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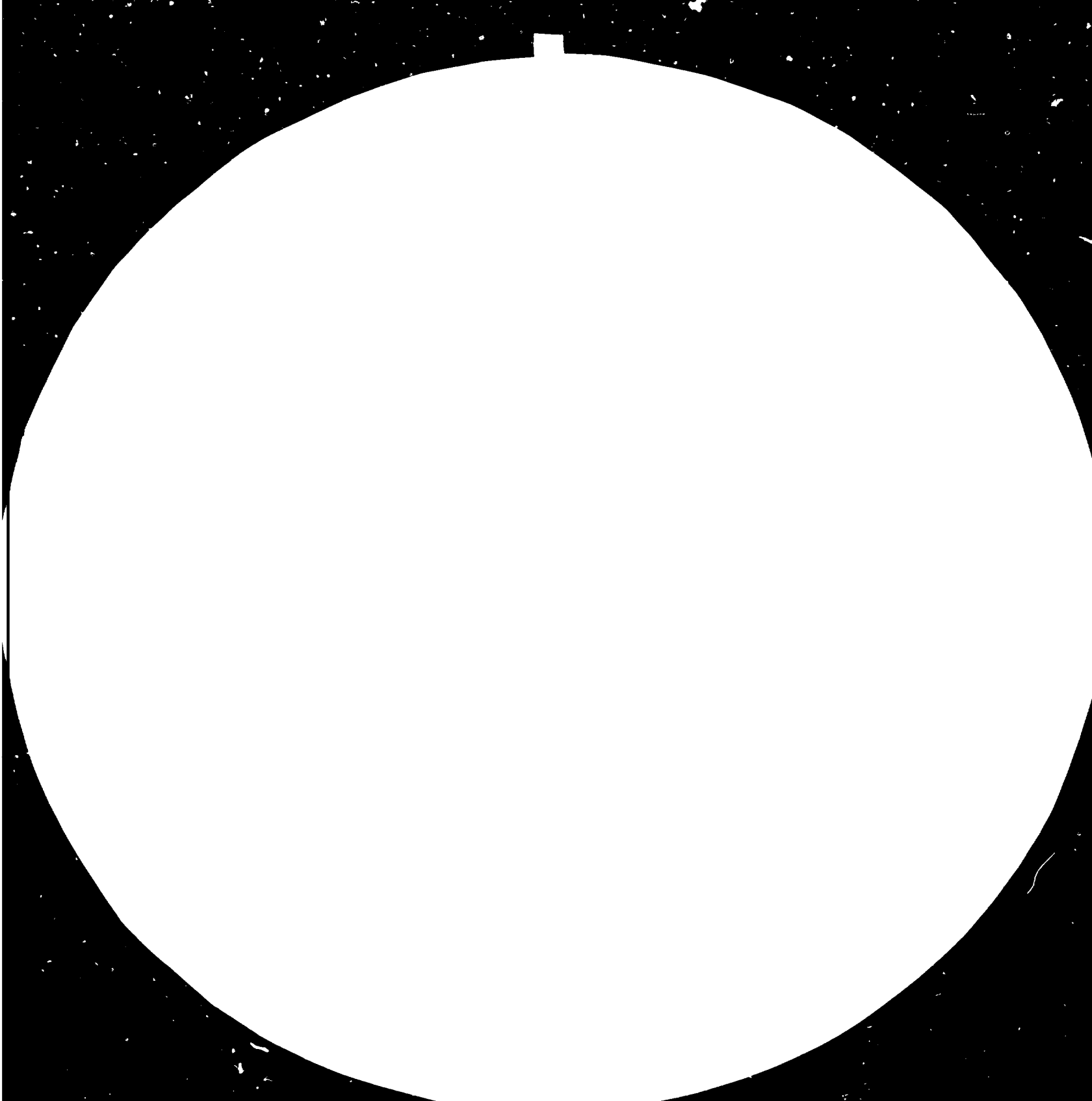
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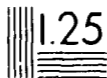
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CHAPTER ON INTERNATIONAL TRADE IN WOOD AND WOOD PRODUCTS:

## ORGANIZATION OF THE CHAPTER:

June 1983

T. HPAY

1. This chapter is organized in the following manner:

- A. The resource base;
- B. The product categories;
- C. The production aspect;
- D. The omnibus table of trade between developed and developing countries;
- E. The international trade in wood and wood products by product categories;
- F. Prices of selected tropical wood and wood products;
- G. Tariff and non-tariff barriers;
- H. Trade in wood and wood products of developing countries in the context of economic development.
- I. Conclusions.

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## INTRODUCTION:

2. Recalling that the objective of the Global Study on Wood and Wood processing, is to promote and help raise the share of developing countries in the world's industrial output in wood and wood products, the orientation of this chapter is towards the international trade which constitutes an essential and important element in the expansion of the primary as well as in the establishment or expansion of the secondary wood processing industry in the developing countries.

3. The export trade in wood and wood products of the developing countries consists, in the main, of four major primary product categories which account for the bulk of that trade in terms of volume and value. Trade reports on tropical wood and wood products are traditionally restricted to these four major primary product categories. Consequently, this chapter focusses mainly on the international trade in these four product categories. The chapter, however, also considers areas for possible increased export participation by developing countries in those products which are other than roundwood logs. To this end, it endeavours to present a perspective of the international trade which may have some useful bearing on developing countries in their efforts to increase and expand their primary and their secondary wood-processing industries.

4. In addition to the four major products, the chapter endeavours to briefly dwell on other product categories, which may help developing countries to obtain an overall perspective. However, due to lack of detailed information and time constraints a fuller consideration of the international trade in products of secondary wood-processing was not possible.

## A. THE RESOURCE BASE:

5. In view of: (i) the rapidly depleting tropical forest resources; (ii) the increasing trend in the exports of primary and particularly secondary wood products; and (iii) the irreversible trend towards increased and further processing especially in the secondary wood-processing sectors in the developing producing countries; it is desirable to briefly refer to the resource base of the developing, since it is on this resource base that the expanded development of the primary and secondary wood processing industries of these countries will have to depend.

6. In this connection it has to be mentioned that it is difficult, despite improved methodology, such as the Landsat Satellite Imagery, and improved methods of aerial photographic surveys with far greater definition, to gauge with

relative accuracy:

- (a) the qualitative, as opposed to the quantitative, potential of the productive tropical closed forests;
- (b) the qualitative and quantitative depletion of these forests;
- (c) the qualitative and quantitative increment of the logged over or otherwise "disturbed" tropical closed forests.

7. All these three aspects are important and cannot be ignored in estimating, at the global level and over time, and with due regard being given to environment considerations, whether there will be adequate and suitable raw material in the long term:

- (a) for increased secondary processing in the developing countries, with a view to these countries meaningfully augmenting their share of the world's output in wood-processed products; and
- (b) for the increased requirements of the wood industries in the developed countries.

8. Given that the world's growing stock of wood is depleting at a much faster rate than its replenishment, (ratio of 1 hectare planted for 4.5 hectares deforested), as at year 1981, it is necessary to be cautious in predicting the availability of industrial timber, in the long-term for the wood-processing industries.

9. While there is an overall increase in afforestation, by which is meant man-made forests, this has generally covered fast growing species for fuelwood and pulping purposes, more substantially the former. There is relatively little plantation of the non-coniferous species that are currently traded in the international market, despite the fact that these species are fast depleting. This is partly due to technical problems, such as those for the commercially important dipterocarps, to which the much-favoured Lauan belongs, which are still largely unsolved, and partly to economic reasons, since such non-coniferous species entail protracted maturing times after planting and, consequently, long pay-back periods that are not investment attractive. It is unrealistic, therefore, to assume that tropical man-made forests can, in the foreseeable future replace to any significant extent, the hardwoods from the natural but fast depleting closed tropical non-coniferous forests, as raw material particularly for the plywood manufacturing and sawmilling industries. These industries largely form the basis of secondary wood-processing in the tropical developing countries.

10. It has been projected that there are adequate supplies in the developing tropical log producing countries between now and the end of the century, but to achieve this would require better care of the forests, ensuring their normal renewal, as well as the intensification of forest management. This represents an area which developing producing countries would need to carefully look into, to ensure sustained supply of raw material over time.

11. However, such projections of the availability of future supplies of tropical hardwood logs, have not always been able to take into account the partial or total ban on exports of this raw material by major log producing-exporting countries. This is because the timing of the log export ban, and the quantum of the ban in cases of partial bans, are often not predictable. Consequently, such projections are at best guides only to the future availability to the world of supplies of tropical hardwood logs.

## B. THE PRODUCT CATEGORIES:

### INDUSTRIAL WOOD:

12. The product categories here given are based on the FAO Yearbook of Forest Products. Under the general term "industrial wood" is included a substantial

proportion of the wood and wood products that are internationally traded. These include sawlogs and veneerlogs, pit-props, pulpwood and, in the case of trade, chips (also called particles) and wood residues. Of these, sawlogs and veneerlogs, ie. logs for the saw-milling and plywood and veneer manufacturing industries, constitute the basic raw material for the primary wood-processing industries. Sawlogs and veneerlogs are normally linked as a single commodity in trade reports and represent the most important category in the international trade in wood. Pitprops, pulpwood and residues are not so important to the present international trade of developing countries. These three latter products are mainly produced from or are based on coniferous species and form part of the intra-trade of developed countries.

#### WOOD-BASED PANELS:

13. Under the generic term of "wood-based panels" are included plywood, veneer, particle board (also called chip-board) and fibreboard (both compressed and non-compressed boards manufactured from wood or other ligno-cellulosic fibres). Plywood includes veneered board, cellular board, battenboard, laminboard and composite plywood. Composite plywood is a plywood with core or certain layers made of material other than solid wood or veneers.

14. Both coniferous and non-coniferous material are used in the manufacture of plywood and veneer but reports on the production and trade of these two products do not usually distinguish between the two types of raw material. However, it is generally assumed that plywood and veneer exported from tropical developing countries are non-coniferous.

15. Particle board and fibreboard are manufactured mainly from coniferous material. Particle board was made from coniferous mill residues mainly, until energy requirements reduced the supply of residues. It is now also manufactured from coniferous roundwood. It is a cheaper product than plywood, but because of the weight factor, the trade in particle board is mainly a regional trade between developed countries. The European region has the greatest share of this regional trade. Fibreboard is an intra-developed countries trade. The production and trade of developing countries in particle board and fibreboard are still relatively insignificant but there is an increasing trend in the production of and trade in these two products.

#### THE FOUR MAIN PRODUCT CATEGORIES:

16. The four main product categories which traditionally represent the international trade in tropical wood and wood products of developing countries are non-coniferous (NC) sawlogs and veneerlogs, NC sawnwood, plywood and veneer. These four categories account for the vast bulk of the exports of developing countries in terms of both volume and value. In this chapter, these four products are referred to as products of primary processing.

#### SECONDARY WOOD PRODUCTS:

17. Secondary processed wood products are not traditionally considered in the reports on the wood and wood products trade of developing countries. The information on the trade in these products is scanty and not easily available. The FAO Yearbook of Forest Products does not report on secondary wood products. Nevertheless, such information is of vital importance to developing countries which have embarked upon, or plan to accelerate, the development of secondary wood-processing in their territories.

18. Much of the available data are too aggregated and tend to include under a generic category products which contain non-wood elements. For example, in the case of furniture, metal for framework, and plastics particularly for upholstery, are used. Furthermore, particle board is widely and increasingly used in the manufacture of furniture in the developed countries. The possibility of

distortions in calculating wood volume in furniture trade is therefore obvious. Bearing this caution in mind, the available data on trade in furniture in terms of value nevertheless provide a useful guide, but there is pressing need for comprehensive data and analyses of the international trade in these secondary wood-processed products, taking into account, the proportion of furniture of composite materials and metals.

19. It is sometimes thought that because the trade in secondary processed wood products are not traditionally reported in trade reports, that this trade is not substantial when compared to the four main tropical wood and wood products. This is generally not the case. The aggregated total trade in secondary processed products is quite substantial. In regard to furniture, for example, world imports of furniture generally, amounted to over \$9 billion in 1980, but not all of this is of wood or wood-based, nor are those of wood necessarily of tropical wood or solid wood. By way of comparison, world imports of the four main products, namely, tropical sawlog veneerlogs, sawnwood, plywood and veneer, in that year, amounted to about \$9.6 billion ie. just about the same level.

20. The list of products which cover secondary wood-processed products are many, not all of which involve sophisticated serial manufacture techniques. Furniture, builders' joinery and mouldings are the categories most mentioned in secondary wood-processing development projects. The reason probably is that with the equipment used in furniture manufacture, other types of secondary wood-processed products can be made, such as drawer sides, picture frames and the like. A list of secondary products, based on the Brussels Tariff Classification (BTN), compiled by GATT, is given in this chapter in the section on tariff and non-tariff barriers.

#### C. THE PRODUCTION ASPECTS:

21. The production aspects dealt with in this trade chapter are merely to provide a clearer perspective of the trade in wood and wood products. While the focus is on the four main products which constitute the bulk of the international trade in tropical wood and wood products of the developing countries, the production aspects of few other selected product categories, including those made of or based on the coniferous species, are interwoven into the fabric of the chapter as deemed necessary for a clearer perspective of the trade. Attempt is made in the chapter to give the relative positions of the developed and developing countries wherever possible. The main source of information used in the whole chapter is the FAO Yearbook of Forest Products.

#### C.(1) WORLD ROUNDWOOD PRODUCTION:

22. World annual production of roundwood (ie. wood material removed from the forests) in the seventies (1971-80) averaged 2,844 million cu.m. Of this 1,187 million cu.m. (42 %) was coniferous (C); and 1,657 million cu.m. (58%) was non-coniferous (N-C). In that period, ratios of developing to developed countries in world, non-coniferous and coniferous roundwood production were (56:44), (81:19), and (21:79) respectively. See Table C.1.

TABLE. C.1

WORLD ROUNDWOOD PRODUCTION  
(Annual average 1971-80)(mill.cu.m )

Species Structure	World		Developed		Developing	
	annual average	% of world	annual average	% of world	annual average	% of world
Con. & N.C.	2,844.4	100	1,251.1	44	1,593.3	56

of which:						
Coniferous	1,187.0	42	942.5	79	244.5	21
Non-conifer.	1,657.4	58	308.6	19	1,348.8	81

23. Based on the above, the salient features of world roundwood production are:

(i) Although developing countries accounted for the greater part of the world roundwood production, the difference in volume of production between developing and developed countries was relatively not great (56:44).

(ii) Non-coniferous roundwood production was greater than coniferous production but the difference was also relatively not great (58:42).

(iii) The greater part of the total removals were non-coniferous and the developing countries' non-coniferous forests supplied 81% of this to developed countries' 19 (81:19).

(iv) Coniferous forests contributed a lesser volume to the total world roundwood removals but developing countries' coniferous forests supplied only 19% of this. (21:79).

#### C.(2) WORLD INDUSTRIAL ROUNDWOOD PRODUCTION:

24. Industrial roundwood production comprises that proportion of the roundwood production that is put to industrial use and that serves as a basis for monetary evaluation. World annual production of industrial roundwood averaged 1,350 million cu.m. in the 1970's (1971-80). Of this, 950.7 million cu.m. (70%) was coniferous and 399.3 million cu.m. (30%) was non-coniferous. In that period, ratios of developing to developed countries in world, non-coniferous and coniferous industrial roundwood production were (19:81), (45:55) and (8:92) respectively. See Table C.2

TABLE.C.2.

Species Structure	World		Developed		Developing	
	annual average	% of world	annual average	% of world	annual average	% of world
C. & N.C.	1,359.0	100	1,093.6	81	256.4	19
of which:						
Coniferous	950.7	70	873.6	92	77.1	8
Non-conif.	399.3	30	219.9	55	179.4	45

25. Based on the above, the salient features of world industrial roundwood production are:

(i) Less than half of the world roundwood production (ie. removals from forests) was put to industrial use.

(ii) Although non-coniferous species accounted for 58% of world roundwood production, only about 19% was put to industrial use.

(iii) In contrast, while coniferous species accounted for 42% of world roundwood production, about 80% was put to industrial use.

(iv) Developing countries' production of non-coniferous industrial



roundwood was less, repeat less, than that of developed countries (45:55).

(v) In striking contrast, developing countries' production of coniferous industrial roundwood was very much less than that of developed countries (8:92).

(vi) The proportion of non-coniferous to coniferous industrial roundwood production was 30:70.

(vii) In the realm of wood and wood products, in respect of both production and trade, developed countries have a very much larger share than the developing countries. Overall, developed countries accounted for the vast bulk of the industrial roundwood production, consisting of both N and N-C species: (developed 81% developing 19%).

#### CONCLUSIONS:

26. The data on the volume of wood removals do not, on their own, say very much. It is when such volumes are converted to industrial use, that they become significant. The greater the percentage that is industrially used, the greater the economic benefits that flow therefrom. It will be noted that only 50% of the total world roundwood removals is industrially used.

27. Although the non-coniferous species accounted for 58% of the total roundwood removal, only about a fifth of this volume (19%) was industrially used. Looked at from the point of view of the developing countries which supplied 81% of the non-coniferous species, the proportion that was industrially used out of this amounted to about 13% only. In contrast, the developed countries were able to use industrially 71% of their non-coniferous roundwood removals.

28. There is a pressing need for developing countries to make optimal use of their resources and increase the proportion of the roundwood removals that is put to industrial use, so as to obtain greater economic benefit therefrom.

29. Between the two groups of countries, the developed countries supplied, in volume terms, FAR MORE than the developing countries, towards the global need for industrial roundwood. This is clear from Table C.(2). Specifically, the ratios of supply between the two groups of countries were as follows:

TABLE C.3

#### RATIO OF PRODUCTION OF INDUSTRIAL ROUNDWOOD:

	Developed countries	Developing countries
Global Production (C and NC)	81%	19%
Coniferous	92%	8%
Non-Coniferous	55%	45%

30. A further major conclusion that can be drawn here, ofcourse, is that the very vast part of the production of roundwood in the developing countries have been, and still are, used as fuelwood. This highlights a very major problem, of which the world in general, is aware of, and many international and bilateral agencies, as well as governmental and non-governmental organizations, are focussing their attention upon it.

31. What is apparent, but what is also hardly considered, is the fact that there may not be that much of resource-dependency by some of the developed countries upon the tropical rain forests of the developing countries. Where such dependency exists, it has undoubtedly been due to the price advantages of tropical non-coniferous roundwood. Another possible reason for the continuance of such dependency is the fact the some developed countries have heavily invested,

since the 1960's, when the international tropical timber trade became fully established, in equipment, for the utilization of tropical hardwoods.

32. While the above conclusion does not adequately draw attention to the fact that not all the developed countries are endowed with sufficient forests to cater for their industrial wood needs, it does attempt to show that, overall, and taking into account, sustained yield management of the forests which most countries in the developed world practice, particularly in Europe, a major potential structural shift in the future, could be for the developed countries to revert to their intra-dependence, for the supply of industrial roundwood, and move towards less and less dependency upon tropical non-coniferous industrial roundwood logs.

33. The possibility of such a major potential structural shift, could be strengthened by three important factors: (i) the increasing trend in the price of tropical non-coniferous logs which may cause the price to reach a level when it is no longer price-advantageous to import tropical non-coniferous industrial roundwood; (ii) the trend towards major tropical non-coniferous log exporting countries placing a total ban on log exports (the world largest tropical non-coniferous log exporting country - Indonesia, is already putting its log export-ban into practice; and (iii) the micro-chip revolution that is taking place that may bring about a new media for news communication, possibly resulting in decreasing need for newsprint, with the consequent overall reduction in industrial wood consumption.

#### C.(3) WORLD SAWLOG VENEERLOG PRODUCTION:

34. World annual sawlog and veneer log production, consisting of both non-coniferous and coniferous species, averaged 818.7 million cu.m. in the 1970's (1971-80). Of this, non-coniferous accounted for 228.5 million cu.m. (28%) and coniferous for 590.2 million cu.m. (72%). The ratios of developing to developed countries in world, non-coniferous and coniferous sawlog veneerlog production were: (21:79), (52:48), (8:92) respectively. See Table C.4 below.

