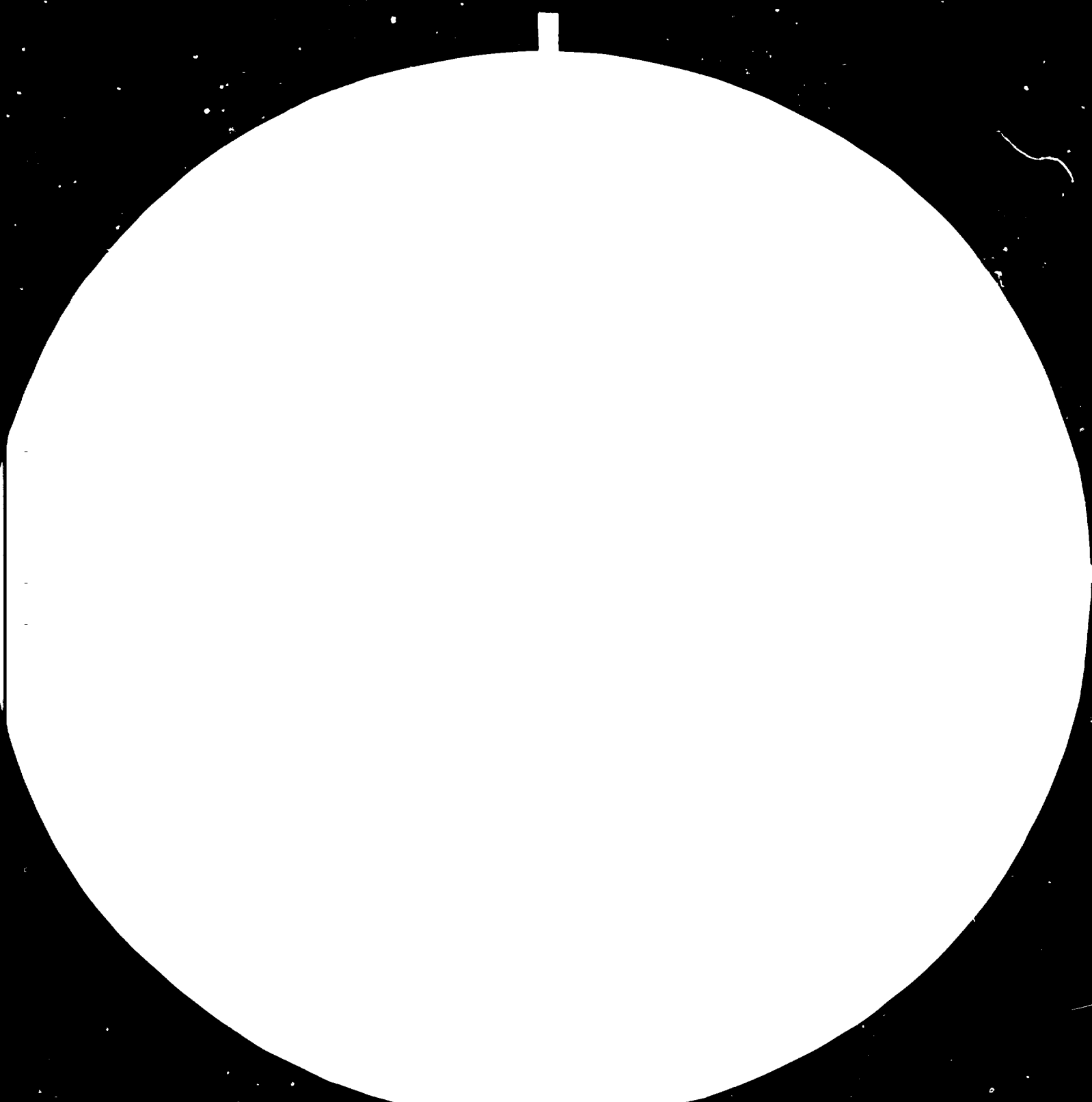

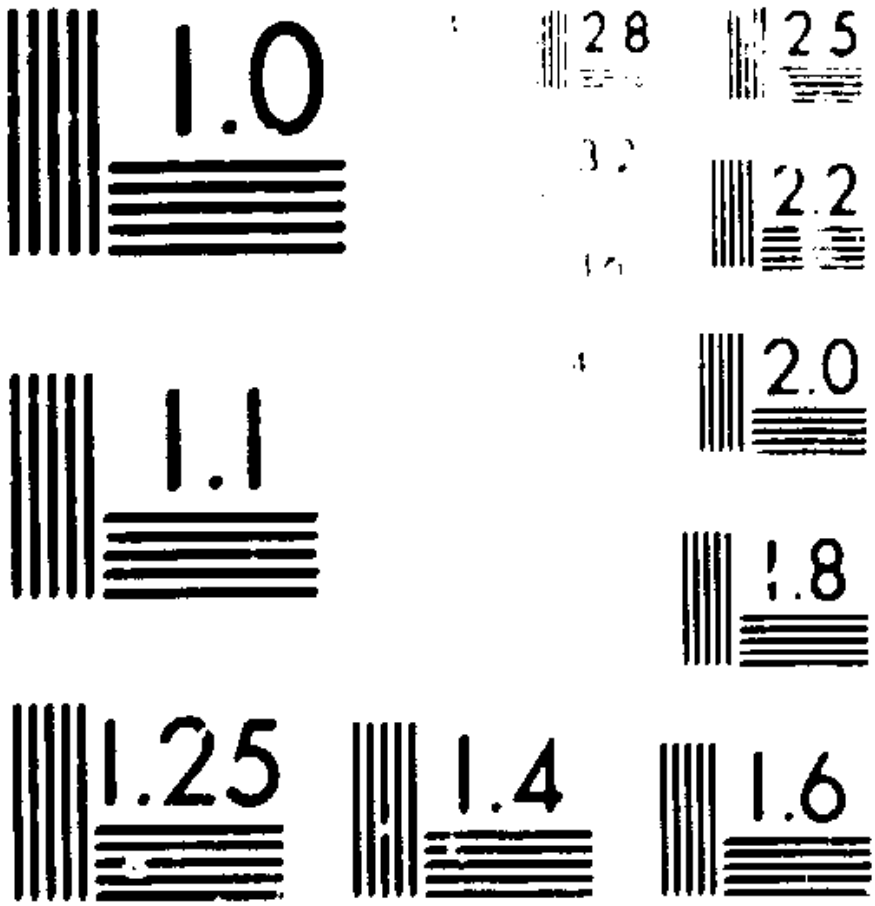

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Regional Preparatory Meeting for Asia in preparation of the First Consultation on the Wood and Wood Products Industry

Manila, Philippines, 22 - 26 March 1982

PROBLEM AREAS IN THE WOOD AND WOOD PRODUCTS INDUSTRY IN THE ASIAN REGION *

Report by the

UNIDO secretariat

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INTRODUCTION

1. The Industrial Development Board of UNIDO, at its fifteenth session held from 15 to 30 May 1981, decided to include the First Consultation on the Wood and Wood Products Industry in the programme of Consultation Meetings for the biennium 1982 - 83.

In accordance with the above-mentioned decision the First Consultation on the Wood and Wood Products Industry will be convened in September 1983.

2. The ad-hoc Experts Group Meeting, which took place in Vienna from 5 to 7 October 1981, in order to discuss the work programme for the Consultation, recommended that regional preparatory meetings should be held in Africa, Asia and Latin America. The aim of these meetings is to review the status of the Wood and Wood Products Industry in the Region, to identify constraints to the development of this sector in developing countries of the region and to select regional priority issues for discussion at a Global Preparatory Meeting.

3. A Regional Preparatory Meeting for Asia will be held for this purpose in Manila from 22 to 26 March 1982.

4. The present discussion-paper intends to summarize major trends in world production and trade of the sector. It also proposes major problem areas in which there is scope for international action to overcome constraints to the development of the sector in the Asian region.

I. PRESENT SITUATION OF THE SECTOR

PRODUCTION AND RESOURCES

5. About half of the world's area of closed forest and other woodlands - which is presently estimated at about 4.000 million hectares - lies in the developing world. However, the share of developing countries in world production of primary processed wood is only between 11 and 12 % for the main products. In world production of unprocessed wood - around 3.000 million m^3 of roundwood per annum - developing countries account for 50 %, but more than 80 % of that production is fuelwood.