TABLE: C.4

Species Structure	WORLD		DEVELOPED		DEVELOPING	
	Annual Avg.	% of world	Annual Avg.	% of world	Annual Avg.	% of world
Coniferous and non-coniferous	818.7	100	649.9	79	168.8	21
of which:						
Coniferous	590.2	72	541.5	92	48.7	8
Non-coniferous	228.5	28	108.7	48	119.8	52

#### SALIENT FEATURES:

N

35. Based on the above, the salient features of world sawlog and veneerlog production are:

(i) Developing countries' overall sawlog veneerlog production was much smaller than that of developed countries.

(ii) In the world production of sawlogs and veneerlogs, the coniferous species predominate by a substantial margin. Ratio of non-coniferous to coniferous sawlog veneerlog production was (28:72).

(ii) Developing countries' coniferous sawlog and veneerlog production was, in volume terms, relatively insignificant compared with that of the developed countries (8:92).

(iii) Developing countries' non-coniferous sawlog veneerlog production was not very much larger than that of developed countries (52:48).

#### COMMENTS ON WORLD SAWLOG VENEERLOG PRODUCTION:

36. At this stage, it has to be assumed that in the case of non-coniferous sawlog veneerlog production of developed countries, no imported non-coniferous material was involved and that non-coniferous sawlog veneerlog production was based on domestic sources.

37. Even then, developed countries' production was not very much less than that of developing countries' despite the latter's vast non-coniferous resources. This is an important feature. It supports the logical conclusion that by means of intra-dependence between themselves in regard to this product category, namely in sawlog veneerlogs, the developed countries could be self-sufficient in this raw material.

38. It also points to the fact that it was only because of three considerations that developed countries, particularly Japan, imported sawlogs and veneerlogs from the tropical developing countries. The three considerations were price advantage, easy availability and geographical proximity.

#### C.(4) WORLD SAWWOOD PRODUCTION:

39. World annual sawnwood production averaged 427.1 million cu.m. in the 1970's (1971-80). Of this, non-coniferous accounted for 98.3 million cu.m. (23%) and coniferous for 328.8 million cu.m. (77%). In that period, ratios of developing to developed countries in world, non-coniferous and coniferous sawnwood production were: (15:85), (38:62) and (8:92) respectively. See Table C.5.

TABLE: C.5

Species structure	WORLD SAWWOOD PRODUCTION: (Annual avg. 1971-80)(Mill. cu.m.)					
	WORLD Annual Avg.	% of world	DEVELOPED Annual Avg.	% of world	DEVELOPING Annual Avg.	% of world
Coniferous and non-coniferous	427.1	100	363.4	85	63.7	15
of which:						
Coniferous	328.8	77	302.7	92	26.1	8
Non-coniferous	98.3	23	60.7	62	37.6	38

#### SALIENT FEATURES:

40. Based on the above, the salient features of world sawnwood production are:

(i) More than half (about 52%) of the world sawlog veneerlog production, consisting of both non-coniferous and coniferous, was converted into sawnwood.

(ii) Out of the total world non-coniferous sawlog veneerlog production, less than half (about 43%) was converted into sawnwood.

(iii) Out of the total world coniferous sawlog veneerlog production, more than half (about 58%) was converted into sawnwood.

(iv) In non-coniferous sawnwood production, the developed countries' production was much greater than that of developing countries by over 61%.

(v) In coniferous sawnwood production, the developed countries' production exceeded that of the developing countries by a colossal margin (by 11.5 times).

#### COMMENTS ON WORLD SAWNWOOD PRODUCTION:

41. Sawlog and veneerlog production and sawnwood production form the basic raw materials for all wood-processing. In the production of both these categories, the developed countries are way ahead, and developing countries have a long way to catch up. A fortiori, in secondary processing, the developing countries have even a longer way to catch up.

42. The very substantial wood and wood products production and trade of the developed countries are built upon their substantial sustained coniferous resource base. It seems clear that the coniferous resource base of the developing countries, in respect of both natural and plantation forests, cannot in the foreseeable future reach anywhere near parity with the resource coniferous base of the developed countries.

43. The course open for the developing countries, in regard to the development of their wood-processing industries, is to focus on the maximization of their own wood resource base, the tropical rain forests, rather than to try to expand their coniferous base for the purpose. But to achieve this, substantial improvement in forest management techniques, taking into account environmental aspects, are required.

#### C.(5) WORLD PRODUCTION OF PLYWOOD:

44. World annual plywood production averaged 39.2 million cu.m. in the 1970's (1971-80). Of this, the developing countries accounted for 17% and developed countries 83%. The developing countries' production was 20% or one-fifth of that of the developed countries. See Table C.6

TABLE: C.6

WORLD		PLYWOOD		PRODUCTION	
(Annual avg. 1971-80)(mill.cu.m.)					
Annual Avg.	% of world	Annual Avg.	% of world	Annual Avg.	% of world
39.5	100	33.0	83.5	6.5	16.5

#### SALIENT FEATURES:

45. The salient features in the world production of plywood are:

(i) Developed countries' production of plywood accounted for an annual average of 39.5 million cu.m., of which developed countries accounted for 83.5% and developing countries for 16.5%.

(ii) The USA accounted for the largest production. In the period 1978-80, its annual average production amounted to 15.3 million cu.m. or about 39% of the annual average of world production in that period. Its production was larger than that of Asia.

(iii) European market economy countries accounted for about 8% and USSR and E. Europe accounted for about 8% also of world annual average production for that period.

(iv) Asia accounted for about 32% of world annual average production for the period 1978-80. Japan accounted for about 61% of Asian production and about 20% of world's. The plywood production of the Republic of Korea was much smaller than that of Japan, accounting for 22% of Japan's and about 4% of world's production in that period.

(v) Africa, excluding S.Africa, accounted for about 1% of world annual average for the 1978-80 period.

(vi) In South America, Brazil accounted for about 2% of world annual average production and 69% of South America.

(vii) It is important to note that a considerable proportion of the plywood production of developed countries must have been of coniferous species.

(viii) World production of plywood increased in the 1970's from about 37 million cu.m. in 1971 to 39 million cu.m. in 1980, with peak production of 42.3 million in 1979.

C.(6) WORLD PRODUCTION OF VENEER:

46. World annual production of veneer in the 1970's (1971-80) averaged about 4 million cu.m. Of this, developing countries' production accounted for about 30% and developed countries' production for about 70%. Developing countries production amounted to 43% of developed countries' production. See Table C.7 below.

TABLE C.7

WORLD VENEER PRODUCTION (Annual avg. 1971-80) (mill. cu.m.)					
WORLD		DEVELOPED		DEVELOPING	
Annual Avg.	% of world	Annual Avg.	% of world	Annual Avg.	% of world
4.0	100	2.8	70	1.2	30

SALIENT FEATURES:

47. The salient features of world production of veneer are:

(i) The European market economy countries accounted for the largest share of world production. In 1971-80, these countries' annual average production was about 1.3 million cu.m. or 32.5% of the world's production of 4.0 million cu.m. for that period.

(ii) Canadian annual average production for 1971-80 amounted to about 11 per cent of world production and constituted the largest producing country in North America. The USA production was not reported, and so it is assumed that it has been used entirely for plywood production.

(iii) Asia is the second largest producing region in the world accounting for an annual average for 1971-80 of about 1 million cu.m. or 25% of world annual average production for that period. Philippines was the largest producer in Asia

accounting for about 10% of world and 38% of Asia's production.

(iv) South America accounted for about 5% of world annual average production for 1971-80 and, of this, Brazil accounted for 4%. Brazil accounted for over 84% of South America's annual average production in that period.

(v) World production of veneer increased from 3.3 million cu.m. in 1971 to 4.9 million cu.m. in 1980, which was also the peak year in production.

D. THE OMNIBUS TABLE OF THE ANNUAL AVERAGE TRADE IN WOOD AND WOOD PRODUCTS IN VALUE TERMS BETWEEN DEVELOPED AND DEVELOPING COUNTRIES:

48. The omnibus table, which is included in this section, attempts to give information on the wood and wood product exports and imports of developing and developed countries. It covers the following groups:

(a) The four main product categories which form the core of the international trade in tropical primary wood products, and which are of major export interest to developing countries, ie. non-coniferous sawlog veneerlog, non-coniferous sawnwood, plywood and veneer sheets.

(b) Coniferous sawlogs veneerlogs and coniferous sawnwood.

(c) Other categories of wood-based panels mainly of or based on coniferous species, and which form the intra-trade of developed countries.

(d) Other categories, of primary nature, mainly of or based on coniferous species which are part of the intra-trade of developed countries, such as pulp, pulpwood, chips, residues.

(d) Paper and paper board, mainly of or based on coniferous species which constitute a major intra-trade between developed countries, but developing countries are highly dependent upon imports of these products from the developed countries.

(e) Secondary processed wood or wood based products. For lack of available detailed data generic product categories, such as furniture, which includes non-wood material, have had to be included. See below.

Other wood-processed products:

49. The aims of increased and further processing in developing countries is assumed to cover as wide a diversification and as high a degree of sophistication as possible in the wood product manufacturing process. The extent to which these aims can be achieved will vary with the developing countries concerned because of the different levels of wood-processing development in these countries.

50. In addition to the four main export product categories mentioned earlier, the more industrially advanced developing countries have increasing interest in the trade of the wood products categories in regard to which most developing countries are at present net importers, such as pulp products and paper and paperboard products. These two product categories constitute very important sectors of the trade in wood and wood products. For that reason, they are included in the omnibus table for reference purposes and to assist developing processing countries to determine the areas where import substitution might be warranted or where the need for further development activities in secondary wood-processing, might be indicated. These two products are not discussed in this chapter.

51. The omnibus table also gives information on the trade in those primary products, such as pulp, pulpwood, chips, and residues, which could be of interest to developing producing countries, in connection with the utilization and

commercialization of their less commercially accepted species.

52. While the omnibus table attempts to incorporate a list of secondary products, it is far from complete because of time and data constraints. There is need for more details in regard to the production and trade of secondary wood-processed products. Such information is essential for developing countries which want to embark upon, or accelerate, the development of the secondary wood-processing industries. The information on secondary wood products, when available, is of an aggregated nature and this inhibits meaningful analyses. Even the tariff nomenclatures which exist do not take into account the individual products as individual units, but aggregate them under a product category. Further research to fill this lacuna in the trade data on secondary wood products is very much needed. Such research study should go beyond the four digits in the nomenclature classification that generally form the basis of most available trade data on the international trade in wood and wood products.

53. The omnibus table of the exports and imports, by value, of selected wood and wood products is divided into two parts. The first part covers sawlogs, veneerlogs, sawnwood, plywood, veneer, particle board, fibreboard, pulpwood, pulpwood - round and split, chips, residues, pitprops, other industrial roundwood, sleepers and woodpulp. These are all wood or wood-based. It also covers bleached and unbleached sulphide pulp, and bleached and unbleached sulphate pulp. Finally, under the generic category of paper and paperboard, it covers newsprint, printing and writing paper, and other paper and paperboard. The second part covers the secondary products. The list contains 17 products, but these are mostly aggregated items. This list is not exhaustive. The omnibus table covers only 1978-80. Data was available only in respect of four of the items, and even then, just in respect of imports by developed countries. However, the section on trade flows incorporates fragmentary data on certain secondary processed products, particularly furniture.

54. The omnibus table, in both parts, is incorporated into the text of this chapter, and precedes the section on trade (Section E). The list of secondary products has been placed in the annex.

(See next page for the Omnibus Table)

TOTAL VALUE OF EXPORTS AND IMPORTS OF SELECTED WOOD & WOOD PRODUCTS  
Annual average 1971-73, 1974-76, 1977-80 (in \$ Million)

	---DEVELOPING COUNTRIES---						---DEVELOPED COUNTRIES---					
	1971-73		1974-76		1977-80		1971-73		1974-76		1977-80	
	EXP	IMP	EXP	IMP	EXP	IMP	EXP	IMP	EXP	IMP	EXP	IMP
01.S/V LOGC	23	35	44	85	101	213	827	1129	1325	1752	2085	2770
02.S/VLOGNC	1243	580	1781	606	3003	1230	127	1642	200	234	375	3795
03.SAWN C	164	284	185	518	300	842	3165	3318	4515	4548	7536	7589
04.SAWN NC	381	69	690	293	1350	507	372	771	565	1180	1011	2270
05.PLY/BLKB	518	97	645	199	1184	452	452	945	716	1183	1069	1845
06.VENEERS	83	13	93	37	132	77	245	351	318	452	539	740
07.PARTC-BD	9	10	25	23	13	40	247	247	450	456	786	842
08.FIBRE-BD	12	17	24	38	43	69	182	181	238	223	310	310
09.PULPWOOD	16	1	22	7	20	17	365	466	750	1008	969	1348
10.PU/RD/SP	6	1	3	3	5	9	217	248	446	495	479	571
11.CHPS/PAR	10	-	19	-	15	8	120	184	242	453	419	716
12.RESIDUES	-	-	-	-	-	-	27	33	61	60	72	59
13.PITPROPS	1	7	1	12	1	9	28	22	43	31	33	30
14.OTHERIND	2	14	24	42	34	82	74	65	144	104	190	97
15.SLEEPERS	11	16	36	34	37	29	34	38	68	84	82	105
16.WD/PULP	65	283	153	528	351	709	2646	2589	5375	5291	6587	6406
	1975-76		1977-78		1979-80		1975-76		1977-78		1979-80	
17.U/SDPUL	-	24	-	29	-	34	201	154	177	121	223	223
18.B/SDPUL	-	30	-	26	1	39	724	807	625	778	845	963
19.U/STPUL	70	87	86	86	144	147	484	410	483	353	663	420
20.B/STPUL	75	127	105	174	394	311	3130	3151	3131	3301	4596	4801
	1971-73		1974-76		1977-80		1971-73		1974-76		1977-80	
21.OTHPULP	7	5	11	28	19	30	22	25	49	55	78	74
22.PAPER/B OF WHICH:	88	1103	187	2091	322	3108	5474	4842	10123	8853	15074	13057
23.NEWSPT	12	262	32	518	93	776	1667	1643	2777	2701	4212	3981
24.PRNTG/P	27	247	56	485	94	718	1274	901	2669	1980	3993	3439
25.OTH/PAP	50	594	98	1088	135	1614	2533	2298	4678	4172	6869	5636

SECONDARY PROCESSED PRODUCTS

	---DEVELOPING COUNTRIES---						---DEVELOPED COUNTRIES---					
	1978		1979		1980		1978		1979		1980	
	EXP	IMP	EXP	IMP	EXP	IMP	EXP	IMP	EXP	IMP	EXP	IMP
26.BUILD JOIN							403		585			
27.BUILD PREFAB							592		806		925	
28.WOODPDT NOT FURN.							354		439			
29.FURN.							5574		7262		8299	
30.OTHFUR PARTS NESS.NES							3347		4058		4660	
31.CHAIRS, SEATS&PARTS							1646		2059		2386	



32.P/PILE	.....		
33.T&G	.....		
34.MOULD.	.....	78.....	97.....103
35.PFRAME	.....		
36.PAK/CS	.....		
37.BARRLS	.....	23.....	34.....
38.UTENSL	.....		
39.WHANDL	.....		
40.BOBBIN	.....		
41.ORNAMT	.....	353.....	439.....
42.OTHNES	.....		

- 
- NOTE: 1.The empty spaces indicate where the data was not available or because of time constraints data could not be researched.  
 2.In items 26, 28, 37, and 41 the data refers to imports of developed market economy countries. Reference to developed countries, in all other instances, include developed centrally planned economies.  
 3.Explanation of truncated titles may be found in the annex.

#### E. GLOBAL PATTERNS OF TRADE IN WOOD AND WOOD PRODUCTS:

55. There is more than one pattern and more than one cross pattern. The general flow of the exports is from the developing countries (South) to the developed countries (North). For geographical and historical reasons, North meant for the developing producing regions of tropical wood, the vast markets situated geographically north to their own positions. For Central and Latin America, this meant the North American market, for Africa it meant Europe, and for the Asia Pacific region, it meant vast and intensive Japanese market.

56. In the nineteen sixties, when the world tropical wood trade expanded considerably, cross-patterns of trade flows became established, such as north east to Europe and east for Japan for the Central and Latin American exports, north east to Europe and east to the USA for the Asia Pacific exports, and both north west to USA and north east to Japan, for the African exports.

57. In regard to intra-trade flows between the developed countries, this was principally between the European countries, between Europe and the North America (Canada and USA) and Japan, and between North America and Europe and Japan. In recent years, after the entry of the UK into the Common Market (EEC) Australia's and New Zealand's wood and wood products trade flows moved increasingly northwards to Japan and the Republic of Korea. A striking feature of the global trade and wood products was the substantial imports of Japan in respect of both coniferous and non-coniferous wood and wood products.

58. As indicated earlier on, the emphasis of this section on trade is on the international trade in tropical wood and wood products of the developing producing countries. While some discussion of the other aspects of the world trade in wood and wood products is made, the aim of such discussion is to put the international trade of the developing countries in perspective.

59. In regard to the trade in the products of secondary processing, the sparse and fragmentary nature of the data available, made it difficult to present a fuller picture. It was possible, however, to refer to a few products but only in respect of some aspects. Furthermore, some of the data were outdated. Nevertheless, despite these constraints, it is hoped that some useful purpose will be served by presenting such data. It has to be mentioned also that there is no compilation for secondary processed products similar to the very useful FAO Yearbook of Forest Products.

60. The Main product categories involved in the wood and wood products trade of developing countries are:

- E(1) Non-coniferous sawlogs and veneerlogs (SITC 247.2)
- E(2) Non-coniferous sawnwood (SITC 248.3)
- E(3) Plywood (SITC Ex 634)
- E(4) Veneer (SITC 634.1)

E(1): WORLD TRADE IN NON-CONIFEROUS SAWLOG-VENEERLOG

61. Out of the four main export product categories indicated above, non-coniferous sawlogs and veneerlogs have the largest share of the exports of developing countries. This category accounted, in terms of value, to 52%, 54% and 53% out of the total exports of the four categories in 1978, 1979 and 1980 respectively. Non-coniferous sawnwood came next, accounting for 21%, 25% and 26% respectively; then, plywood and blockboard for 23%, 19% and 19%, while veneer accounted for 2%, 2% and 2% respectively, in those years. See Table E.8 below.

TABLE: E.8

PERCENTAGE SHARE IN TOTAL EXPORTS OF THE FOUR MAIN PRODUCTS  
(1978, 1979, 1980) ( \$Million)

	1978	%	1979	%	1980	%
Non-coniferous Logs	2,407	52	3,779	54	3,580	53
Non-coniferous sawnwood	992	21	1,730	25	1,770	26
Plywood and blockboard	1,143	25	1,339	19	1,313	19
Veneer	113	2	140	2	159	2
Total	4,655	100	6,988	100	6,822	100

62. In the overall total exports in wood and wood products of developing countries in the years 1978, 1979, and 1980, these four categories together accounted for the following percentage shares:

1978	1979	1980
84%	84%	79%

63. The three main producing and exporting regions of tropical non-coniferous sawlogs and veneerlogs are Tropical Asia and Pacific, Tropical Africa and Tropical Latin America. Of these regions, the Asia Pacific region accounts for the largest production and the largest exports. The percentage share by volume of the annual average tropical NC sawlog veneerlog production and exports of each of the three regions in the regional totals in the period 1978-1980 were:

TABLE E.9

REGIONAL SHARES IN REGIONAL PRODUCTION AND EXPORTS OF NC SAWLOGS VENEERLOGS

	PRODUCTION	EXPORTS
Asia Pacific	65%	84.96%
Africa	14%	14.84%
Latin America	21%	0.2%

64. The Asia Pacific region is also the world's largest producing and exporting region. The world's second and third largest producing regions of NC

sawlogs and veneer logs by volume are North America which accounted for 17%, and Europe which accounted for 15%, as against Asia-Pacific's 32%, of the annual average world production for the period 1978-80. Of the North American share, the USA accounted for 15% and Canada 2% during that period.

65. Despite their substantial production of NC sawlogs and veneerlogs, North America's exports accounted for only 1.4% and Europe's for only 5%, as against Asia-Pacific's 79%, of the annual average world exports over the same period. An important feature to note is that the NC sawlog and veneerlog production of the developed regions, namely the North American and European regions, is substantial, and each of these regions produced far more non-coniferous sawlogs and veneerlogs than either the African or Latin American regions. Despite this, the relatively small percentage shares of these developed regions in world exports, indicate that their production was mostly used domestically in processing and other uses, whereas aside from the Latin American region, the Asia-Pacific and African regions exported a substantial part of their production, namely 48% and 35% respectively, based on their annual average production and exports in the period 1978-80.

66. The bulk of the NC sawlogs and veneerlogs from the Asia-Pacific region were exported to Japan. In Japanese trade statistics, these are known as "South Sea" logs. Indonesia, Malaysia (Peninsula, Sabah and Sarawak), Philippines and Papua New Guinea supplied most of Japan's "South Sea" log imports. In the period 1978-80, the annual average imports by Japan of South Sea logs by volume and by exporting countries were:

TABLE: E.9

JAPAN'S IMPORTS OF "SOUTH SEA" LOGS  
(volume '000 cu.m.)

	INDON.	P.MAL	SABAH	SARA.	PHIL.	PNG	OTHERS
	9366	19	7882	1968	1457	361	213
Percent of total	44	.1	37	9	7	1.9	1.0

67. What is clear is that Indonesia is the largest supply source for Japan's "South Sea" logs. Sabah is the second largest supplier. These two accounted for 81% of Japan's requirements in that period. Indonesia is reducing log exports drastically as from 1981. Its log exports to Japan in 1980 was 8.9 mill.cu. but in 1981, the log exports were halved to 4.5 mill. cu.m. The log exports were further drastically reduced in 1982, when Indonesia's exports were estimated to be practically at parity with the log exports of the Ivory Coast. The extent of this drastic reduction may be seen in the fact that in 1979, Indonesia's log exports were 7 times that of the Ivory Coast.

68. Official announcements indicate that the total ban will be effective 1985. This means in about two years time. Major structural adjustments will be required in the already troubled Japanese primary wood-processing industries that were based on plentiful supplies of "South Sea" logs. It is unforeseeable that any of the other log exporting countries in the Asia-Pacific region can bridge the gap in supply of "South Sea" logs and maintain it, when the Indonesian log exports stop. It is even less likely that any other region will be able to bridge the gap in supply either. In this connection, attention may be drawn to a UNIDO document - "Structural change, adjustment problems and policies related to the wood-processing industry in Japan" by K. Fukasaku (UNIDO 1983). This document discusses in depth the possible implications for Japan's wood-processing industry, particularly that part of it which relies upon "South Sea" logs as raw material.

69. A total log export ban has major structural implications also for Indonesia in three areas:

(i) A major structural adjustment will be required to cope with the surplus log production in the interim period before the log producing sector can adjust to the total log export ban, and before the increasing numbers of sawmills and plywood manufacturing plants, will be in a position to absorb the interim's surplus log supply.

(ii) A major structural adjustment will be required to market both domestically and abroad, the products of primary processing, particularly sawnwood and plywood.

(iii) A major adjustment will be required to ameliorate the substantial drop in foreign exchange earnings that would result from the ban on log exports, which accounted for the vast bulk of the foreign exchange earnings in the exports of wood and wood products. Such exports stood second to oil in the total exports of Indonesia in 1979. In that year wood and wood products accounted for 12% and oil for 57% of the total trade. Further intensified efforts will clearly be needed to expand the secondary wood-processing industry, so that increased exports of value-added products can help make up to some extent the drop in export earnings which will result from the total ban on log exports. See Table E.10 below.

TABLE: E.10

SHARE OF TIMBER EXPORTS IN TOTAL EXPORTS OF INDONESIA  
(1978, 1979 AND 1980) ( \$ BILLION)

	OIL	TIMBER	RUBBER	OTHERS	TOTAL
1978	7.44	0.99	.86	2.35	11.64
1979	8.86	1.82	.86	4.04	15.58
1980	12.86	1.87	1.17	6.01	21.91

Source:

Based on (i) Bank of Indonesia; (ii) Directorate General of Forestry

TREND IN NC SAWLOG AND VENEERLOG TRADE:

70. World NC sawlogs and veneerlog exports increased from 1970, reaching a peak in 1973, which was never regained in the 1970's. Since 1973, there was a decrease which, in 1975, reached the lowest level of the decade, and a slight recovery followed, but since 1979, there is a decreasing trend.

71. In 1981, the level of exports fell below the 1975 low level and even below the level of 1970. From 1979 to 1980 the decline was by about 8.5%. From 1980 to 1981 the decline in exports was sharper. It fell by 20.8%. The decline since 1979 is attributable to the depressed state of the building and construction industry in the major world markets.

72. This condition in the building industry still persists, but undoubtedly one of the major factors that accentuated the sharp decline in 1981 was the drastic curtailment of the log exports from Indonesia. Progressive further curtailment in 1982, which is expected to continue through 1983, 1984 and reach total ban in 1985, will result in the further decline in those years, if the policy of total ban on log exports is implemented as scheduled.

73. The decreasing trend in NC log exports was reflected also in the NC sawlog veneerlog exports of the other regions i.e. in Europe and North America, but the decrease was relatively not as great as in the Asia-Pacific region. For the trade flows of NC sawlogs and veneerlogs for 1980 and 1981, See Annex.

TREND IN CONIFEROUS SAWLOG AND VENEER LOGS (SITC 247.1)

74. The increasing trend in coniferous sawlogs and veneerlogs exports in the 1970's was interrupted by a decline in 1975, following the first oil rise, after which, it recovered to peak in 1979. In 1980 there was again a decline and the exports were less than 1979 by about 8.5% in volume terms. There was a corresponding decline trend in value terms.

75. The coniferous log trade is overwhelmingly an intra-developed countries' trade. The share of the developing countries in the coniferous log trade in 1979 amounted to 5%. The largest exporting country in the world was the USA which accounted for over 17 million cu.m. in 1979, the peak year, while the USSR was the second largest exporting country which accounted for about 7 million cu.m. in that year.

76. Japan is the largest importing country of coniferous logs, considerably and consistently exceeding, in its coniferous log imports, the European region's. Japan's imports of coniferous logs in 1979 amounted to about 21 million cu.m. Canada is also a net importing country. It is of interest to note the rise of the Republic of Korea as an importer of coniferous logs. This is indicative of the development of a pulp and paper industry there. See Table E.11 below for coniferous log imports of selected countries. For the trade flows in coniferous sawlogs and veneerlogs in 1980 and 1981, see Annex.

TABLE E.11

CONIFEROUS LOG IMPORTS OF SELECTED COUNTRIES  
(Volume Million cu.m.)

	1971	1973	1975	1980
Japan	16	21	17	23
Europe	3	5	4	5
Canada	2	2	1	2
Rep. of Korea	0.4	0.8	0.5	2

## E.(2) NON-CONIFEROUS SAWNWOOD (248.3)

77. There is substantial global trade in non-coniferous sawnwood consisting of both the tropical and temperate species. World imports amounted to about 13 million cu.m. and world exports to about 11 million cu.m. in 1980. In that year, developed countries overall imported, about 9 mill. cu.m. and exported about 4 mill. cu.m., while developing countries imported about 4 mill.cu.m. and exported about 8 mill.cu.m.

78. Exports of developing countries are entirely, or almost entirely, of tropical NC species, while those of the developed countries are also almost entirely of temperate species. It has been estimated that 5-10 % of Western Europe's production of NC sawnwood was made from tropical NC species.

79. Developed countries' NC sawnwood trade is mainly an intra-developed countries trade, while that of the developing countries is mainly exports to developed countries. However, a substantial portion of the exports of developing countries are to one in-transit processing countries, namely Singapore.

80. A salient feature of the global NC sawnwood trade is in the total values involved. This feature has an important bearing on the major objective of the Global Study on Wood and Wood Products which is to promote and help raise the share of developing countries in the world's industrial output in wood and wood products. NC sawnwood is, in this context, not only an important primary output of processing, but it represents also an important raw material base for secondary processing, particular for the manufacture of furniture and building woodwork.

81. The following gives a comparison of the volume and value of developed and developing countries trade in NC sawnwood in 1980:

TABLE E.11

COMPARISON OF VOLUME AND VALUE IN DEVELOPING AND DEVELOPED COUNTRIES' TRADE IN NC SAWNWOOD IN 1980 (Value \$ million, Volume million cu.m.)

	EXPORTS		IMPORTS		IMPORTS FROM (Volume)	
	Vol.	Value	Vol.	Value	Developing	Developed
Developing	8	1772	4	679	3.9	0.4
Developed	4	1279	9	2920	4.4	3.9

82. What emerges clearly is that in NC sawnwood, developing countries in 1980 exported double the volume of the developed countries but earned much less (about 30.73%) in value than the developed countries on their exports. Developed countries imported nearly half of their NC sawnwood from other developed countries in volume terms in that year. Reference might suitably be made to the Omnibus table which shows the increasing trend in value terms throughout the 1970's. An extract of the Omnibus table relevant to the exports and imports of developing and developed countries for C and NC sawnwood are given below in Table E.12. Note the comparative values in the C and NC sawnwood trade of developing and developed countries in the 1970's. For trade flows in NC sawnwood for 1980-81 see Annex.

TABLE: E.12

TOTAL VALUE OF THE TRADE IN SAWNWOOD OF DEVELOPING AND DEVELOPED COUNTRIES  
Annual average 1971-73, 1974-76, 1977-80 (in \$ Million)

	---DEVELOPING COUNTRIES---						-----DEVELOPED COUNTRIES-----					
	1971-73		1974-76		1977-80		1971-73		1974-76		1977-80	
	EXP	IMP	EXP	IMP	EXP	IMP	EXP	IMP	EXP	IMP	EXP	IMP
03.SAWN C	164	284	185	518	300	842	3165	3318	4515	4548	7536	7589
04.SAWN NC	381	69	690	293	1350	507	372	771	565	1180	1011	2270

83. There is generally an interest to examine the volume of the international trade in this primary processed product and not its overall value. Yet, insofar as the benefits of trade are concerned it is on the value that this is based. Hence the validity of looking at the values. The above trade values of developing and developed countries indicate that there is substantial difference between the two groups of countries. Taking the sum of the values of exports and imports as the total trade, it is obvious how much larger the international coniferous sawnwood trade is compared to the non-coniferous.

84. In the period 1977-80, developed countries coniferous sawnwood trade was around \$ 15 Billion, while their non-coniferous was around \$ 3 Billion (5 times). In the same period, developing countries non-coniferous sawnwood trade was around \$ 2 Billion and their coniferous sawnwood trade around \$ 1 Billion. Apart from the enormous disparity in value of the trade as between the two species and as between the two groups of countries, the vital difference between the developed and the developing countries, is the fact that the developed countries wood resources' are sustained, whereas those of the developing countries' natural forests are fast depleting without adequate management or replenishment.

#### EXPORTS OF NC SAWNWOOD:

85. World annual NC sawnwood exports averaged 10 million cu.m. in the period

1978-80. Of this, the Asia-Pacific developing region accounted for the largest share at 6.4 mill.cu.m. (64%). The second largest exporter was Western Europe which averaged 2.6 mill.cu.m. (26%). The third largest was North America which averaged 1.2 mill.cu.m. (12%) in the same period. The country with the largest exports was Malaysia, which averaged 3.1 million cu.m.(31%). Singapore was the second largest exporter which averaged 1.3 mill.cu.m (13%). Indonesia accounted for 1.1 mill.cu.m. (11%). The USA's exports of NC sawnwood averaged 0.9 mill.cu.m. (9%). In Europe two market economy countries France and F.R Germany averaged 0.55(5.5%) and 0.36 mill.cu.m.(3.6%) respectively; and two centrally planned economy countries Yugoslavia and Roumania averaged 0.91 (9.1%) and 0.43 mill.cu.m.(4.3%) respectively for the same period. See Table E.13 below.

TABLE E.13

WORLD EXPORTS OF NC SAWNWOOD BY REGIONS AND SELECTED COUNTRIES:  
(Annual average 1978-1980)(Vol. million cu.m.)

-----DEVELOPING-----		-----DEVELOPED-----	
ASIA-PACIFIC:	6.4	EUROPE:	2.6
of which		of which:	
Malaysia	3.1	Yugoslavia	0.9
Singapore	1.2	France	0.5
Indonesia	1.1	Roumania	0.4
Philippines	0.7	FR.of Germany	0.4
AFRICA:	0.7	NORTH AMERICA:	1.2
of which:		of which:	
Ivory Coast	0.3	USA	0.9
LAT-AMERICA	1.0	Canada	0.3
of which:			
Brazil	0.5		
Paraguay	0.2		

0

## IMPORTS OF NC SAWNWOOD:

86. World annual imports of NC sawnwood averaged 12.7 mill.cu.m. in the period 1978-1980. The largest importing region was Western Europe which averaged 6.2 mill.cu. (49%) of average world imports for that period. The Asia-Pacific region, the second largest importing region of NC sawnwood averaged 2 mill.cu.m.(16%). North America averaged 1.5 mill.cu.m.(12%). The Latin America region averaged 6%, the Africa region (developing) averaged 2% and the Middle East (Near East) region averaged 6%.

87. The country with the largest imports of NC sawnwood was Italy which averaged 1.3 mill.cu.m. (10%) for that period. Singapore was the second largest importing country. Its imports averaged 1.2 mill.cu.m. (9%) of average world imports. Other major importing countries included F.R. of Germany (8%), Netherlands (6%), UK (6%), USA (6%), Canada (5%) and France (5%).

88. Of special interest are two importing countries Japan and Thailand. Japan's imports of NC sawnwood (4% of world), on the one hand, is very small, in the light of its enormous potential. Thailand's imports (4% of world) for its expanding secondary processing industries, may be said to be, on the other hand, relatively substantial, in the light of the fact that it was once an exporting country of NC logs and sawnwood. It is now a net importing country, whose volume of imports of NC sawnwood is comparable with that of Japan. Come the turn of the century, the likelihood is that Thailand would clearly be a timber deficit country. See Table E.14 below.

TABLE: E.14

## WORLD IMPORTS OF NC SAWNWOOD BY REGIONS AND SELECTED COUNTRIES:

(Annual average 1978-1980)(Vol. million cu.m.).

-----DEVELOPING-----		-----DEVELOPED-----	
ASIA-PACIFIC:	2.0	WESTERN EUROPE:	6.2
Singapore	1.2	Italy	1.3
Japan	0.5	FR.Germany	1.0
Thailand	0.5	U.K.	0.8
NEAR EAST	0.8	Netherlands	0.8
AFRICA:	0.2	France	0.7
LAT-AMERICA	0.8	Benelux	0.5

## THE TREND IN WORLD TRADE IN NC SAWWOOD:

89. The salient feature about the world trade in NC sawnwood, throughout the 1970's, was the fact that there was an increasing trend in the trade, with two downward fluctuations followed by a recovery in respect of the first in 1976. Thus, the peak of 10.6 mill.cu.m. in world exports, and a similar peak also of 10.6 mill.cu.m. in world imports, were reached in 1973. This was in line with the trend in respect of most products in the international wood trade.

90. The first dip in the rising trend came in 1974 and 1975 immediately after the 1973 peak, as a result of the first oil price rise and the consequent slow-down of the economy in general and of the building and construction industry in particular. The average decrease in the world trade in 1974-75 was 16.5% in imports and 20.7% in exports.

91. In 1976, exports rose 36% and imports 18% over the 1974-5 average. In other words, in percentage terms, the drop and the rise thereafter were greater in the case of exports than that of imports. From 1976 the trade rose steadily to reach a second peak in 1979 in respect of both world exports and imports. The decrease in trade after 1979, carried on into the beginning of the 1980's and may be attributed to the continued slump in the building and construction sector. There was an increase of 74% in exports and 88% in imports in 1980 compared with 1971. Reference might be made to the omnibus table which shows a marked increasing trend in exports in terms of value. See below for the world trade in NC sawnwood .

92. In the period 1971-1980 the annual average growth rate was 8.9% in developing countries' exports of NC sawnwood. When the building and construction industry activities pick up, it is expected that both the production and exports of NC sawnwood will rise sharply in the 1980's, in and from major log producing developing countries, particularly Indonesia.

93. Of the in-transit processing countries, namely Singapore, Republic of Korea and Taiwan (POC), only Singapore's exports in NC sawnwood are significant. Singapore's annual average exports amounted to 1.3 mill.cu.m. (9.9% of world exports) in the period 1978-80. Singapore's in-transit processing function is mainly to "dress" the NC sawnwood which it imports in the rough, particularly from Indonesia, and to re-export the sawnwood with greater value added.

94. Singapore's exports of NC sawnwood will probably not be affected, at least in the short term, by the decreasing log exports as a result of governmental policy in Indonesia to curtail log exports. This is because Singapore imports the raw material in sawnwood form, rather than in round logs, and also because of its geographic position, its trading, shipping, financing as well as its freeport facilities. However, in the longer term, as a result of the accelerating development of wood-processing in Indonesia, Singapore's NC sawnwood exports may eventually be affected.



95. World coniferous sawnwood trade is overwhelmingly the intra-trade of the developed countries and developing countries share in world trade is at present still insignificant. The trend is for this share to increase. This is particularly so in Latin America (eg Brazil) and the Asia-Pacific region (eg.Indonesia, Fiji). World exports of C. sawnwood, like the NC sawnwood exports, showed an increasing trend in the 1970's, with two downward fluctuations in that increasing trend following the peak in 1973 of 60.9 mill.cu.m. in exports and 60.7 mill.cu.m. in imports, and the peak in 1979 of 68.8 mill.cu.m. and 67.2 mill.cu.m. respectively. This pattern is in line with those of the NC sawnwood trade and of the international wood trade in general.

#### CONIFEROUS SAWNWOOD EXPORTS:

96. World annual exports of coniferous sawnwood in the period 1978-80 averaged 66.9 million cu.m. The largest exporting region was North America, which averaged 35 mill.cu.m. (52% of world) for the period 1978-80. Next was Western Europe exports which averaged 19.4 mill.cu.m. (29%); Eastern Europe and USSR exports which averaged 10.1 mill.cu.m. (15%), and Latin America exports which averaged 1.6 mill.cu.m. (2%) for the same period. The ratio of developed countries' to developing countries' annual average exports in coniferous sawnwood in the period 1978-80 was (96:4 or 24 times).

97. The largest exporting country of C. sawnwood was Canada. Its annual average was 30.5 mill.cu.m. (46% of world annual average exports) in the period 1978-80. The second largest exporting country was the USSR. Its annual average was 7.6 mill.cu.m. (11%). Other major exporting countries of coniferous sawnwood and their percentage share in world annual average exports during the same period include: Sweden (10%), Finland (9%), Austria (6%), USA (6%). Among developing countries the major exporting countries were Chile, the exports of which averaged 1.02 mill.cu.m. (1.5%) and Brazil 0.2 mill.cu.m. (0.3%). These two Latin American countries accounted for 51% of developing countries annual average exports of coniferous sawnwood in that period.

#### CONIFEROUS SAWNWOOD IMPORTS:

98. World annual imports of coniferous sawnwood averaged 65 million cu.m. in the period 1978-80. The largest importing region was North America. Its annual imports averaged 26 mill.cu.m. (40%). Western Europe's imports were the second largest. Its annual average imports were 25.5 mill.cu.m. (39.2%). Eastern Europe and the USSR's imports averaged 2.8 mill.cu.m. (4%). Among the developing regions, the Middle East's (Near East's) annual imports averaged 2.6 mill.cu.m. (3.9%). The Latin American region's annual imports averaged 1.7 mill.cu.m. (1.7%) for the same period. The ratio of developed countries' to developing countries' annual average imports was (92:8 or 11.5 times).

99. The largest importing country of coniferous sawnwood was the USA. Its annual average imports for 1978-80 was 25.3 mill.cu.m. or 38.9% of world annual average imports for that period. The U.K.'s annual imports averaged 6.6 mill.cu.m. (10%) and it was the largest importer of coniferous sawnwood in Western Europe and the second largest in the world. Other major importing countries and their percentage share in world annual average imports in the same period include: Japan (6.6%), Italy (6.3%) and F.R.of Germany (2%). For the ECE region's and other major region's trade in coniferous sawnwood, see Annex.

#### THE TREND IN WORLD TRADE IN CONIFEROUS SAWNWOOD:

100. Global trade in coniferous sawnwood followed the pattern of NC sawnwood. Under this pattern, there was an increasing trend, in both exports and imports of coniferous sawnwood, But there were two downward fluctuations in this increasing trend. The first decrease in world exports and imports followed the first peak year of 1973, and the second decrease followed the second peak of 1979 in the decade of the 1970's..The peak of 1979 was followed by a decline which continued into the beginning of the 1980's. This decline was due to the failure

of the building and construction industry to pick up. The slow-down in this industry still persists. As was indicated earlier, this pattern is in line with the pattern in world wood trade in general in the 1970's. Reference may be made to the omnibus table which shows the marked increasing trend of exports and imports in value terms in the 1970's.