6. Production of industrial roundwood, which represents nearly half of the world production of unprocessed wood is mainly located in developed countries (84%), developing countries accounting for only 16 %. The share of developing countries in world production of primary processed wood is around 12 % for sawnwood and less than 11 % for wood-based panels. For secondary processing data is not available but the share is probably even lower. The contrast is very striking if per caput consumption of the main processed wood products is considered. Consumption of sawnwood is 15 times higher in developed than in developing countries, whereas for wood-based panels the relation is 50 to 1.

7. Fuelwood represents the other half of the production of unprocessed wood - 1.500 million m^3 in 1979 -. Developed countries consume only 20 % of this total, whereas consumption in developing countries accounts for the rest. Wood, cut and carried home by the family is the only source of domestic energy for millions of the very poor and upward of 1.500 million people presently depend on wood for cooking their daily food and keeping warm.[1/]

8. The contribution of the wood processing sector in developing countries to their economic and social development is far from being optimal. This is not surprising in view of the fact that while for example during the decade 1968 - 78 exports of logs in Asian region increased by 8,3 % in volume annually, local production of sawnwood grew only by 2,0 % annually - well below the increase of manufacturing as a whole -.

1/ Agriculture toward 2000, FAO, C/79/24, Rome, 1979, p.125.

9. The potential of this sector in the creation of employment has not yet been effectively realized in many developing countries. Employment in forestry and logging of industrial wood was estimated to have been in 1975 of 2,9 million man-years and of 3,6 million man-years in the primary industries producing sawn wood, panel products and pulp and paper. Any increase in production or shift of production from developed to developing countries would have far reaching effects on employment. Thi. would be specially the case in secondary processing, which is as a whole more labour intensive than primary processing.

Table I

Production in 1979

	ROUNDWOOD	FUELWOOD + CHARCOAL	INDUSTRIAL ROUNDWOOD (including Pulpwood)
		1.000 CUM	
Developed countries	1.483.987 (49,1%)	295.300 (18,4%)	1.188.687 (83,7%)
Developing countries	1.536.569 (50,9%)	1.304.365 (81,6%)	232.204 (16,3%)
World	3.020.556	1.599.665	1.420.891

	SAWNWOOD + SLEEPERS	WOOD-BASED PANELS
Developed countries	391.884 (87,7%)	95.509 (89,4%)
Developing countries	55.095 (12,3%)	11.306 (10,6%)
World	446.979	106.815

Source: Yearbook of Forest Products, FAO, 1979

Table II

Forest Area
1975

	Closed Forest	Other Woodland
	million hectares	
World	2.840	1.055
Developed market economies	700	255
Centrally planned economies	945	185
Developing market economies	1.195	615
Africa	205	400
Latin America	680	180
Asia	310	35

Source: Agriculture: toward 2000, op. cit. p. 130

TRADE

10. Forest products constitute a major component in international trade with certain regions being heavily dependent on imports for their current level of consumption. The current value of international trade of forest products increased from $ 6.700 million in 1961 to $ 53.460 million in 1979. Over the past two decades the volume of trade has grown at 5 per cent per annum.

11. Although more than 80 per cent of industrial forest products trade originates and terminates in developed countries, developing countries have assumed a significant position.

The value of exports of forest products from developing countries increased from $ 530 million in 1961 to $ 7.114 million in 1979. The bulk of these exports is represented by sawlogs, sawnwood and wood-based panels which amounted to $ 6.090 million in 1979, that is 85 % of the total. In value terms Asia, where there has been a spectacular growth in exports of roundwood, sawnwood and plywood, is the main exporting region, accounting for 67 % of exports from developing countries.

12. Developing countries are major exporters of hardwoods: exports (fob) of hardwood sawlogs amounted to $ 3.476 million in 1979 and 88,3 % of this value was supplied by developing countries. Imports (cif) of hardwood sawlogs were up to $ 6.161 million in 1979 and developed countries imported 77 % of the total. The difference between fob and cif prices reflects the incidence of high transport costs, a point which will be discussed later in this paper. Developing countries also exported $ 1.380 million of sawn hardwood (55 % of world's total) and $ 1.282 million of plywood (52 % of world's total).