#### THE DIRECTION OF TRADE FLOWS OF CONIFEROUS & NON-CONIFEROUS SAWNWOOD:

##### (a) TRADE FLOWS OF NC SAWNWOOD:

101. As has been clarified earlier, NC sawnwood is produced in both developed and developing countries. It constitutes both a major intra-developed countries trade and also a major trade between developed and developing countries. The species that are traded in the intra-developed countries' trade are temperate NC species. The flow of temperate NC sawnwood tends to be regional. For example, Italy was the largest importer in respect of both temperate and tropical NC sawnwood. But 62% (in 1980) and 66% (in 1981) of its NC imports were from developed countries', mainly from neighbouring Yugoslavia. In fact, about 67% of Yugoslavia's exports of NC sawnwood flow to Italy. About 47% of the NC sawnwood exports of Roumania, another major NC sawnwood producing country, flows to the USSR. About 50% of the NC sawnwood exports of the USA flow to Canada. Other major NC sawnwood trade flows are from France and the F.R.Republic of Germany to other European countries. The cross Atlantic trade flows are relatively insubstantial in NC sawnwood.

102. The ratio of developing to developed exports of NC sawnwood was about 67:33 in 1980 and about 65:35 in 1981 ie. developing countries' exports were roughly double that of the developed countries. Approximately half of the developing countries' exports flowed to the developed countries, while the other half flowed to other developing countries. Among these developing country importers, Singapore stands out. In 1980 and 1981, it accounted for about 32% of the developing countries' NC sawnwood imports.

103. The vast bulk of the NC sawnwood exports of developing countries flowed to Europe. In Europe the major importing countries were Italy, F.R.of Germany, France, UK and the Netherlands. Only about 9% of the developing countries' tropical NC sawnwood exports flowed to the USA, while about 11% flowed to Japan. The NC sawnwood trade flows to Australia were from the Asian region.

104. The largest exporters of NC sawnwood in the developing countries are situated in the Asian region. In the region, Malaysia is the largest exporting country, followed, in terms of NC sawnwood export shares in 1980 and 1981, by Indonesia, Singapore, and Philippines. The Ivory Coast is a major NC sawnwood exporting country of the African region. Its NC sawnwood exports flow almost entirely to Europe, with France being the largest importer of Ivorien sawnwood, followed by the UK. From Latin America, the bulk of Brazil's NC sawnwood exports flow to the USA, while the bulk of Paraguay's exports flow to neighbouring Argentina. For NC sawnwood trade flows in 1980 and 1981, see Annex.

##### (b) TRADE FLOWS OF CONIFEROUS SAWNWOOD:

105. The coniferous sawnwood trade flows were almost entirely between developed countries and were, to some considerable extent, regional. Thus, Canada's exports of coniferous sawnwood, which is the world's largest, flowed to neighbouring USA. The exports of the European countries flowed mainly between themselves. The smaller part of the Canadian coniferous sawnwood exports also flowed across the Atlantic, mainly to the UK, which is the largest importing country of coniferous sawnwood in Europe. Part of the Canadian coniferous sawnwood exports also flowed to Japan. Canadian exports supplied 27% of UK's requirements and 59% of Japan's coniferous sawnwood imports in 1980. In that year, USA's coniferous sawnwood exports flowed mainly to Japan accounting for 33% of its coniferous sawnwood imports. The trade flows of major producing countries in Europe, such as the USSR and the Nordic countries flowed to other countries in

Europe.

106. Trade flows of coniferous sawnwood to the developing countries were mainly from the developed countries including from Canada, USA and USSR, but there were some significant flows between developing countries in Latin America, notably from Chile. In the Middle East, Saudi Arabia and Egypt were the main importers of coniferous sawnwood. For the trade flows of coniferous sawnwood in 1980 and 1981, see Annex.

#### E.(3) WORLD TRADE PATTERNS AND FLOWS IN PLYWOOD AND BLOCKBOARD:

107. World trade in plywood and blockboard (hereafter, the term "plywood" includes "blockboard") showed, throughout the 1970's, an excess of imports over exports, thereby indicating a dependency on major plywood manufacturing and exporting countries, situated mostly in the developing countries. Of these, the largest exporter was the Republic of Korea. The major importers were the developed countries, among which the USA accounted for the largest volume of imports in 1979, the peak year of that decade. In that year USA's imports of plywood and blockboard accounted for 1.57 million cu.m. out of global imports of 7.05 mill.cu.m. or roughly 22.3%. The bulk of USA's imports were from developing countries which supplied 95% of the USA's import requirements in that year. The main export flows of plywood to the USA were from Republic of Korea, Taiwan (POC), and Philippines. These countries together accounted for 96% of developing countries' exports to USA in 1979.

#### RELATIVE VALUES

108. It will be of interest to look at the relative values of the WORLD, the developed and the developing countries' exports and imports of plywood. See the Omnibus table and the table E.15 below. The latter gives the annual average volumes, values and the unit values, for the period 1977-1980:

#### P L Y W O O D

TABLE: E.15

ANNUAL AVERAGE VOLUMES & VALUES OF EXPORTS AND IMPORTS OF WORLD, DEVELOPING AND DEVELOPED COUNTRIES FOR THE PERIOD 1977-1980  
(VALUE: \$ Million, VOLUME: Million cu.m.)

	-----EXPORTS-----			-----IMPORTS-----		
	Vol.	Value	\$ per unit	Vol.	Value	\$ per unit
World	6.829	\$2297	\$336	6.555	\$2291	\$350
Developing	4.167	\$1184	\$284	1.358	\$452	\$333
Developed	2.662	\$1069	\$402	5.197	\$1845	\$355

109. The above table, which is on a broad basis, indicates the following characteristics related to the unit value of the exports and imports of plywood: (i) the unit value of the world's imports was greater than the unit value of the world's exports; (ii) the unit value of developing countries' imports was greater than the unit value of their exports; (iii) in contrast, the unit value of developed countries' imports was lower than the unit value of their exports; (iv) the unit value of developed countries' exports was far greater (by 41.5%) than the unit value of developing countries' exports; put in a converse way, the unit value of developing countries' plywood exports was 29% lower than the unit value of developed countries' plywood exports. Considering that developing countries' exports are more substantial than those of the developed countries, it may be of interest to developing country-exporters to consider the possible factors, including quality and transportation considerations, which might have contributed to this unit value differential.

110. Since the beginning of the 1970's, and throughout the entire decade, developing countries' exports of plywood, in volume terms, exceeded developed

countries' exports in 1971 by 4.15%, in 1976 by 53.41% and 1981 by 54.56%. On the other hand, developed countries imports of plywood, in volume terms, exceeded that of the developing countries in 1971 by 10.18 times, in 1976 by 6.21 times and in 1981 by 2.67 times. The growth of developing country-markets for plywood, particularly that of the Middle East countries (mainly Saudi Arabia), Hongkong and Singapore, is a salient feature of the decade. Of the total plywood exports of developing countries, the percentage of such exports to other developing countries were as follows: in 1979 (27.15%), in 1980 (45.62%) in 1981 (50.28%). (See Direction of trade in plywood for 1980 and 1981 in the Annex.

111. This trend of increasing intra-trade in plywood among developing countries has important implications for the primary wood-processing industries in developing countries. It indicates:

First, that dependency on developed country-markets for plywood is being reduced;

Second, that intra-developing country-trade, particularly intra-regional trade, in wood-products of secondary processing, can and might be increased; and,

Third, that there is need for developing countries to co-operate more closely in expanding trade between themselves in processed wood products, both intra-regionally and inter-regionally, and in re-examining their own tariff structures to facilitate this expansion.

112. Developed countries' exports of plywood, during the 1980's, were mainly to other developed countries, but there was an increasing tendency to export to developing countries, as well, particularly to the Middle East countries (notably Saudi Arabia). See below. This latter tendency indicates:

First, that there will be growing competition between developed and developing exporting countries for larger shares in the increasing developing country-markets; and

Second, that as the standards of living rise in the developing country-markets, so will their imports of plywood, thus possibly further augmenting this competition.

TABLE: E.16

DEVELOPED COUNTRY EXPORTS OF PLYWOOD (1979, 1980, 1981):

	to other Developed (mill.cu.m.)	% of total	to developing (mill.cu.m.)	% of total
1979	5.725	79.65	1.463	20.35
1980	4.525	68.79	2.053	31.21
1981	4.525	64.52	2.488	35.58

TREND OF TRADE IN PLYWOOD AND BLOCKBOARD:

113. The trend in world trade of plywood tended to follow the general increasing trend that is applicable to other wood and wood products in the 1970's. There was a peak in the trade in 1973 followed by a decline in 1974-75, a recovery in 1976 and a second peak in 1979, followed by a short period of decline, that showed signs of some recovery in 1981. The peak of 1973 was not regained in imports in 1981 although it was exceeded in the exports. In volume terms, world exports of plywood increased from about 5.3 million cu.m. in 1971 to about 6.6 million cu.m. in 1980 (24.9%); and world imports of plywood increased from about 5 million cu.m. in 1971 to 5.9 mill.cu.m. in 1980 (16.41%). See below:

TABLE: E.17

## WORLD EXPORTS AND IMPORTS OF PLYWOOD (in million cu.m.):

	1971	1973	1974-5	1976	1979	1980	1981
exports	5.3	6.6	5.2 (avg)	6.4	7.1	6.6	7.0
imports	5.1	7.6	5.6 (avg)	6.5	7.1	5.9	6.4

114. The trend in imports differed between some of the major importers. The USA, which is the world's largest importing country showed some fluctuation within an overall declining trend, importing in 1980 and 1981, less than it did in 1971. Compared to its imports in 1971 USA imported 54.69% less in 1980 and 44.5% less in 1981. See below.

TABLE: E.18

## USA AND W. EUROPE IMPORTS OF PLYWOOD 1971 - 1981 (Vol. million cu.m.):

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
USA	2.2	2.7	2.2	1.3	1.7	2.1	2.0	2.2	1.8	1.0	1.2
W.EUR	1.9	2.2	2.7	2.1	2.0	2.7	2.5	2.9	3.4	2.9	2.9

115. Western Europe's imports, however, showed an overall increasing trend in plywood imports, with some downward fluctuation in the 1974-75 and 1980 periods, which carried on into the beginning of the 1980's. Compared with its imports in 1971, Western Europe's imports of plywood increased 55.2% in 1980 and 55.9% in 1981. Overall, however, there was an increasing trend in world's imports. The major importing countries in Western Europe are in the European Economic Community. The largest importing country in the EEC is the UK. The UK is also the second largest importing country in the world, ranking next to the USA. The other major importing countries in the EEC are the Netherlands, FR of Germany, France, Benelux and Denmark. Japanese imports of plywood increased from 0.1 mill.cu.m. in 1980 to 0.5 mill.cu.m in 1981 (46.67%). Australia's imports increased from 0.04 in 1980 to 0.06 mill.cu.m. 0.6in 1981 (about 50%).

116. At this juncture, it may be pertinent to indicate selected major developed country-importers and the share of plywood exports of developing countries in the total imports of these developed country-importers. Western Europe's imports were mainly from other countries within the European region. In the table below are given the volume and percentage share of developed and developing countries' exports in the imports of selected major importing countries.

TABLE: E.19

## PLYWOOD IMPORTS OF MAJOR DEVELOPED COUNTRIES (ANNUAL AVERAGE 1979-81):

	from other developed countries		from developing countries	
	(mill.cu.m) (avg.1979-81) (% of total)	(% of total)	(mill.cu.m.) (avg.1979-81) (% of total)	(% of total)
USA	0.128	10.72	1.020	89.28
UK	0.414	53.46	0.361	46.54
Netherlan	0.194	62.72	0.115	37.28
FRGermany	0.279	91.68	0.025	08.32
France	0.121	75.94	0.038	24.06
	(avg.1980-81) (% of total)		(avg.1980-81) (% of total)	
Japan	0.039	30.12	0.090	69.88
Australia	0.000	00.00	0.050	100.00

117. It is of interest to note that the increasing trend in global exports of plywood in the 1970's, was not reflected in the pattern of plywood exports from the Africa region (excluding South Africa). This region's exports which amounted to 97,000 cu.m. in 1971, decreased to 51,000 cu.m. in 1980, a decrease of 47.42%. Gabon, which exported most in the region, accounted for an estimated 41,000 cu.m. in 1971 but only 19,000 cu.m. in 1980, a decrease of 53.66%. Nigeria became a net importer of plywood from 1975 onwards. In the case of Ghana, its exports decreased from 12,000 cu.m. in 1971 to only 1,000 cu.m. in 1980, a decrease of 91.67%. But Ivory Coast increased its exports from 10,000 cu.m. in 1971 to 14,000 cu.m. in 1980, an increase of 40%. The Ivory Coast's exports reached a peak of 27,000 cu.m. in 1977.

118. In Asia, the exports of the Republic of Korea increased from 1.028 million cu.m, in 1971 to 1.322 million cu.m. in 1973, after which it fluctuated downward in 1974 to 1.03 mill.cu.m. but recovered in 1975, and reached its second peak of 1.703 mill.cu.m. in 1977. Thereafter its exports decreased to 946,000 cu.m. in 1980, a decrease of 7.98%. Of the plywood exporting countries in the Asia-Pacific region, Indonesia's plywood exports increased the most. From 1000 cu.m. in 1975, the exports increased to 245,000 cu.m. in 1980 (245 times). In 1981, the exports rose to 535,000 cu.m., an increase of 113.37% over 1980 exports. (Indonesian official sources put the 1981 plywood exports at 759,515 cu.m. which is a much higher figure.) In 1980, the volume of Indonesian plywood exports was the second largest in Asia, coming next to the Republic of Korea's exports, and more than those of Malaysia and Philippines. The trend is for Indonesia's exports of plywoods to further increase. It is pertinent to point out that the bulk of the flow of Indonesia's plywood exports in 1980 and 1981 were to other developing countries. In these two years, the percentage of Indonesia's plywood exports to the developing countries were 74.69% and 84.11% respectively of its total plywood exports. The main developing importing countries of Indonesian plywoods were Singapore, Saudi Arabia and Hongkong.

119. In South America, Brazil's exports increased from 29,000 cu.m. in 1971 to 99,000 cu.m. in 1980, an increase of 241.38% or 3.41 times. Brazil's exports reached a peak of 111,000 cu.m. in 1979. Brazil is the largest exporting country of plywoods in South America, accounting for 81.62 of the total exports of South America in 1979, the peak year. Other exporting countries in South America in the 1970's were Ecuador, Paraguay and Surinam. There is an increasing trend in the exports of the region as a whole, with one downward fluctuation in 1974-75, within the increasing trend. The South American region's exports of plywood rose from 45,000 cu.m. in 1971 to 191,000 in 1980 and 210,000 cu.m. in 1981.

#### CONCLUSIONS:

120. In concluding this section on the world trade in plywood, it is pertinent to point out:

(i) That there is an overall increasing trend in the exports and imports of plywood, and that this is particularly so, in the case of the developing countries. In the 1970's developing countries exported by volume more plywood than the developed countries.

(ii) That there is an increasing trend for developing plywood manufacturing and exporting log-producing countries to increase exports to other developing countries, with consequent reduction in dependency on developed country-markets for their plywood. As a corollary to this, the trend will be for greater competition for these developing markets, particularly, in the oil-rich but wood-poor Middle East markets, between developing and developed plywood producing countries.

(iii) That there is room for further expansion in intra-regional trade in plywood and secondary processed products.

(iv) That a powerful factor in limiting export growth in the new plywood-manufacturing log-producing countries, will be the growth of the internal market in these developing countries.

(v) That, unit for unit, the value of developed countries' exports of plywood is far greater than that of developing countries.

(vi) That a major structural shift is taking place, particularly in the Asia-Pacific region, which is closely related to the phenomenon of increasing production and exports of plywood in and from major log producing developing countries.

(vii) As part of this shift, substantial curtailment in log exports by log-producing countries in the Asia-Pacific region, either as a result of governmental policy or of depletion of resources, is causing structural adjustments in the primary wood-processing sectors, which includes plywood, in the major plywood producing countries that depend on log imports for raw material.

(viii) That the trend is for the production and exports of plywood in in-transit processing countries to decrease as supplies of log material diminished with an accompanying increase in log prices.

## E.(4) WORLD TRADE PATTERNS AND FLOWS IN VENEER (SITC.634.1):

121. World trade pattern in veneers in the 1970's followed the general pattern of the world trade in wood and wood products during that period. Both exports and imports of veneer increased from 1971, reaching the first peak in 1973, declining thereafter in 1974-75, to recover in 1976 and reach a second peak in 1980, after which it declined.

## COMPARISON BETWEEN WORLD VENEER AND PLYWOOD TRADE:

122. Some comparison between the world trade in veneer and plywood may be relevant and of interest particularly to developing countries. World plywood exports exceeded world veneer exports by about 5 times in volume terms but only 3.4 times in value terms; while world plywood imports exceeded world veneer imports by 4 times in volume terms but only 2.8 times in value terms. This is indicative of the greater unit value of veneer over plywood in overall world trade. Thus, during the period 1977-1980, the unit value of world veneer exports exceeded the unit value of world plywood exports by 46%, and the unit value of world veneer imports exceeded the unit value of world plywood imports by 44%.

## UNIT VALUE DIFFERENTIALS:

123. In the case of the developed countries, there were corresponding but somewhat higher unit value differentials between veneer and plywood exports and imports. The unit value of developed countries' veneer exports exceeded that of their plywood exports by 55% and the unit value of their veneer imports exceeded that of their plywood imports by 56%. See table below.

124. In the case of the developing countries, the situation was reversed on two counts. First, the unit value of their veneer exports was 5% less than that of their plywood exports. Second, the unit value of their veneer imports was 19% less than that of their plywood imports. Based on this, two conclusions may be drawn:

(i) the unit value of the veneer exports of developing countries was very low indeed when compared with that of the developed countries;

(ii) this very low level of the unit value of developing countries' veneer exports is further accentuated when it is considered that the unit value of their plywood exports was much lower than that of the developed countries (the annual average plywood export unit value of developed countries was \$402 as against that of developing countries which was \$284 - in the period 1977-80). See table below.

## NARROWING OF GAP IN UNIT PRICE DIFFERENTIALS:

125. The comparatively very low unit value of the veneer and plywood exports of developing countries are pertinent matters which need to be taken into consideration in any international programme aimed at promoting and helping to raise the share of developing countries in the world's industrial output in wood and wood products. It may be of interest to developing countries, therefore, to examine the possible factors, including quality standards, production costs, transportation considerations and the like, that contribute to these unit value differentials between developed and developing countries, in respect of both veneer and plywood, with a view to improving their production, marketing and promotion techniques and capabilities, and narrowing the gap in the unit value differentials in these products.

126. The table below gives, in volume and value terms, the exports and imports of veneers in the period 1977-1980:



TABLE: E.20

ANNUAL AVERAGE VOLUMES AND VALUES OF EXPORTS AND IMPORTS:  
(1977-80) (VALUE \$ Million, VOLUME million cu.m.):

	EXPORT			IMPORT		
	Vol.	Value	\$ per unit	Vol.	Value	\$ per unit
WORLD	1.387	680	490	1.635	826	505
DEVELOPING	0.521	140	269	0.365	84	230
DEVELOPED	0.866	540	624	1.362	742	545

127. The table below gives a comparison of the unit value in the export and import of veneer and plywood by the world, developing and developed countries in the period 1977-80:

TABLE: E.21

COMPARISON OF EXPORT AND IMPORT UNIT PRICES FOR VENEER AND PLYWOOD  
(Annual average 1977-1980):

	—Export Unit Value—		—Import unit value —	
	Veneer	Plywood	Veneer	Plywood
WORLD	\$490	\$336	\$505	\$350
DEVELOPING	\$269	\$284	\$230	\$333
DEVELOPED	\$624	\$402	\$545	\$355

128 The table below gives, in volume and value terms, the ratio of veneer and plywood in the world's exports and imports of these wood products:

TABLE: E.22

RATIO OF WORLD TRADE IN VENEER AND PLYWOOD BY VOLUME AND VALUE IN 1977-1980  
(VALUE:\$ Million, VOLUME: Mill. cu. m.)

	VENEER	PLYWOOD	RATIO
VOLUME:			
Exports:	1.387	6.829	17:83
Imports:	1.635	6.555	20:80
VALUE:			
Exports:	\$680	\$2297	23:77
Imports:	\$826	\$2291	26:74

129. In world trade in veneers, during the period 1977-1980, developing countries accounted for an annual average of 0.52 million cu.m. and developed countries of 0.87 mill.cu. m. in veneer exports (37:63); and, 0.365 mill.cu.m. and 1.362 mill.cu.m. respectively in veneer imports (21:79).

130. During this period, North America accounted for the largest exports in volume terms, followed by Western Europe, Asia, Africa and South America. In North America, the USA accounted for the largest exports. In Western Europe, Federal Republic of Germany accounted for the largest exports of veneer. Other major exporting countries in Europe were France, Italy, UK and the Netherlands. In Asia, Malaysia accounted for the largest exports. Other major exporting countries in Asia were the Philippines, Japan and Singapore. In Africa, Congo accounted for the largest exports of veneer. Other major exporting countries in Africa were the Ivory Coast, Gabon and Cameroon.

131. In regard to veneer imports, during the 1977-80 period, Western Europe

accounted for the largest imports, followed by North America, USSR & E. Europe, Asia, Middle East and Latin America. In Western Europe, FR Germany was the largest importing country of veneers. Other major importing countries in Western Europe were France, Netherlands and the U.K. The veneer imports of Asia, in volume terms, ranked next to North America, with Israel accounting for the largest imports, followed by Singapore and Japan.

132. SOME SALIENT FEATURES IN THE VENEER TRADE FLOWS OF DEVELOPED AND DEVELOPING COUNTRIES:

(i) Developed countries traded most with other developed countries. In 1980, out of the total exports of 876,000 cu.m. of developed countries, 801,000 cu.m. or 99.4% were to other developed countries.

(ii) Developing countries divided their veneer exports, 45% to other developing and 55% to developed countries. In 1980, of the total exports of 540,000 cu.m. of developing countries, 241,000 cu.m. or 45%, were to other developing countries, comprising, inter alia, Paraguay's exports to Brazil which accounted for 35%, and Malaysia's exports to Singapore which accounted for 23%.

(iii) Of the total veneer exports of developing countries to the developed countries, amounting to 299,000 cu.m., the Federal Republic of Germany imported the most - about 19%.

(iv) In FR of Germany's total veneer imports of 215,000 cu.m., developing countries supplied 58,000 cu.m. or 30%.

(v) Developing countries supplied 80% of Japan's imports of veneer of 10,000 cu.m.

(See FAO's Table on the Direction of Trade in Veneer Sheets for 1980, 1981; and FAO's Table on the International Tropical Timber Trade: Imports of Logs, Sawwood, Veneer and Plywood 1976-1981 in the Annex. This latter table gives the total volume and value of World Imports in these four main product categories.)

CONCLUSIONS:

133. In concluding this section on veneers, it may be said that:

(i) there was an overall increasing trend in world trade in the 1970's.

(ii) developed countries' exports expanded more than those of developing countries, and developing countries' imports expanded more than those of the developed countries in that decade.

(iii) the unit value differentials between developed and developing exports and imports need to be more closely examined, within the framework of the overall objective of increasing developing countries' share in world industrial output in the wood-processing sectors, with the aim of:

(a) improving developing countries' veneer quality, marketing, promotion, production technology, packing and other considerations; and

(b) in order to narrow the gap in the unit value differentials between developing and developed countries in respect of their exports of veneer and plywood.

## (E.5) PARTICLE BOARD (SITC. 634.32) AND FIBREBOARD (641.6):

## WORLD TRADE PATTERNS AND FLOWS:

134. World trade in particle board and fibreboard is almost entirely between developed countries. The following tables illustrate this:

TABLE: E.23

EXPORTS AND IMPORTS OF PARTICLE BOARD AND FIBREBOARD  
(Annual average 1977-80) (\$ Million, Volume:mill.cu.m.):

	PARTICLE BOARD				FIBREBOARD			
	EXPORT		IMPORT		EXPORT		IMPORT	
	VOL.	\$	VOL.	\$	VOL.	\$	VOL.	\$
WORLD	5.2	0.8	5.4	0.9	2.3	0.37	2.0	0.38
DEVELOPING	0.1	0.02	0.3	0.1	0.2	0.05	0.2	0.07
DEVELOPED	5.1	0.78	5.1	0.8	2.1	0.32	1.8	0.31

Explanation: Fibreboard here covers all types of panels of wood-fibres.

TABLE: E.24

THE RATIO OF DEVELOPED TO DEVELOPING COUNTRIES  
OF EXPORTS AND IMPORTS OF PARTICLE BOARD AND FIBREBOARD  
(Annual average 1977-80)(\$ million, Volume mill.cu.m.)

	PARTICLE BOARD		FIBREBOARD	
	Volume	Value	Volume	Value
EXPORTS:	(98:02)	(97:03)	(91:09)	(86:14)
IMPORTS:	(94:06)	(89:11)	(90:10)	(82:18).

135. The world trade in particle board is substantially greater than that of fibreboard in volume and value terms. In the period 1977-80, the annual average particle board in world trade was about 2.5 times that of fibreboard in volume and 2.25 times in value terms.

TABLE: E.25

ANNUAL AVERAGE EXPORTS AND IMPORTS OF PARTICLE BOARD AND FIBREBOARD IN SELECTED COUNTRIES BY REGIONS AND VOLUME (1 MILLION CU.M.) FOR 1977-1980:

	PARTICLEBOARD				FIBREBOARD			
	EXPORT	%	IMPORT	%	EXPORT	%	IMPORT	%
WORLD:	5.2	100	5.4	100	2.3	100	2.0	100
DEVELOPED:								
of which:								
1.W.Europe	4.3	82	4.0	75	1.1	48	1.1	53
2.Centrally Planned EC	0.6	12	0.6	11	0.7	29	0.3	14
3.N.America	0.2	3	0.5	9	0.3	12	0.4	22
4.Oceania		1				1		
DEVELOPING:								
ALL	0.1	2	0.3	5	0.2	10	0.2	11

EXPORTS OF PARTICLE BOARD:

136. The largest exporting region of particle board was the Western Europe region, which accounted, in volume terms, for 4.3 million cu.m. or 82% of world exports. The developed centrally planned economy countries accounted for 12% and North America for 3%. The developing countries accounted for a mere 2%, and the Asian developing region accounted for about one half of the developing countries' share of particle board exports.

#### IMPORTS OF PARTICLES BOARD:

136. The largest importing region was also Western Europe which accounted, in volume terms, for 4.0 million cu.m. or 75% of world imports of particle board. European centrally planned economy countries accounted for 11% and North America accounted for 9%. Developing regions accounted for about 5%, consisting of the Middle East which accounted for 2%, Latin America for 1.8% and Africa for 1% and the Asia Pacific region for the balance.

#### EXPORTS OF FIBREBOARD

137. The largest exporting region in fibreboard was Western European which accounted, in volume terms, for 1.1 million cu.m. or 48% of world exports, the European centrally planned economy countries for 29%, and North America for 12%. The developing countries accounted for about 10% of which Africa accounted for about 9% and Asia for almost 1%.

#### IMPORTS OF FIBREBOARD:

138. The largest importing region in fibreboard was Western Europe, which accounted, in volume terms, for 1.1 mill. cu.m. or 53% of world imports, the European centrally planned economy countries for 14%, and North America for 22%. Developing countries accounted for about 11%, of which Africa accounted for 5%, Asia for 3% Middle East for 2% and Latin America for 1%.

#### TREND IN WORLD TRADE FOR PARTICLE BOARD AND FIBRE BOARD:

139. In the 1970's (1971-80) there was an increasing trend in world trade in both these products with fluctuations in that increasing trend. The world trade in these two products tended to follow the general pattern in world trade in wood and wood products. The world trade in these two products increased markedly, in both exports and imports, from 1971, with the first peak in 1973/74, followed by a decline in the mid-seventies, then a recovery from 1976, reaching the second peak in the period 1977-79, after which there was a decline, which carried on into the eighties.

#### 140. CONCLUSIONS:

(i) Although at the present time the production and trade in particle board and fibreboard is not significant in the developing countries, there is an increasing trend in the production and trade in particle board and fibreboard, particularly the former, in these countries. The following are the reasons for this trend:

(a) the possibility to optimally utilize the lesser-known or less commercially accepted hardwood species, of which there is an abundance in the tropics;

(b) the possibility to utilize the raw material from the productive natural softwood forest resources in some developing countries, and/or to utilize the fast expanding softwood and fast-growing hardwood plantations in the developing countries;

(c) the possibility to optimally utilize mill wastes, particularly for the manufacture of particle board;

(d) the possibility to expand substantially the domestic market for these two type of boards, particularly particle boards;

(e) the possibility that particle board is more resistant to

insect damage than plywood; and

(f) availability of the necessary expertize from developed countries and to train adequate technical staff in production, distribution and utilization technologies.

(ii) Despite an increasing trend in the production and trade in particle board and fibreboard in the developing countries, the production will, in the foreseeable future, possibly remain mainly in the developed countries, and the trade will essentially remain that between developed countries.

(iii) As developing countries production of particle and fibreboard increases, so will their competition with developed countries, in certain developing country markets, such as in the Middle East. However, because of the weight factor and transportation costs, it is not envisaged that developing countries' production and exports will be able to compete with developed countries in the developed country-markets, in the foreseeable future.

(iv) Trade in particle board, because of its weight factor, will essentially remain an intra-regional trade.

(v) There will be an increasing trend in developing countries to export particles or wood chips to developed and other developing countries.

E. (6) PULPWOOD (SITC 246), CHIPS & PARTICLES (SITC 246.02):

141. A considerable volume of the growing stock in the tropical forests are underutilized because the vast bulk of the species are not commercially accepted. Greater effort, with the assistance of national, regional and international organizations, if required, is necessary to optimize the industrial potential of these unknown, lesser-known or less commercially accepted species. One possible way is to utilize these species as pulpwood, chips or particles.. At present, the share of the developing countries in the trade in pulpwood, chips and particles is still insignificant in comparison with the production and trade of the developed countries in these products. This chapter on trade nevertheless takes a look at this trade which may hold substantial future interest for developing countries.

141. The following tables show the total world production of pulpwood and particles, consisting of coniferous and non-coniferous species, of developed and developing countries.

TABLE: E.26

	CONIFEROUS		NONCONIFEROUS	
	MILL. CU. M.	% OF WORLD	MILL. CU. M.	% OF WORLD
WORLD	240	100	102	100
DEVELOPING	16	7	17	17
DEVELOPED	224	93	85	83

TABLE: E.27

	PULPWOOD-RND+SPLT				PARTICLES			
	EXPORTS	%	IMPORTS	%	EXPORTS	%	IMPORTS	%
WORLD	17.3	100	17.55	100	14.9	100	17.2	100
DEVELOPING	0.5	3	0.05	0.3	0.6	4	0.1	0.6



OF THEIR ABUNDANT SUPPLIES OF LESSER-KNOWN SPECIES, PARTICULARLY FOR MAKING CHIPS AND AS PULPWOOD. It was widely accepted that the technology is now available for the utilization of the fibres of tropical non-coniferous species for pulp manufacture.

E.(7) WOOD RESIDUES (SITC 246.03):

147. The developing countries virtually do not participate in this world trade, which is an intra-developed country trade. Up till 1978 no developing country trade in this product category was reported in the FAO Yearbook of Forest Products. Since then, the trade is reported but the volume and value of developing countries' trade are insignificant. World trade in wood residues is relatively not large. In the period 1979-1981 the world trade (imports and exports) amounted to an annual average of 7 million cu.m. in volume and \$152 million in value. Nearly all of the trade was intra-North American and intra-European, mainly the latter.

E.(8) FURNITURE (SITC 8210 - rev.1):

148. Furniture constitutes one of the most important products of secondary wood processing. However, the data on the international trade in furniture is not available on a regular basis like the trade in traditional wood products of primary processing, such as sawnwood and wood-based panels are available. Consequently, information relating to this trade is scanty and fragmented. Moreover, because of the variations in products which can be brought under the generic heading of furniture, there is no exactitude in the nomenclature used. This lack of exactitude and the fact that furniture may be made of material other than wood, or composite material which includes some wooden components, make it even more difficult to obtain adequate information on trade in furniture built of wood or mostly of wood. An additional constraint is that much of the information, when available, is based on importing rather than on exporting countries' information. A complete picture of the world trade is therefore not possible.

149. Despite these constraints, a general idea of the magnitude of the world's trade in furniture may be obtained. Such information is of importance to developing countries embarking on an expansion of their secondary wood-processing industries. A proper analysis of the trade, however, is not possible, without more detailed information in both the qualitative and quantitative aspects. Such information has got to be collected from various sources, particularly from trade associations, but it is well beyond the scope of this chapter to embark upon that research. Due to time constraints, only a limited but nevertheless pertinent information, has been obtained and given hereunder.

150. The information given hereunder is qualitatively limited in the sense that the import figures are for furniture in the generic sense, covering all types of furniture, irrespective of the material used and the functions of the furniture. Customs tariff classifications, as often quoted in reports, are of little help, because of their broadness and their tendency to lump under the category of "NES" (not-elsewhere-stated) many items which do not fit into present groups.

TABLE: E.28

WORLD AND SELECTED COUNTRIES' IMPORTS OF FURNITURE (SITC 8210) AND FURNITURE PARTS (N.E.S.) (SITC 82109)(VALUE: \$ MILLIONS):

	FURNITURE		FURNITURE PARTS	
	1981	% OF WORLD	1981	% OF WORLD
WORLD	8276	100	4236	100

DEVELOPED M.E.TOTAL	6797	82	3676	87
of which:				
FRGermany	1518	18	1006	24
Italy	1387	17	728	17
Belg.Lux.	566	7	335	8
Denmark	402	4.9	213	5
Sweden	392	4.7	240	6
France	337	4	180	4
UK	275	3.3	150	4
USA	316	3.8	218	5
Japan	70	0.9	26	0.6
Australia	5	0.1	2.5	
CENT.PLAN.E.	590	7.1	313	7
DEVELOPING ME TOTAL	885	10.7	244	6
of which:				
Philippines	110	1.3	19	0.5
Hong Kong	71	0.9	24	0.6
Mexico	66	0.8	0.3	
Brazil	9	0.1	2	
Singapore	62	0.8	13	0.3
Korea RP	35	0.4	12	0.3
Thailand	34	0.4	14	0.3
Malaysia	13	0.2	3	0.1
Indonesia	5	0.1	2	

Source: UNSO/ITC.

151. The table below gives the furniture imports of the Federal Republic of Germany for 1981 and major exporting countries to FRG. The FRG was selected as an example as it represents the largest single importing country of furniture and furniture parts.

TABLE: E.29

F.R.OF GERMANY'S IMPORTS OF FURNITURE AND FURNITURE PARTS IN 1981  
(VALUE \$ MILLION)

	1981	% OF FRG IMPORTS
From World	1400	100
From Developed market economy countries	1219	87
From Centrally Planned economy countries	150	11
From Developing countries	31	2

Source: UNSO/ITC

152. Detailed data on the furniture trade is lacking. It represents a lacuna which urgently needs to be filled. However, fragmentary data relating to the exports of developing countries is available. The following data of furniture exports by the ASEAN members is based on the study prepared for UNIDO:

TABLE: E.30

ASEAN EXPORTS OF WOODEN FURNITURE AND FURNISHINGS



(1978, 1979, 1980) (VALUE \$ MILLION - FOB BASIS)

	1978	1979	1980
Indonesia	1.7	3.4	5.0
Malaysia	12.4	15.6	14.8
Philippines	2.8	7.4	7.8

Source: "Potentials and requirements of increasing the degree of wood processing in developing countries of Asia and the Pacific" by H.P. Brion (1983).

## SALIENT FEATURES:

153. The salient features in the world imports of furniture are:

(i) The developed countries are the largest importers and exporters of furniture including parts.

(ii) The developed market economy countries accounted for the largest imports in value terms. These imports were valued at about \$6.8 billion in 1981 or about 82% of the total world imports of about \$8.3 billion.

(iii) Of the developed market economy countries, Europe accounted for the largest imports, considerably more than the North American region and the centrally planned economy countries. In 1981, the Federal Republic of Germany was the world's largest importing country of furniture. It accounted for \$1.5 billion or about 18% of world imports in 1981. Italy was the next largest accounting for \$1.4 billion or about 17%.

(iv) Furniture imports stand third (by value) in the total imports of wood and wood products of the Federal Republic of Germany. In 1980, FRG's imports of furniture and furniture components amounted to 81.634 million DM, decreasing in 1981 to 64,033 million DM. In the first nine months of 1982 (Jan/Sept) the imports of furniture and furniture components reached 35,998 million DM. Of FRG's furniture imports in 1981, the Asia-Pacific countries' shares were: Taiwan (POC) accounted for 23,196 million DM, followed by Philippines (9.26 million DM), Thailand (8.378 million DM), the Peoples' Republic of China (5.8 million DM), Indonesia (4.7 million DM), Japan (3.9 million DM), Singapore (3.6 million DM) and Hong Kong (2.9 million DM).

(v) The developing countries share of world furniture imports amounted to \$885 million or about 11% of world imports in 1981. The largest importing developing country was the Philippines.

(vi) Since 1977 there was an increasing trend in world imports, rising from \$4.9 billion in 1977 to over \$9 billion in 1980, which was the peak year. In 1981, there was a decrease of about 9% compared to 1980.

Prices of wood and wood products

154. It seems essential to preface this section on prices, with the observation that, insofar as the tropical non-coniferous wood products are concerned, current levels of prices, do not take into consideration, the actual cost of the replacement of the resources that provide the raw material. This omission is historical but its continuance into the present times, as a victim of economic necessity, throws into focus, the whole basis of the price structure of tropical wood and wood products in the global trade in them, which is open to question on several grounds, not least on environmental, social ones. The concept of prices being "remunerative to producers and equitable to consumers" which has become established in the UNCTAD negotiations under its Integrated Programme for Commodities holds, for tropical wood and wood products, a deeper significance, than it does for other commodities or manufactured products. This significance rests on the obvious fact that the tropical forests <sup>are</sup> ~~were~~ being "mined" like minerals, and that given the present rate of depletion, which far outstrips even the most strenuous efforts at regeneration, the resources would dwindle to such an extent that, even in economic terms, the current exploitation methods are not viable in the longer term.

155. The continuous supply of industrial logs in terms of both quality and volume, is fundamental and basic to the increased and further wood-processing industries in the countries where the forest are situated, as well as to those importing countries in the developed world who depend upon this source of a vital raw material. The question of prices is interlinked with the forest replacement costs, directly or indirectly, and present indications are that what could not be obtained in the market place will be or is being obtained through executive initiatives such as export volume control, or export bans, both of which can result in structural shifts, going beyond price considerations.

156. The section on prices given below is limited to selected products in the tropical wood trade of developed and developing countries. Of this trade, the prices related to tropical non-coniferous logs, play an important role, and it is on this category that the section will focus. Of the tropical non-coniferous log trade, that between South East Asia and Japan is the most

important because of the volume and values involved. The information base on which prices of these "South Sea" logs are discussed, for reasons of expediency and practicality, consists of reports from various authoritative sources in Japan, which were summarized for UNIDO by K. Fukasaku.<sup>1/</sup> In addition, reference is made to K. Takenuchi's paper <sup>2/</sup>referred to earlier, which is pertinent to the discussion.

156. The general wholesale price index in Japan, insofar as wood and wood products are concerned, covers overall, not only imported wood but also wood from domestic sources. Furthermore, imported wood is not limited to "South Sea" logs, but to other origins, such as U.S. Hemlock and Soviet Silver fir.

157 It is pointed out that, contrary to the general wholesale price index, which was rather stable, throughout the seventies, except for the period 1972-74 and 1979-80, the wholesale price indices for wood and wood products, showed some instability, and that this focussed more on logs and sawnwood, of South East Asian origin, specifically of the Lauan species. Table <sup>F.31</sup>28 shows the wholesale price indices of timber in Japan over the decade, with mid-year 1975, taken as the base year. The table covers both imported and domestic "lumber" and includes plywood. Table <sup>F.32</sup>29 shows unit values of tropical non-coniferous logs, sawnwood, plywood and veneers in selected countries in the Asia-Pacific region. Figures A, B and C on pages <sup>43, 44, 45</sup>43, 44 and 45 show the long-term trends for tropical non-coniferous logs, sawnwood and plywood. In this regard, trends in "real" prices could differ depending on the deflators used. In addition Table <sup>F.33</sup>30 shows the Tokyo wholesale price and CIF unit value for Philippines logs and ocean freight rates for Japan's log imports 1957-67; and <sup>Table F.34</sup>wholesale prices for plain plywood of Lauan species in Japan and the Philippines respectively.