13. Trade of these products is linked to specific markets. Nearly all logs from West Africa and Latin America go to Western Europe, nearly all those from South-East Asia to Japan, who is by far the largest importer in the world of sawlogs and veneer logs both coniferous and non-coniferous species. The market for West African processed wood is Europe which also is the main outlet for sawnwood from Latin America and for plywood from South-East Asia.

The structure and changes in developed countries' imports of wood products from developing countries are reflected in table III. The trend seems to be

towards higher stages of processing but the importance of developing countries as suppliers of unprocessed wood remains unchanged.

Table III

	Percentage distribution of wood and wood products' imports in developed countries by stage of processing				Market share of developing countries	
	Average 1970-72		Average 1978-80		Average 1970-72	Average 1978-80
	From developing countries	Total imports	From developing countries	Total imports		
Wood						
1. Wood in the rough	60,9	30,6	55,0	28,6	52,8	52.7
2. Wood, shaped and plywood	36,1	62,3	40,9	62,0	15,4	18,1
3. Manufactures	3,0	7,1	4,1	9,4	11,1	12,0

Source: UNCTAD, The processing and marketing of primary commodities, TD/B/C.1./PSC./23, Geneva 1981.

Table IV

Main Wood Processing Countries in Asia in 1979

	Production		
	Sawnwood	Plywood	All Wood-based Panels
	1000 CUM		
China	19.252	1.527	1.817
India	4.770	180	261
Indonesia	3.975	525	526
Japan	38.912	8.400	10.220
Korea Rep.	3.139	2.338	2.399
Malaysia	5.247	490	679
Philippines	1.445	03	1.210
Thailand	1.825	80	144
Total Asia	85.396	14.861	18.954
Percentage of world total	(19,1%)	(34,4%)	(17,7%)
Total World	446.979	43.214	106.815

Main Wood Producing and Exporting Countries in Asia in 1979

	Production			Exports
	Roundwood	Industrial Roundwood	Hardwood sawlogs + veneer logs	Hardwood sawlogs + veneer logs
	1000 CUM			
China	212.511	61.943	12.553	-
India	215.952	14.536	7.395	-
Indonesia	159.247	29.809	26.900	19.407
Japan	34.012	32.145	3.879	-
Malaysia	43.205	32.612	31.469	16.084
Philippines	34.614	9.325	6.578	1.248
Thailand	37.421	5.205	3.030	-
Vietnam	63.095	2.706	1.200	-
Total Asia	1.021.601	213.223	98.302	37.093
Percentage of world total	(33,8%)	(15,0%)	(40,4%)	(78,3%)
Total World	3.020.556	1.420.891	243.402	47.384

Source: FAO, Yearbook or Forest Products, 1979.

II. PRINCIPAL PROBLEM AREAS

A. AVAILABILITY OF RAW MATERIAL

14. The rapid expansion of log exports to other Asian countries and outside the region, which has been taking place during the last two decades in South-east Asia, will not go on indefinitely. On one side producing countries are going more into processing and on the other side resources are not inexhaustible.

Removals for industrial purposes in Asia are presently twice as high as in Latin America, for a forest area half as large. Due to serious overcutting and clearance of forests for agriculture the log supply will be leveling of or declining in the future.

15. However, unexploited areas still exist in the region. Although for traditional suppliers the period of future exploitation at the current basis of cutting is limited, there remain considerable unexploited or little exploited areas which are presently characterized by difficulty of access.

16. Tropical forests are currently being logged for only a few selected species. Removals of industrial wood from areas being logged in the tropical forest are usually limited to a selected, and often small, portion of growing stock, with many species and grades left unharvested. There is agreement about the need to promote the use of lesser-known hardwood species, even more considering the fact that some of the better-known species are fast being depleted. Promotion of lesser known species will require a deliberate effort from the producing countries, since the logger will not extract them unless there is a demand for them, and logging and transport costs are of the same order of magnitude whatever the specie.

17. To regulate the production of wood on a long term sustained-yield basis inventories will have to be established and stronger forest services will be necessary. Harvesting systems aimed at the preservation of the forest resources will have to be implemented to ensure the most rational use of the biomass. Since removals rarely exceed 10 % of the growing stock, the conversion of wastes into marketable products either by their use as raw material for semi-finished products (e.g. panels), for the production of energy (charcoal) or for semi-chemical products (paper pulp) has to be considered. Also for the rational use of the biomass new developments, like the production of methanol through gasification of the biomass have to be taken into account.

18. Forest plantations offer the prospect of appropriate supplies in the proximity of consuming centres. While tropical moist forests produce 3 to 4 cubic metres of logs per hectare per year, of which only 0,5 to 2 cubic metres are saleable, with the plantation of tropical pines it is possible to produce about 20 cubic metres per hectare a year of homogeneous raw wood. These considerations together with the escalating demand for forest products explains the considerable development of man-made plantations in Asia during the last two decades, arriving in 1980 at a total area of 5.111.000 ha. 2/ However, it must be recognized that, due to their location, plantations will not replace natural regeneration of existing forests and, although harmless to the environment if of limited size, their effects on a larger scale have still to be ascertained.

19. The declining availability of raw material will have different effects. Log producing countries will undoubtedly increase local processing of their raw materials. So-called "transit processor countries" will probably have to accept serious restructuring and orient their industries toward products requiring highly skilled manpower. Substitution of traditional products by new ones based on the utilization of what is currently considered wastes or commercially less accepted species, will probably be the path to be followed by wood deficit countries producing for the domestic market.

2/ Forest Resources of Tropical Asia, FAO/UNEP, 1981, p.70

B. PRIMARY AND SECONDARY PROCESSING: THE NEED TO STRENGHTEN FORWARD INTEGRATION

20. Wood being a bulky commodity with very high transport costs, it is somewhat surprising that processing should still be located mainly in developed countries. The reasons for the present location of processing facilities are of course diverse. Some of them are political and related to the inheritance by independent countries of the traditional colonial pattern or to the political risk involved in the establishment of manufactures. Others are connected with historical situations which tend to accumulate and take the form of external economies like the existence of a more complete range of supporting services and infrastructure or the availability of manpower.

21. However, two factors seem to affect directly the profitability of wood processing industries in developing vis-à-vis developed countries. One is the existence in industrialized countries of markets for residues from processing industries and the other the fact that effective yields and productivity are higher in developed countries.

22. The opportunities for using residues are greater in the industrialized log-importing than in the tropical timber exporting countries, so that processing losses are reduced in the former. Whereas in the developed countries a considerable part of wastes from forest and residues from cutting are used as a raw material, in developing countries their use is still extremely low. Considerable research and adaptation of existing processing methods has yet to be done in order to ensure the widest possible utilization of the available raw material and the integration of different production processes. This will come about by a) the re-utilization of residues of one end product as a raw material for another, b) utilization of semi-finished products out of one production process as base or intermediate product in another process, and c) by recycling wastes and residues to produce energy or other byproducts.

23. Among the various possibilities to turn production residues into new products, the production of particle board and fibre-board are the most interesting ones. The possibility of producing them depends however on the market. In developing countries the use of these products in construction, for furniture and for interior decorations is still very low and exports are not competitive due to high production and freight costs. Other possible uses of residues are cement-bonded particle boards and slabs for construction. Here again the development of the products depends on the domestic market.

24. The conversion of wood residues into marketable products being sometimes difficult in developing countries, the alternative is to use them to provide additional energy. This involves further investment but helps to reduce production costs. Adequate methods have still to be developed for recycling hardwood residues.

25. The development and integration of production processes using as a base or an intermediate product the product of another line would permit the increase of value-added. Also the establishment of a great diversity of production lines like: parquets, panel and flush doors, windows and window frames, furniture, timber engineered products such as gluelam, etc. ensures an integrated use of the raw material, since it admits the use of a greater variety of species.

26. Although there is nothing inevitable about it, effective yields in processing units tend to be higher in developed countries than in similar plants in developing countries. This is due to the type of equipment utilized as well as to the more skilled labour force. To be able to compete internationally or to meet national goals, an improvement in productivity is necessary.