1/ F. Fukasaku, op. cited.

2/ K. Takenuchi : "Mechanical Processing of Tropical Hardwood in Developing Countries : Issues and Prospects of Plywood Industry Development in the Asia-Pacific Region" World Bank. 1982.

Table No. 31  
 WHOLESAL PRICE INDICES OF TIMBER,  
 PLYWOOD, and <sup>(Lumber)</sup> 1970-82/2 (1975=100)

Year	General Price Index	Domestic Timber	Imported Timber		Plywood			Lumber ( <del>Structure</del> )
			Average	Lauan	Average	Regular Plywood	Processed Plywood	
1970	63.6	61.5	69.7	76.0	87.7	90.9	85.3	64.5
1971	63.3	58.5	68.5	73.9	75.0	69.3	92.0	62.8
1972	63.8	62.9	67.1	60.5	77.9	75.5	80.6	76.6
1973	73.9	87.0	100.3	92.8	127.6	139.5	115.8	108.7
1974	97.1	102.8	103.2	116.4	121.3	123.4	120.7	103.0
1975	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1976	105.0	104.9	118.5	138.6	112.9	118.1	106.8	111.6
1977	107.0	103.4	115.5	133.4	119.9	125.4	113.3	113.6
1978	104.3	100.8	98.8	110.0	113.7	114.9	112.4	107.5
1979	111.9	118.9	160.4	209.3	156.0	167.0	144.8	140.1
1980	131.8	136.2	180.9	235.2	175.7	180.3	172.6	152.3
1981	134.1	118.3	142.4	188.1	149.0	145.6	154.2	124.0
1982 1. (Jan.)	135.1	115.7	154.5	211.6	155.0	158.4	152.5	130.8
2. (Feb.)	135.8	115.7	153.6	211.6	151.1	151.0	152.5	127.9

Source: The Bank of Japan.

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Table 30. Wholesale price indices of timber, plywood and lumber,  
1970-82/2 (1965 = 100)

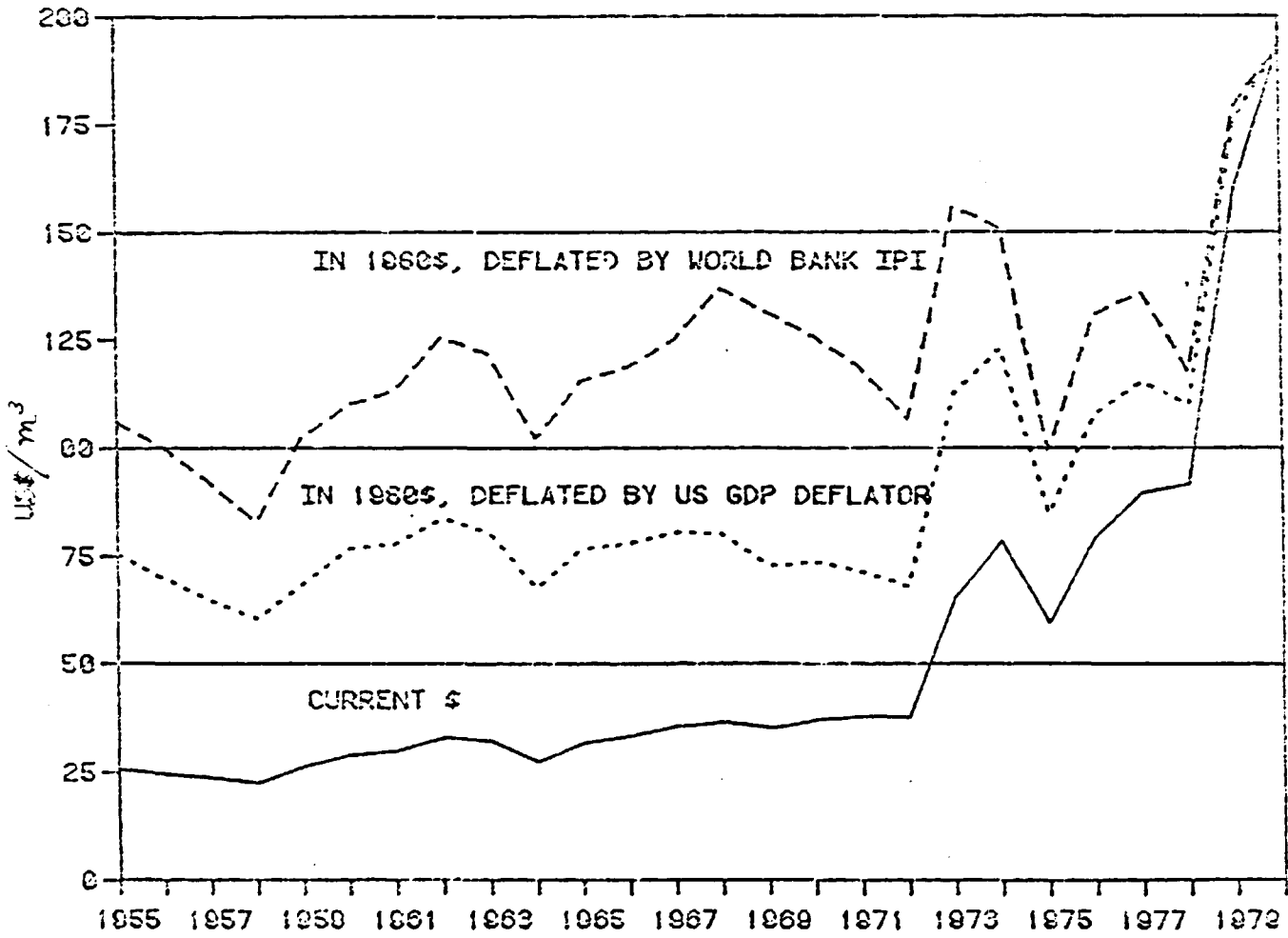
F.32

Table 31. Export unit values of tropical hardwood logs, sawnwood, plywood and veneers in selected countries and Asia-Pacific region 1970-1979

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Figure A. Price of Lauan veneer logs in Japan, 1955-1980  
(US\$/cm)

FIGURE A. PRICE OF LAUAN VENEERLOGS IN JAPAN, 1955-1980  
(US\$/CM)



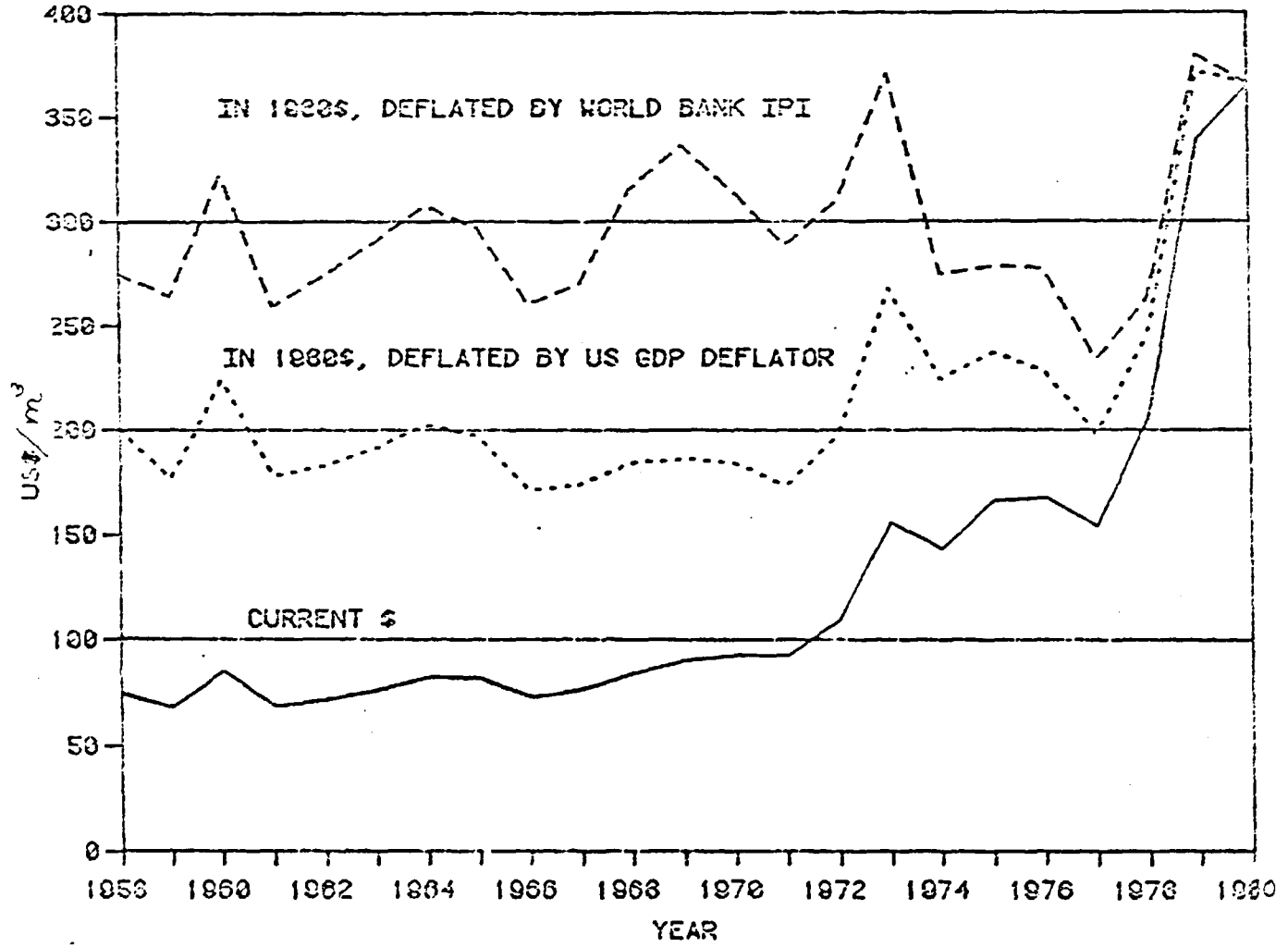
SOURCE: TAKEUCHI op. cit.

Figure A. Price of Lauan veneer logs in Japan, 1955-1980  
(US\$/cm)



Figure B. Price of Meranti Sawwood, 1958-1980  
(US\$/cm)

FIGURE B. PRICE OF MERANTI SAWWOOD; 1958-1980  
(US\$/CM)



SOURCE: TAKEUCHI *op. cit.*

Figure B. Price of Meranti Sawnwood, 1958-1980  
(US\$/cm)

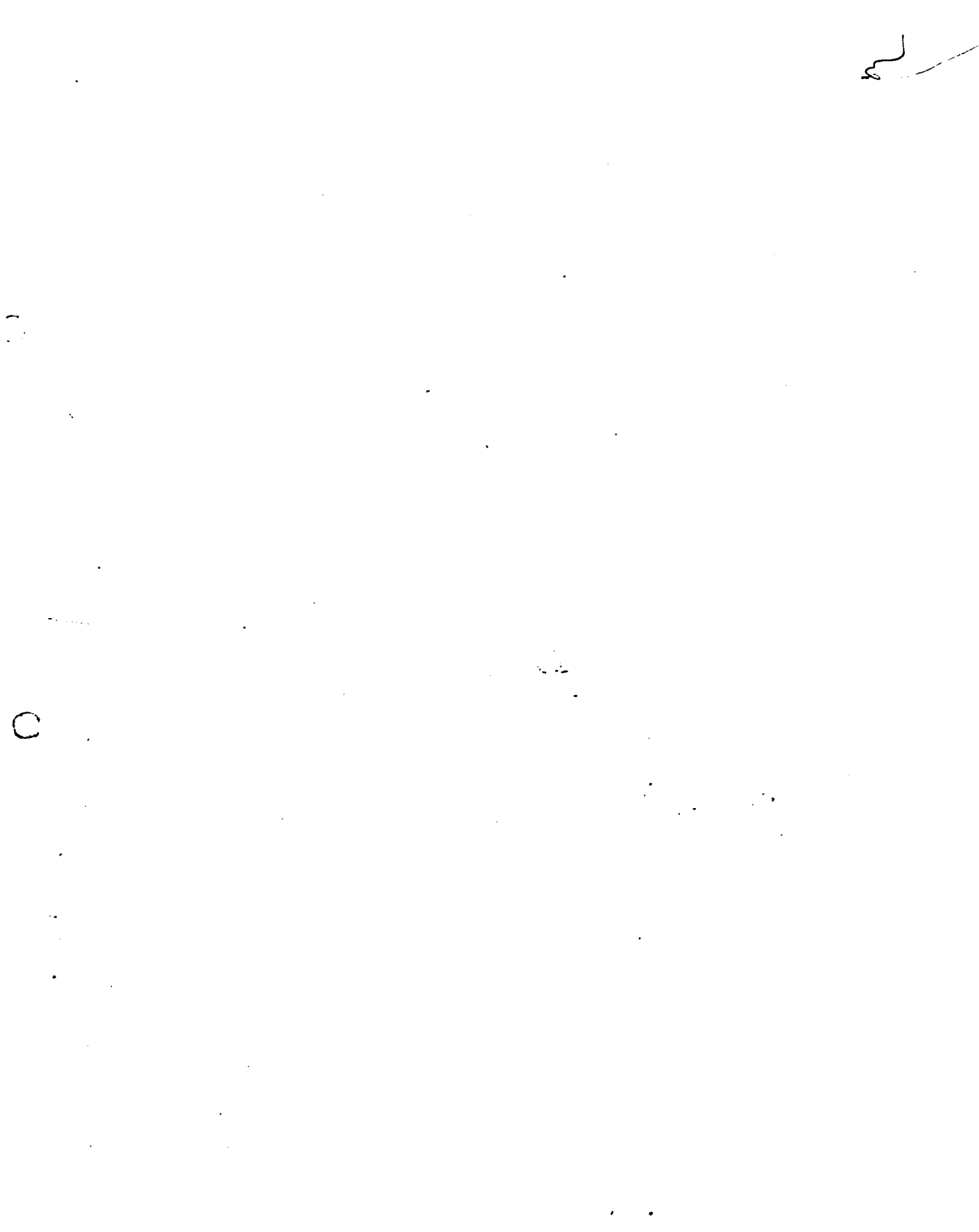
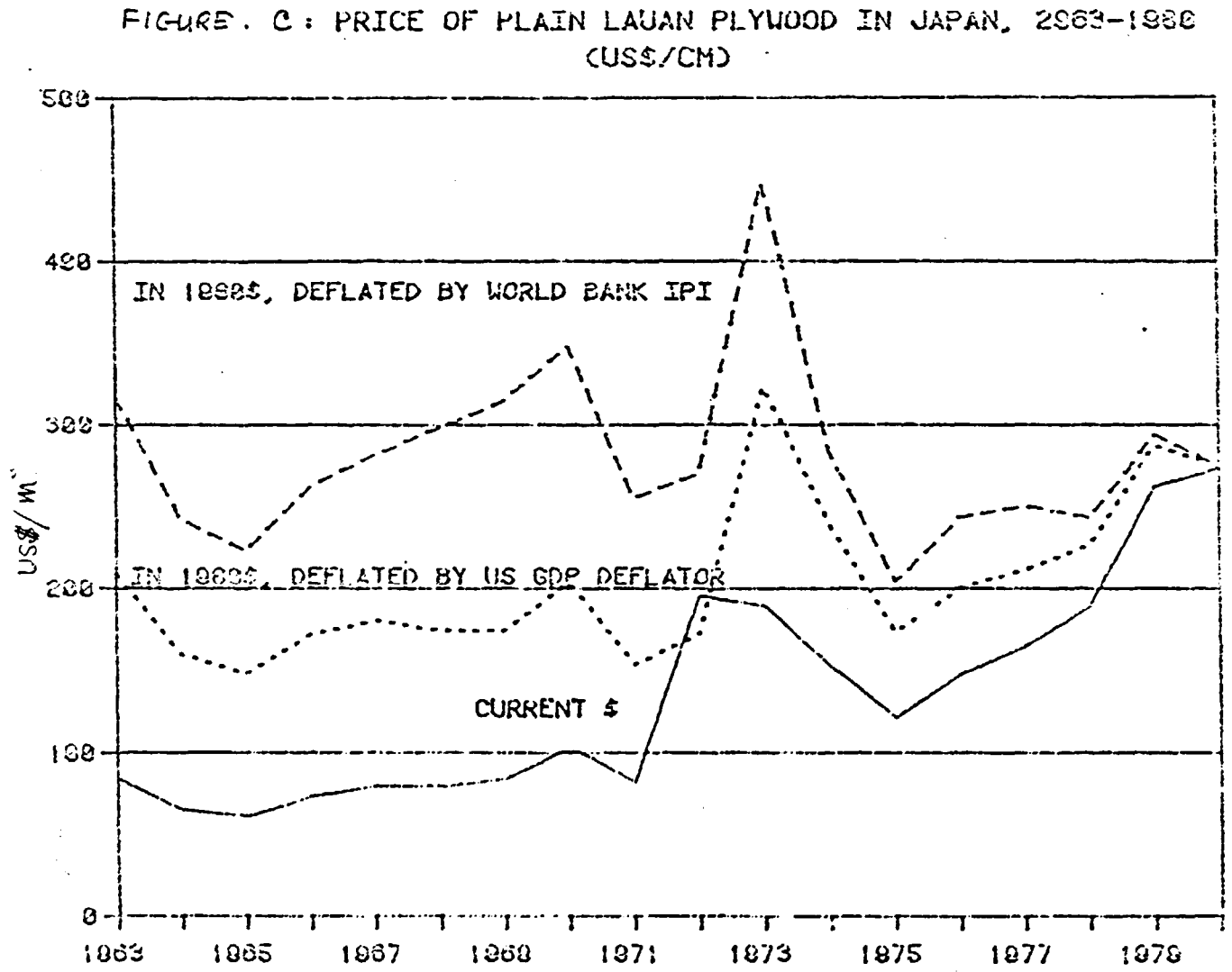


Figure C. Price of plain Lauan plywood in Japan, 1963-1980  
(US\$/cm)



SOURCE: TAKEUCHI (op.cit.)

Figure C. Price of plain Lauan plywood in Japan, 1963-1980  
(US\$/cm)

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E.33

Table 32. Tokyo wholesale price and CIF import unit value for  
Philippine logs and ocean freight rates for Japan's log  
imports from the Philippines, 1957-1967

E.33

Table TOKYO WHOLESALE PRICE AND CIF IMPORT UNIT VALUE  
FOR PHILIPPINE LOGS AND OCEAN FREIGHT RATES FOR  
JAPAN'S LOG IMPORTS FROM THE PHILIPPINES, 1957-1967

Year	Wholesale Price of Philippines Lauan Logs in Tokyo	CIF Unit Value of Lauan Log Imports From Philippines	Ocean Freight For Logs From Philippines to Japan	Ratio of Freight Cost to Import Unit Value
	US\$/m <sup>3</sup> (r)	US\$/m <sup>3</sup> (r)	US\$/m <sup>3</sup> (r)/a	(%)
1957	29.88	24.30	8.32	34.2
1958	26.50	19.80	5.17	26.1
1959	29.96	22.40	6.00	26.8
1960	33.67	26.30	6.21	23.6
1961	29.73	24.50	6.65	27.1
1962	34.76	27.10	6.69	24.7
1963	35.83	27.90	6.40	22.9
1964	33.88	26.00	6.59	25.3
1965	35.54	27.40	6.75	24.6
1966	37.54	29.90	7.12	23.8
1967	39.83	32.00	7.20	22.5
1958-67 (average)				24.74

/a Converted at 360 Yen = \$1.

Source: Wholesale price of logs and ocean freight - Japan, Bureau of Forestry, Timber Market Monthly Report; UNCTAD, The Maritime Transportation of Tropical Timber, TD/B/c.4/59, 5 January, 1970, p. 114. CIF unit value of logs - Japan, Ministry of Finance, Japan Exports and Imports, Commodity by Country, various issues.