27. Training for technicians and supervisory/management personnel seems to be an inevitable prerequisite for an increase in efficiency. An improvement of the skills to run machinery has to go hand in hand with increased capability of managers to choose adequate equipment and to organize the production process and the availability of designers, timber engineers, etc.

28. Much wood processing in developing countries is done in small units which use old, poorly maintained equipment, the result being that production levels are low and wastes unnecessarily high. The provision of adequate improved technology aimed at the reduction of wastes and the improvement of quality seems to be required. In medium or large sized units there seems to be need for an adaptation of the sophisticated methods of processing used in developed countries to local conditions. Productive factor proportions being different in developing countries there is need for more efficient but not necessarily labour saving methods, like Low Cost Automation Systems.

29. The development of the industry will call for increased local production of the necessary equipment and ancillary materials (glues, hardware, etc.).

C. TRANSPORT PROBLEMS

SHIPPING

30. Shipping costs make up a remarkably high proportion of export unit values in wood and wood products trade. This is due to the fact that timber is a bulky commodity and that it has to cover comparatively long distances from producing to consuming countries. The ratio of the cif to the fob value, which provides a measure of the incidence of international transport and insurance costs, shows that in the case of industrial roundwood freight rates related to fob prices are between 55 and 77 % in the case of non-coniferous sawlogs. The magnitude of transport payments involved is therefore very considerable. According to available statistics $ 2.500 million annually are involved alone in the non-coniferous sawlog trade.

31. Empricial investigations have shown that liner conference freight rates are administered prices and that the key factor influencing the structure of freight rates is normally "charging what the traffic will bear". In the wood trade this is reflected in two ways. On one side freight rates for similar distances can be completely disimilar and on the other side rates tend to increase with the degree of fabrication and therefore discriminate against the exports of processed products.

32. Since shipping lines are mainly in the hands of importing countries, producing countries do not normally particpe adequately in the process of fixing freight charges and in the substantial revenue generated by the trade.

33. Given the expenditures involved in shipping, one of the key questions is how they can be reduced by improving or rationalizing shipping services. Part of the log trade in Asia is already being done with purpose-built bulk carriers at considerable saving. However, for the transport of sawn wood, due to the smaller and dispersed nature of shipments conference lines are used with considerable loss for the countries.

34. There seems to be scope for different actions to improve the present situation for example by assisting countries in their negotiations of freight rates, or by the development of transport cost saving methods, like changing from the use of liners to chartering shipping. Port infrastructure will also have to be developed to handle semi-manufactured and manufactured products.

D. MARKET ACCESS AND MARKETING

35. Access to markets is not the only factor affecting the potential for increased processing in developing countries, but it is an important one. Empirical studies have shown that import tariffs for wood products in developed countries tend to escalate with the degree of processing. Primary products such as logs and roughly sawn lumber are generally admitted free of duty. Market access problems appear only when products with a higher degree of processing are imported.

36. GSP schemes, which are designed to encourage trade from developing countries have a series of restrictions for processed wood products. For instance, the GSP in the EEC provides a rather limited duty free quota for plywood, but countries have to face a rather high tariff in terms of effective protection after this quota has been completed. In Japan plywood is not included in the GSP and in the United States plywood of the species produced in South-East Asia is subject to the full MFN rate.

37. Many countries lack the adequate market machinery to be able to promote, sell and distribute their own production. This evidently limits their possibilities to diversify exports, either by the introduction of new species, the inclusion of products with a higher level of processing or the search of new markets.

38. Improvement of trade relations depends in a high degree on standardization of qualities. The need to harmonize grading systems is widely recognized, as well as the necessity that it should enable a maximum utilization of the highly heterogeneous composition of the tropical forest. Various systems and even scalings are currently in practice in the region. There seems to be scope for actions towards standardization of grading rules and procedures, including sellers and buyers contracts. 3/

39. No industry, even the most export-oriented, can be profitable without an adequate linkeage with the local market. This is true for the production of panels out of cutting residues as well as for rejects in furniture manufacture, which have to be sold locally. There exists, therefore, a need to strengthen local markets for manufactured products.