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Table 32. Tokyo wholesale price and CIF import unit value for  
Philippine logs and ocean freight rates for Japan's log  
imports from the Philippines, 1957-1967

F.34  
 Table ~~22~~. Wholesale prices for plain plywood of Lauan species  
 in Japan and Philippines

Year	Japan /a			Philippines
	Thickness	2.5-2.7mm	4.0mm	6.35mm
	12.0mm	0.91m	0.91m	1.22m
	0.90m	1.82m	1.82m	2.44m
	1.80m			
1973	NA	NA	NA	109.1
1974	NA	NA	NA	124.7
1975	152.6	226.9	198.4	136.4
1976	196.8	242.8	234.1	164.4
1977	206.1	285.4	269.8	205.4
1978	224.7	331.0	301.2	191.2
1979	344.4	455.6	420.1	NA
1980	377.2	481.3	445.9	NA

/a The typical size in Japan is 0.91m (width) by 1.82m (length) with the thickness from 2.5mm to 12.0mm or more.

Source: Forestry Agency of Japan, Mokuzai Shikyo Geppo (Monthly Wood and Wood Products Report), various issues; FAO Forest Products Prices 1961-1980.

Table 33. Wholesale prices for plain plywood of Lauan species  
in Japan and Philippines



Tariff and non-tariff barriers

158. The wood and wood products of developing countries do face tariff barriers. The extent of such barriers and their effect upon an exporting country of wood products depends upon the product, the country exporting and the importing country. In other words, one has got to be specific. Even for the same product, such as plywood or builders' joinery or some specific product based upon wood, the tariff rate may differ substantially from the importing country to another and for one exporting country to another. That is why it is not realistic to generalize.

159. It would help to get a clearer perspective if the subject of tariff barriers for wood and wood products is considered on a specific basis. It is quite possible to list all the wood and wood processed products which enter the international trade. GATT lists<sup>1/</sup> 20 product categories covering four digits under the Customs Co-operation Council Nomenclature (CCCN), which was formerly known as BTN - Brussels Tariff Nomenclature. Even these four digit categories are aggregated, but as the number of digits increase, say to six digits, the product is more specifically described.

160. This GATT list covers all the main product categories. It also lists 11 major importing developed countries or groups - Australia, Austria, Canada, EEC, Finland, Japan, New Zealand, Norway, Sweden, Switzerland and U.S.A. The tariff and non-tariff barriers applicable to specific wood products in relation to any of the mentioned markets is clearly set out. An exporting developing or a group of developing country exporters of wood and wood products, such as ASEAN, can see what the tariff or non-tariff barrier, it will face for a specific product. In other words, the effect of these barriers is subject to both trading partners sensitivities towards the product.

161. There have been international negotiations such as the negotiations in UNCTAD and GATT where developing countries try to get certain existing tariff levels reduced or removed by their developed country partners. Each developed

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<sup>1/</sup> See "Tropical Products : Information on the Commercial Policy Situation and Trade Flows - Tropical Wood and Wood Products" (COM.TD/W/345), 1981. ~~List attached. See table.~~

country has its own policy in relation to the product under negotiation, which is why there is seldom, if ever, a blanket reduction on a product category which is sensitive. Even where some relief has been given and a tariff barrier has been reduced, some other barriers may remain at the discretion of the country importing, so that it may retain control on the quantum of the imports or the price levels, in order principally to protect its own industrial sector involved in producing the same product category or a similar product.

162 Plywood (CCCN 44.15) is a specially sensitive product, but the sensitivity varies in degree with the exporting country or the importing country. The EEC allows duty-free entry to state members of the ACP (African, Caribbean and Pacific) countries under the Lomé Convention of the products of these countries listed in the GATT document and this includes plywood. On the other hand, there is a quantitative ceiling which applies to non-Lomé Convention countries. Each year, a ceiling is fixed as to the volume of plywood which may enter the EEC countries, duty free, under the Generalized System of Preferences (GSP). The United Kingdom, as a EEC member is generally allocated the bulk of the volume of plywood imports duty-free under the GSP within the limits of the ceiling. However, as is often the case, the year's limit is reached in the first quarter of the year, but, up to now, there seems to be no way of an exporting country knowing whether or when the ceiling is reached. This can be a serious commercial constraint and risk. Where substantial volumes are involved, it can be highly detrimental to a shipper or importer, depending on the contractual terms, if the plywood, which was shipped to be within the quota, arrives after the ceiling is reached. This information is available to the shipper or importer only when the ship arrives at port. It is then too late. This is a case where both tariff and non-tariff constraints to trade take effect.

163 Both the volume non-tariff and value on the one hand, and the competitiveness of the product to the home producers on the other, determine the application of these non-tariff barriers. When the volume is small, or of no significant value, then, even if there is competition with home products, the tariff may be small despite a high degree of sophistication in the manufacture of the product. Similarly, an importing country which has little commerce in a product may be liberal in permitting access to it however

sophisticatd. Contrariwese, a country which has to protect its industry, e.g. plywood industry in Japan, will hesitate to lower its tariff. <sup>T6</sup>is date, there is no concession on plywood under GSP in Japan and the tariff remains at 20 per cent.

164 In addition to the tariff, it has been calculated that a country, in permitting the raw material e.g. logs or rough timber to enter duty free, does in fact give an advantage to local industries and this in effect raises the protective barrier. In the case of plywood, it has been estimated that this effective barrier amounts to over 60 per cent in Japan. The proportion of the cost input of the raw material in the manufacture, affects the percentage of effective protection. The 60 per cent in the case of Japan is based on cost of logs <sup>9</sup>forming 60-70 per cent of the cost of the material input.

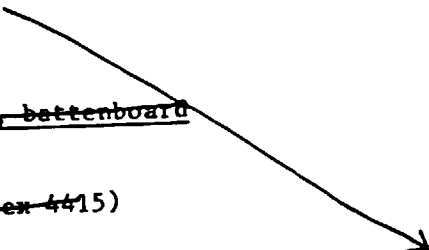
165 This being the case, the high duty on plywood in Japan might be contrasted with the tariff, say on chairs in Japan, of 4.8 per cent - 5.4 per cent under the "most-favoured-nation" (MFN) <sup>F</sup>treatment and one might conclude a possible de-escalation for furniture generally, which would not be the case, for example, in Australia, where the tariff on chairs is 30 per cent under MFN <sup>F</sup>and 20 per cent under GSP, and in New Zewland, where the rates are 40 per cent under MFN <sup>F</sup>and 22.5 per cent under GSP. Yet, under the South Pacific Regional Trade and Economic Agreement (SPARTECA) there is 0 per cent tariff on chairs.

166 From the commercial and pragmatie viewpoint, the category in wood products that is geared for volume and value is panel products, and this continues <sup>e</sup>to face severe barriers, despite that, for technical reasons, it is classified as a "primary" product. In this connection, it is pertinent to consider the value of the trade in processed products, based on the data available. ~~It is clear from the attached Table ..... on p..... that the category of processed products, which is of substantial total value that the developing countries have supplied is plywood (value ..... \$1.6 billion).~~

167 It is understandable, therefore, that producing countries continue to press for the reduction of the tariff when the markets are substantial. It has been said that the manufacture of plywood is the "core" of the processing

industry. Of this is so, it strengthens the attitude of large producing countries of plywood to press for the reduction in tariff and non-tariff barriers. (See Table on p. ... for the tariff and non-tariff barriers relating to N.C. wood-based panels under CCCN 44.15).

~~Table 34. Plywood, blockboard, laminboard, battenboard  
and veneered panels, etc.  
except those of coniferous wood (CCCN ex 4415)~~



168 Another aspect of non-tariff barriers is in the possibly growing export in wood chips and residues. The reason for this is the fact the developing countries have accelerated research into the possibility of utilizing their lesser-known species. Chipping is a relatively easy process but a non-tariff barrier exists in the form of sanitary and health reputations. This is an area, which developing countries may need to look into closely, not only to endeavour to comply with such non-tariff regulations, but also to invite more liberal application of these regulations <sup>where they exist</sup>.

169 UNIDO document "Tariff and Non-tariff Measures in World Trade of Wood and Wood Products",<sup>11</sup> which was specially prepared for the Global Consultations, clearly defines and illustrates the possible effects of a situation where all the existing tariffs are removed, particularly its effects on the wood and wood products trade of the developing countries. Detailed listing of non-tariff barriers from the UNCTAD data base are <sup>also</sup> provided.

170 Before proceeding to the recommendations, tariff barrier aspect of another important interest to developing countries might be <sup>mentioned</sup> ..... This refers to the fact that developing countries are moving, <sup>at</sup> an increasing <sup>to</sup> pace, towards integrated processing facilities, in which it seems logical that the manufacture of pulp and at least packing paper will be produced. What strengthens this trend, is the technical feasibility of afforestation with coniferous species, which grow at a very much faster rate than in the temperate areas, some species being ready for commercial exploitation within a decade of growth. When this stage arrives, developing countries may face another section of the tariffs applicable to wood products that they have not faced up till now - namely the tariffs and non-tariff barriers pertaining to the pulp and paper sectors. This means that, as from now, such tariffs and non-tariff barriers will need to be studied and monitored.

<sup>11</sup> Prepared for UNIDO by A. Olechowski (1983)

Recommendation

171. Better transparency of tariff and, especially, non-tariff barriers relating to the imports and exports of primary and secondary wood products, in the international, intra-regional and inter-regional markets, is urgently needed.

172. The prevailing unique phenomenon of increasing and rising non-tariff barriers related to the imports and exports of wood products, particularly, those which have undergone secondary processing, in contrast to the average level of tariff rates for the world as a whole, which are falling, needs to be regularly monitored and periodically examined.

173. The structural paradigm shifts in the wood industries and trade, which are taking place at the global level, have caused some major importing countries to maintain or increase their protective non-tariff barriers, as a means to postpone the impact of these shifts, or to shelter under the NTB's, while internal structural adjustments are being explored.

174. It is of vital importance that the structural adjustments take place smoothly, and in consultation between exporting and importing countries, because of their inter-dependence, and because unilateral structural adjustments, which may bring benefit in the short term to a country or group of countries, may be detrimental in the long run, to both exporting and importing countries.

175. Analyses of the possible or specific objectives of the non-tariff measures and the examination of the possible total effects of the NTB's on exporting and importing countries, can best be done by mutual consultations and co-operation between them, with a view to these NTB's being lowered or removed, as part of the process of making the structural changes, which are already taking place, as smooth as possible, and, by the same token, to soften the impact of those changes, when it comes.

176. Existing international fora, in which tariff and non-tariff barriers are negotiated, tend to consider a cross section of several commodities and

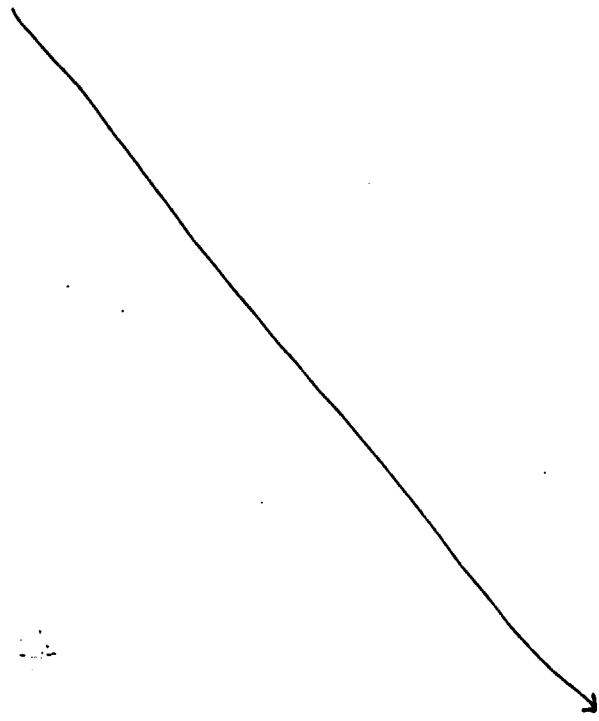
products, which are of interest to developing countries. While this is in keeping with the objectives and functions of these fora, there is some disadvantage in this approach, insofar as the secondary wood products sector <sup>are</sup> is concerned. This sector is, in fact, of special interest to the developing countries. The disadvantage of the approach, is that the tariff and non-tariff barriers relating to the secondary wood products sector, are more or less considered piecemeal, whereas, due to the inter-linkage, at the production level, between the various product categories of this sector, an overall approach, in which the many-faceted problems related to the tariff and non-tariff barriers, can be reviewed and discussed, seems to be very much needed.

177. Until an autonomous global organization for tropical timber, presently being negotiated under UNCTAD auspices, comes into existence, when it could address the tariff and non-tariff barrier issues related to the secondary wood products sector, on the basis of an overall approach, there seems to be no forum, which would specifically consider these issues on that basis and on their own, separately from the tariff and non-tariff barriers issues for a cross-section of several commodities and products.

178 Tariff and non-tariff barrier issues in the secondary wood products sector are, definitely, very sensitive issues, firstly, because of their important implications for the domestic wood processing industries of the developed importing countries; and, secondly, because of certain regional preferences, which the EEC, for example, has with the A.C.P. countries under the Lomé Agreements. This sensitivity, in the latter case, extends also to the beneficiary countries under the said agreements. For these reasons, the sensitivity of the tariff and non-tariff barrier issues related to the wood products sector, is a factor to take into consideration, in formulating a strategy for the First Global Consultation on Wood and Wood Products Industry.

179 As UNIDO is intrusted with implementing a system of consultations with the object of raising the developing countries' share in world industrial output through increased international co-operation, it would seem that a point consultative meeting with the co-operation of international

organizations, which have done considerable work in this field, but on a much broader basis, specifically to review and examine the tariff and non-tariff barrier issues related to the secondary wood processing sector, may serve a useful purpose in contributing to the attainment of the aforementioned objective.





**TABLE 7**  
**SUMMARY VIEW OF THE POST/MTN TARIFF SITUATION AND NON-TARIFF MEASURES**  
**AFFECTING TROPICAL HARD WOOD AND HARD WOOD PRODUCTS OF INTEREST TO DEVELOPING COUNTRIES**

Explanatory notes and symbols used

This summary table does not indicate duties on products of nil or limited interest to developing countries. Further details are available in Annex 3 for certain markets.

[ ] = GSP treatment limited by quotas or ceilings

SPARTECA = South Pacific Regional Trade and Economic Agreement

DPC (Australia) = Declared Preference Countries (These are mostly the developing Commonwealth countries, except India, Pakistan, Papua New Guinea)

\*\* = The ad valorem rates shown for Switzerland are ad valorem incidences of specific duties based on import data for 1976 or 1977, available in the Tariff Study file. It may be noted that incidence of specific duties may fluctuate from year to year.

\* = Ad valorem incidences of specific duties based on import data for 1976 or 1977 in the Tariff Study file. It may be noted that incidence of specific duties may fluctuate from year to year.

QR = Quantitative import restrictions

PNG = Papua New Guinea

AGP = African Caribbean and Pacific (Ocean) countries associated with the EEC under the Lomé Convention of least-developed countries (LDC) have unrestricted duty-free entry to the EEC market for all the items listed.

Tariff No.	Product Description	Australia	Austria	Canada	EEC	Finland	Japan	New Zealand	Norway	Sweden	Switzerland	USA
44.03	Wood, in the rough, whether or not stripped of its bark or merely roughed down. Of non-coniferous species.	0%	0%	0%	0%	0%	0%	0%	0%	0%	0% (tropical wood)	0%
44.04	Wood roughly squared but not further manufactured. Of non-coniferous species.	0%	0%	0%	0%	0%	0%	0%	0%	0%	0% (Tropical wood)	0%
44.05	Wood sawn lengthwise, sliced or peeled but not further prepared. Of non-coniferous species.	See Note 1	0%	0%	0%	0%	2/10% GSP 5% LDC 0% ; Other 0%	mfn 0% (Tropical wood)	0%	0%	0% (Tropical wood)	0%
44.07	Railway or tramway sleepers of wood	mfn 5% DPC 5% legs \$0.43/m PNG 0%	0%	0%	mfn 2.9%, 4.7% GSP 0% , 0%	0%	0%	mfn 10% GSP 0%	0%	0%	mfn SwFO, 0095/kg SwFO, 0157/kg GSP 0%	0%
44.09	Hoopwood, split poles, piles, pickets, stakes, etc. Of non-coniferous species.	mfn 15% GSP 0%	0%	0%	mfn 2.5-4.4% GSP 0%	0%	0% ; 7.5% GSP [0%] ; 5% GSP 0%	0%	0%	0%	mfn 3.5% GSP 0%	0%
44.13	Wood (including blocks, strips and friezes for parquet or wood block flooring, not assembled), planed, tongued or grooved, rebated, etc.	See Note 1	mfn A-6% B-5% GSP A-3% B-2.5%	mfn 0%, 5.5% GSP 0%, 4%	mfn 4% GSP [0%] ACP 0% LDC 0%	mfn 0%, 3.8% GSP 0%	mfn 0%, 10% GSP [0%]	mfn 10% GSP 0% NTM QR 2/	mfn 0%, 2.5% GSP 0%	mfn 0%, 2.5% GSP 0%	mfn 3.2, 4.6, 5% GSP 0% , 0%	mfn 0%, 3.2% GSP 0%
44.14	Veneer sheets and sheets for plywood (sawn, sliced or peeled, etc).	mfn 15% 1/	mfn 12% GSP 6%	mfn 0%	mfn 6% GSP [0%] ACP 0% LDC 0%	mfn 1.4% GSP 0%	0% ; 15% GSP [2.5%] LDC 0% 8% GSP [0%]	mfn 30% GSP 20% SPARTECA 0% NTM QR 2/	mfn 0%, 5.1% GSP 0%	mfn 1.4% GSP 0%	mfn 1.8%, 2.4% GSP 0% , 0%	mfn 0% , 3.2% GSP 0%

1/ Cut to size for making boxes; mfn 0% + 2% fiscal duty, GSP 0%; Other, of balsa mfn 15%, GSP 0%

2/ Duties on lauan, Kruiang, Karamun (and other Dipterocarpaceae family) wood sawn lengthwise, not further worked.

3/ Other than balsa wood.