3/ Report of the Consultative Mission to Major Tropical Timber Producing Countries in Asia and the Pacific, ESCAP, Bangkok, 1980, p.50.

E. TECHNOLOGY

40. A large part of the Asian wood processing industry uses obsolete and poorly maintained equipment and outdated production techniques. In sawmilling, for example, wasteful circular saws and manual handling methods are still used in most of the enterprises and are responsible for low levels of efficiency and productivity. Also, veneer and plywood manufacturers have much to learn about production technology for veneer peeling, veneer drying, gluing and sanding as applied to their respective timber species input.

41. Adequate channels should be devised to ensure that technology is transfered from developed countries to developing countries and that it is adapted to local needs and resources. This may come about through assistance in research and development and through joint-ventures in production.

42. There is need to establish or strenghten institutions whose objective is the development of new technologies and the adaptation of existing ones in order to make them more suitable and responsive to the conditions peculiar to each country. Also, more research will be needed in the development of new products adapted to local supply of raw materials (increasing the use of lesser-known species and wastes) and to the local needs. Closer cooperation between research institutions in different countries and better communications between those institutions and the industrial sector will be necessary.

43. Some countries have already started with the local production of machinery and equipment for the wood processing industry. The level of precision and sophistication is lower than in developed countries but in many cases the equipment is more adapted to local needs and the cost is considerably lower. This sector gives scope for increased international cooperation with developed countries to ensure the transfer and adaptation of technology.

III. REALLOCATION OF PRODUCTIVE CAPACITIES IN THE AREA AND STRENGTHENING OF REGIONAL COOPERATION

44. Most wood producing countries in the region have formulated and are implementing policies to increase domestic processing and to promote exports with higher value-added. Indonesia's efforts to increase plywood production and its reduction of log exports will undoubtedly affect the regional scene. On the other hand timber deficit countries are experiencing difficulties to maintain production levels due to shortages in raw material. This is the case in Japan, Korea and Taiwan province of China, but also in developing countries like India and Thailand.

45. In many wood importing countries processing facilities were established in other circumstances and they bear now no economic relation to resource availability, and are outmoded and operating inefficiently. Restructuring is therefore a necessity and is already under way. The degree of restructuring will of course differ from country to country. In Japan the lack of raw material might bring about a switch by existing plants which rely at present on imported hardwood to softwood logs both locally grown and imported. The adaptation of existing equipment to softwood would be a step with far reaching implications for developing producer countries.

46. Extensive restructuring will also be necessary in "transit" processor countries like the Republic of Korea or Taiwan Province of China which will probably have to find ways to cope with the declining availability of raw material and rising energy cost. Their future development will probably be based on a greater reliance on more added value products, capitalizing on the abundant and highly skilled labour force available and specializing in downstream processing.

47. Developing countries with a well established wood industry like India and Thailand might find it useful to enter arrangements with timber producing countries in order to ensure a steady supply of raw material and intermediate products for their industries. Further use could also be made of lignocelulosic agricultural residues and annual plants.

48. This new situation of reduced availability of raw materials and of increased domestic processing in wood producing countries gives scope to cooperative arrangements between developed consumer and developing producer

countries to create new contractual arrangements. These should, as it is happening already, ensure increase on the spot processing and at the same time guarantee a steady supply of intermediate or finished products for industry in developed countries. Furthermore, a certain division of labour is bound to emerge in which countries will have to decide on what products they are going to specialize. The unimpeded operation of competitive market forces might create a situation of overproduction, harmfull to the aims of developing countries. Complementary agreements between producing countries establishing specialization patterns might be a way to cope with such a complex situation.

49. Trade and industry associations for the wood and wood products industry are well established in Asia, like the South-East Asian Lumber Producers Association (SEALPA), the recently organized Asian Plywood and Panels Federation (APPF), the Asean Federation of Furniture Manufacturers Associations (AFFMA) and the Asian Federation of Furniture Industries Associations (AFFIA). So far their action has been oriented towards the exchange of information among members, the representation of their sector vis-à-vis their local government, and - indirectly - in the setting of product price levels. Their function could be usefully expanded in the future in order to undertake co-operative efforts in training of manpower, technology and research and development.