Source: GATT, 1981

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Continued

Tariff No.	Product Description	Australia	Austria	Canada	EEC	Finland	Japan	New Zealand	Norway	Sweden	Switzerland	USA
44.15	Plywood, blockboard, lamin-board, battenboard and veneered panels, etc., of non-coniferous species.	See Note 1	min 18%, 7.3% GSP 9%, 3.7%	min 4%, 8%, 9.2% GSP - .3-7%, 5%	min 10% GSP [0%] ACP 0% I.L.D.C. 0%	min 1.4%, 3.5% GSP 0%, 0%	min 1% 1.7%, 1.7% <sup>h</sup> 20% <sup>h</sup> min 20% <sup>h</sup> (GSP [0%]) <sup>h</sup> Other	min 20%, 35% <sup>h</sup> GSP 10%, 25% <sup>h</sup> SPARTECA 0% IIFM QR	min 1.8-7.7% GSP 0%	min 2.5%, 3.5% GSP 0%, 0%	min 5.4-7.4% GSP 0%	min 4% <sup>h</sup> GSP partly 0% see Annex 3 for details
44.19	Wooden bendings and mouldings including moulded skirtings and other moulded board.	min 22.5% IIFM 0% SPARTECA 0% <sup>1/</sup>	min 5%, 7% GSP 2.5%, 3.5%	min 6.8% GSP 5%	min 3% GSP 0%	min 3.8% GSP 0%	min 7.2% GSP 0%	min 20% GSP 10% SPARTECA 0% IIFM QR	min 3.2%, 5.1% GSP 0%, 0%	min 3.2% GSP 0%	min 3.7-10.6% GSP 0%	min 0%, 4.5% GSP 0%
44.20	Wooden picture frames, photographic frames, mirror frames and the like.	min 22.5% GSP 10% IIFM 0% SPARTECA 0% <sup>1/</sup>	min 5%, 7% GSP 2.5%, 3.5%	min 9.2% GSP 7.5%	min 5.1% GSP 0%	min 3.8% GSP 0%	min 6.5% GSP 0%	min 20% GSP 10% SPARTECA 0% IIFM QR	min 3.2%, 5.1% GSP 0%, 0%	min 3.2% GSP 0%	min 3.3%, 4.7% GSP 0%	min 2.4% GSP 0% See Annex 3
44.21	Complete wooden packing cases, boxes, crates, drums and similar packings.	min 15%, 25% <sup>2/</sup> GSP 0%, 15% <sup>2/</sup> SPARTECA 0%	min 6% GSP 3%	min 15% GSP 10%	min 6.9%, 7.5% GSP 0%	min 0%, 3.8% GSP 0%	min 4.2% GSP 0%	min 0%, 10% GSP 0% SPARTECA 0% IIFM QR <sup>2/</sup>	min 0%, 5.1% GSP 0%	min 0%	min 1.7%, 4.7% GSP 0%, 0%	min 0%, 7.7% 16.7% GSP - 0%, 0%
44.22	Casks, barrels, vats, tubs, buckets and other cooper's products and parts, etc.	See Note 1	min 7% GSP 3.5%	See Note 2	min 2.9%, 4.1% GSP 0%	min 0%, 3.8% GSP 0%	min 4.2% GSP 0%	min 0%, 10% GSP 0% SPARTECA 0% IIFM QR <sup>2/</sup>	min 0%, 5.1% GSP 0%	min 2.8% GSP 0%	min 3.4% GSP 0%	min 0%, 2.8% 5.1% GSP - 0%, 0%
44.23	Builders' carpentry and joinery.	min 15%, 22.5% <sup>2/</sup> GSP 10% <sup>2/</sup> IIFM 0% SPARTECA 0% <sup>1/</sup>	min 10%, 13%, 6%, 9% GSP 5%, 6.5%, 3%, 4.5%	See Note 2	min 4.1%, 6%, 7.5% GSP [0%] ACP 0% I.L.D.C. 0%	min 0%, 3.8% GSP 0%	min 0%, 4.9% GSP [0%]	min 20% GSP 10% SPARTECA 0% IIFM QR <sup>2/</sup>	min 0.4-2.5% GSP 0%	min 0%, 2.5% GSP 0%	min 2.2-5.1% GSP 0%	min 3.2-16.7% GSP partly 0% see Annex 3
44.24	Household utensils of wood	min 15% GSP 0% SPARTECA 0%	min 6% GSP 3%	See Note 2	min 3% GSP [0%] ACP 0% I.L.D.C. 0%	min 5.1% GSP 0%	min 7% GSP 0%	min 30%, 30% GSP 15%, 20% SPARTECA 0% IIFM QR	min 5.1%, 7% GSP 0%, 0%	min 3.8% GSP 0%	min 4.2% GSP 0%	min 4.5-10.1% GSP partly 0% see Annex 3
44.25	Wooden tools, tool bodies, tool handles, broom and brush bodies, etc.	min 15%, 22.5% SPARTECA 0%	min 7% GSP 3.5%	See Note 2	min 4.6%, 6% GSP [0%] ACP 0% I.L.D.C. 0%	min 0%, 3.8% GSP 0%	min 3.2%, 4.2% GSP 0%, 0%	min 0%, 5%, 20% GSP 0%, 10% SPARTECA 0%	min 5.1%, 6.2% GSP 0%, 0%	min 2.2% GSP 0%	min 2.5%, 3.2% GSP 0%, 0%	min 0% 4.4% 8% GSP 0%

<sup>1/</sup> Made from exotic, non-competitive timber species.  
<sup>2/</sup> Of fibre building board  
<sup>3/</sup> Lauvred good  
<sup>4/</sup> Duty rates applicable to plywood

<sup>2/</sup> Complete wooden packing cases, boxes, etc (excluding returned empty containers), casks, barrels, vats, etc., of wood (excluding those in Item Code 44.000).  
<sup>6/</sup> Structural building units composed of laminated wood; beams, rafters, roof trusses and like structural timber in an ununassembled or disunassembled condition, not being goods of plywood, cellular wood, improved wood or reconstituted wood; other.

Tariff No.	Product Description	Australia	Austria	Canada	EEC	Finland	Japan	New Zealand	Norway	Sweden	Switzerland	USA
44.26	Spools, caps, bobbins, sewing thread reels, etc.	mfn 15% GSP 0%	mfn 6% GSP 3%	See Note 2	mfn 2.5% GSP 0%	mfn 2.4% GSP 0%	mfn 4.2%, 4.8% GSP 0%, 0%	mfn 10% GSP 0%	mfn 0%	mfn 2.2% GSP 0%	mfn 3.3% GSP 0%	mfn 5.1% GSP 0%
44.27	Lamps, trays, fruit bowls, etc, ornaments and adornments of wood, etc.	mfn 1%, 21 <sup>1/2</sup> % GSP 0%, 10% SPANTECA 0% <sup>1/2</sup>	mfn 7% GSP 3.5%	See Note 2	mfn 5%, 6% GSP 0%	mfn 5.1% GSP 0%	mfn 4%, 12% GSP 0%, 0%	mfn 30% GSP 15% SPANTECA 0% NFM QH	mfn 5.1% GSP 0%	mfn 3.6% GSP 0%	mfn 5.7-5.9% GSP 0%	mfn 5-11% GSP partly 0. See Annex 5
44.28	Other articles of wood, n.es.	mfn 1% GSP 0% <sup>2/2</sup> SPANTECA 0%	mfn 6%, 7% GSP 3%, 3.5%	See Note 2	mfn 2.9-7.5% GSP 0%	mfn 0%, 5.1% GSP 0%	mfn 5.2%, 5.8% GSP 0%, 0%	mfn 30% GSP 20% SPANTECA 0% NFM QH <sup>2/2</sup>	mfn 5.1% GSP 0%	mfn 3.8% GSP 0%	mfn 1.1% - 4.6% GSP 0%	mfn 0%-16.2% GSP partly 0. See Annex 5
94.01	Chairs and other seats of wood.	mfn 30% GSP 20% (by-law items only) FNG 0%	mfn 8%-28% GSP 4%-14%	See Note 2	mfn 5.6% GSP 0% ACP 0% LLDC 0%	mfn 5.1%, 7% GSP 0%, 0%	mfn 4.8%, 5.4% GSP 0% <sup>0%</sup>	mfn 40% GSP 22.5% SPANTECA 0%	mfn 0% 0.8-6.2% <sup>*</sup> GSP 0%	mfn 3.8% GSP 0%	mfn 1.7-16.2% GSP 0%	mfn 2.5-6.6% GSP partly 0. See Annex 5
94.03	Other furniture and parts thereof, of wood.	mfn 30% GSP 20% (by-law items, etc) FNG 0%	mfn 13.1%*, 27% GSP 6.6%*, 13.5%	See Note 2	mfn 5.6% GSP 0% LLDC 0%	mfn 5.1% GSP 0%	mfn 4.8%, 5.4% GSP 0% <sup>0%</sup>	mfn 40% GSP 22.5% SPANTECA 0%	mfn 0%, 2-5.5% <sup>*</sup> GSP 0%	mfn 3.8% GSP 0%	mfn 0.7-16.5% GSP 0%	mfn 2.5%, 4%, 5, 12 GSP 0%

<sup>1/2</sup> Fans and handscreens, non-mechanical and frames and handles and parts thereof for fans and handscreens.

<sup>2/2</sup> Other than paving blocks.

<sup>2/2</sup> Rollers for spring blinds; beehives and frames therefor including unassembled components, etc; shingles; planer forms of wood jointed lengthwise along the edge, tongued and grooved, etc.

Trade in wood and wood products in the context of  
economic development

180. By means of its export earnings, i.e. foreign exchange, a country is able to import the capital goods and services essential for its economic development. In the tropical wood and wood products sector, a substantial amount of foreign exchange is generated by the export of such products. For the developing countries, the particular type of wood and wood products specifically referred to are tropical non-coniferous logs, non-coniferous sawn timber, and plywood and veneer.

181. Trade figures indicate that the export of non-coniferous round logs generate by far the largest amount of foreign exchange earnings, tropical non-coniferous sawnwood, plywood and veneer, which are the other three "core" products, also generate substantial export earnings but, ~~as Table on p. 11 has shown~~ logs still hold the lead. <sup>See Annex.</sup> The question now is whether these products together, or individually, contribute to economic development. If they do not, or do not adequately, what are the options open to a developing country, using as its basis, its capital, if that word is usable here, the forest resource base that it has? In other words, how can the country, maximize its utilization of its forest resources to bring about the optimum economic development?

182. The problem inevitably boils down to whether it is more beneficial to a country to extract the logs as fast as possible and to export them, and so win the maximum amount in the quickest time that the forest products, in log form, can bring; or, whether it is more beneficial to utilize the forest resource base to establish industrial structures which will bring not only foreign exchange when the products of the wood industries are exported, but which will also bring the benefit of employment, social benefits and the like. In this latter case, the time frame would be longer.

183. In the developing countries with the most ample resources, the forest lands are owned largely by the Government, so forest-use can, in theory at any rate, be controlled by the Government, so, which <sup>e</sup>ver of the two options in the above question are considered the more suitable to adopt, endorsement and

implementation

implication can readily follow, assuming that the institutional means are adequate.

184. The current situation in most of these forest endowed countries, is really a historically evolved situation, in which little thought was given, or could have been given at the time, to economic development. In other words, to consider the forest endowment as a means to development, is a relatively new concept, which had not been tested or otherwise considered at policy making levels before.

185. While it was obvious that the forest resource should bring in some benefit, most governments of the resource endowed countries, were content, to ensure that some form of taxation was ~~levied~~<sup>imposed</sup> on forest users, generally known as stumpage - a historical appendix, as it were, that ~~survived~~<sup>survived</sup> into the twentieth century along with the colonial policies that engendered it. The forests, historically, were never really considered a resource, still less a capital asset, and to "mine" them away was the most simple form of forest use. As for questions of environmental implications and forest renewal, these concepts only appeared when the actual effects of environmental degradation became scientifically and socially apparent, which means, only in the last decade.

186. Historical accident, apart from the profit<sup>t</sup> motive, induced the system of concessions and the earning of possible taxes on the benefits which logging could bring. Vast areas were conceded to logging companies and the "forest-mining" really began in earnest, depleting considerable areas, with little or no economic development to speak of, being returned to the country, other than the very localized infrastructure, such as schools, hospitals, that necessity, Can the Jarrri estates created in the Amazon by the Indians rather than social reasons, helped create. Can this be economic development?

For example, enterprise be called economic development of the Amazon? Is there any means to know whether the 3.5 billions of dollars earned in foreign exchange from non-coniferous log exports have brought about the economic development in the countries from which they were shipped. (all such foreign earnings are inevitably earned by the log exports. Once in the pool, the needs of the development in the countries are inevitably channelled into a central pool, and there is no longer any means to identify the foreign exchange/country, in which the forest may not have priority, take precedence. How much does in fact go back into the forest resource for its management and its replenishment?.

187. Conventional wisdom has generally fought shy of taking any step to ensure that the fruits of the forests are largely used to ensure their continuity by reforestation and to use part of the fruits to establish ~~the~~ wood-based industries that would contribute to economic development. Wood-based industries can be labour intensive, as studies have shown in regard to the plywood and other industries. This is an aspect of economic development.

188. It is fallacious to think of wood-based industries as being export oriented only and that the un<sup>w</sup>wanted wastes are for local consumption. Most successful industries are grounded on sound domestic markets. Again, historically, wood industries in developing countries are considered only or mainly for products for export, even<sup>n</sup> in many a situation, where local demand for sawnwood in certain species, has created higher price levels than the levels foreign markets are prepared to pay.

189. Economic development, based on the forest resource endowment should have as its foundation a strong structure of wood using industries, capable of meeting not only domestic demand but have adequate capacity to meet the demand of foreign markets in terms of both quality and volume. The aspect of domestic demand is inter-linked with economic development. Of vital importance are Shelter, food and clothing. Economic development, to be on a sound footing, may need to rearrange priorities which would remedy rather than ameliorate or simply dispose of the symptoms temporarily. Many, if not most wood rich, countries are not on the verge of starvation. Far from it, the land in Bali, for example, volcanic as it is, is capable of yielding three crops a year. The important need of a wood rich country, such as Indonesia, is shelter in other words, building and construction materials for building houses. The economic and industrial structure that can provide to this need should and would be the basis of economic development.

190. Figures, it has been said, help to clarify and to create pragmatic dimensions for possible solutions. If that is so, let us look at a few figures related to Indonesia which have, it seems, in no small measure contributed to its current policy of turning from unprocessed log exports to processed products. Economic development is concerned with people, and of people, there is much and plenty in Indonesia. It has been reckoned that the population growth rate is 2.4 per cent/year, and that of GDP 6-8 per cent/year,

and that, based on these premises, the domestic wood consumption would increase at the rate of 4 per cent/year. What are the implications of these premises? The wood consuming population are concentrated in Bali and Java, which account for 60 per cent of total domestic wood consumption. The population of these two areas account for 91 million, compared to 51 million in the rest of the country. Of the wood consumed, it is also reckoned that 75 per cent is used for building and construction, 14 per cent for household use and furniture and 11 per cent for public works. Overall, based on the demographic trend the consumption needs for wood, in these two areas, would rise from 9.1 million m<sup>3</sup> of roundwood equivalent in 1978, to 22.4 million m<sup>3</sup> of roundwood equivalent in 2000. The population would increase from 91 million to 133 million in that time span.

191. Given these staggering figures, it is clear that the building and construction needs in such a situation can best be helped by a strong industrial structure, based upon wood as raw material, which can turn out components for the housing requirements of the people, at the level of those most in need of shelter, and that means the rural low income population, as well as substantial, in the sense of extensive, public requirements, such as for housing the huge numbers that are being resettled. The industrial structure should be in tandem with a well organized distribution centre, which would probably be governmental. In regard to the product categories, within the generic category of builders' wood work, there should be various components, that are amenable to appropriate technology in their manufacture, for the simple assembly of housing units.

192. Sawwood is still very much used, but closer attention is being focussed on panel products, including plywood, particle board and cement-and-wood based panels, and there is ample scope, given the encouragement, particularly by UN organizations, such as UNIDO, to utilize as much residue as possible in the manufacture of panels for domestic consumption.

193. All this spells the need for increased and better processing of material locally available. The domestic demand for panel can be the basis of panel production for export. It is reckoned that domestic consumption of plywood is increasing at the rate of 62 per cent/year (or 24,000 m<sup>3</sup>) and that

current consumption (1978) stands at 4-500,000 m<sup>3</sup>, and that a consumption figure of up to 1 million m<sup>3</sup> of plywood would be required by year 2000.

194. The above represents a brief case example of trade in the context of economic development. It concludes quite clearly that basic to such development, within the context of wood and wood based industry is the need for the broadening, strengthening and diversifications of the wood industrial base in most developing countries with sound resource potential.

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Trade flow  
Annexes  
Source: FIC



SITC PRODUCT CODE 247.1

SAWLOGS AND VENEER LOGS (C)

GRUES SCIAGE + PLACAGE (C)

TROZAS, ASERRAR + CHAPAS

QUANTITY 1000 CUB

QUANTITE 1000 CUB

CANTIDAD 1000 CUB

EXPORTERS	1980																TOTAL	
	WORLD	DEVELOPED	Japan	Canada	Italy	Austria	Germany FR	Finland	Hungary	Sweden	USA	Others	DEVELOPING	Korea Rep	China	Others		
WORLD	28072	26504	14084	6514	1050	970	884	691	507	899	341	313	731	1488	1004	298	186	27930
DEVELOPED	25421	24773	12733	6514	1041	774	884	513	505	899	341	313	654	648	350	217	81	25490
Japan	18622	18067	11473	5178	643	773	-	-	-	-	-	-	-	555	338	217	-	17172
Canada	1239	1239	1239	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1629
Italy	763	759	5	-	-	-	136	1	188	429	-	-	-	4	4	-	-	1492
Austria	886	886	1	153	-	-	478	-	244	10	-	-	-	-	-	-	-	1084
Germany FR	639	639	3	34	-	-	239	40	-	2	319	2	-	-	-	-	-	730
Finland	654	654	-	654	-	-	-	-	-	-	-	-	-	-	-	-	-	654
Hungary	595	595	-	431	-	-	-	15	147	2	-	-	-	-	-	-	-	647
Sweden	685	685	-	62	-	-	-	-	325	-	-	-	298	-	-	-	-	549
USA	398	398	-	-	398	-	-	-	-	-	-	-	-	-	-	-	-	517
Others	940	851	12	2	-	1	16	-	71	58	22	13	656	89	8	-	81	1016
DEVELOPING	2651	1811	1351	-	9	196	-	178	2	-	-	-	75	840	654	81	105	2400
Korea Rep	1550	1062	906	-	9	147	-	-	-	-	-	-	-	488	488	-	-	1518
China	611	447	398	-	-	49	-	-	-	-	-	-	-	164	162	2	-	609
Others	490	302	47	-	-	-	-	178	2	-	-	-	75	188	4	79	105	313
1981																		
WORLD	22968	22157	10768	6198	908	529	866	742	489	373	366	191	727	811	359	288	164	23057
DEVELOPED	20429	20055	8971	6198	902	509	866	552	487	373	366	191	640	374	69	242	63	20538
Japan	14201	13919	8012	4815	595	497	-	-	-	-	-	-	-	242	40	242	-	13388
Canada	947	947	947	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1277
Italy	662	662	3	7	-	-	133	45	135	339	-	-	-	-	-	-	-	1338
Austria	967	967	3	154	-	-	510	-	293	10	-	-	-	-	-	-	-	1114
Germany FR	554	554	2	6	-	-	191	17	-	2	332	4	-	-	-	-	-	636
Finland	520	520	-	509	-	-	-	-	-	-	-	11	-	-	-	-	-	520
Hungary	540	540	-	463	-	-	-	6	71	-	-	-	-	-	-	-	-	570
Sweden	455	455	-	20	-	-	-	8	253	-	-	-	174	-	-	-	-	422
USA	299	299	-	299	-	-	-	-	-	-	-	-	-	-	-	-	-	397
Others	1284	1192	7	224	8	12	18	164	59	22	34	2	640	92	29	-	63	874
DEVELOPING	2539	2102	1797	-	6	20	-	190	2	-	-	-	87	437	290	44	101	2519
Korea Rep	935	678	678	-	-	-	-	-	-	-	-	-	-	257	257	-	-	1170
China	1110	1032	1007	-	6	19	-	-	-	-	-	-	-	78	32	46	-	1051
Others	494	392	112	-	-	1	-	190	2	-	-	-	87	102	1	101	-	298

1/ Volume identified with specific exporters  
 Volume provenant d'exportateurs identifies  
 Volumen indicado por los exportadores

2/ Volume reported by importers  
 Volume indique par les importateurs  
 Volumen indicado por los importadores

Annex

Conting. Sawlogs Veneerlogs

SITC PRODUCT CODE 247.2

SAWLOG AND VENEER LOGS (NC)

COQUES SCIAGE + PLACAGE (NC)

TROZASC ASEBRAR + CHAPAS

QUANTITY 1000 CUB

QUANTITE 1000 CUB

CANTIDAD 1000 CUB

RAJON EXPORTERS	WORLD	DEVELOPED	Japan	Italy	France	Germany FR	Spain	Canada	Others	DEVELOPING	China	Korea RP	Singapore	Hong Kong	Others	
RAJON IMPORTERS	1980															
WORLD	22140	3041	800	688	1953	30499	15146	14088	3065	1154	1095	741	642	875	1497	42178
DEVELOPED	28492	3316	792	642	1882	25176	8059	8738	2844	1154	1032	641	880	860	968	28734
Japan	19140	52	-	52	-	19088	8846	8544	-	1154	15	81	465	3	-	19202
Italy	1428	318	266	52	-	1110	6	56	958	-	22	54	9	5	-	2800
France	1315	10	-	10	-	1305	3	23	611	-	413	93	-	162	-	1776
Germany FR	894	430	177	253	-	444	4	16	177	-	97	93	-	77	-	1201
Spain	750	74	72	4	-	674	-	-	391	-	88	114	-	81	-	793
Canada	202	200	-	200	-	2	-	2	-	-	-	-	-	-	-	410
Others	4763	2230	277	71	1882	2533	-	77	707	-	397	246	6	132	968	2552
DEVELOPING	13648	125	8	46	71	13523	6287	6146	221	-	62	100	162	15	529	13044
China	4307	-	-	-	-	6307	3642	2655	-	-	-	-	10	-	-	6847
Korea RP	3838	-	-	8	-	3830	1676	2047	-	-	-	-	107	-	-	4623
Singapore	1107	1	-	1	-	1104	304	789	13	-	-	-	-	-	-	1117
Hong Kong	1015	-	-	-	-	1015	655	355	-	-	-	-	5	-	-	570
Others	1381	116	8	37	71	1265	10	300	208	-	63	100	40	15	529	687
	1981															
WORLD	33361	3196	808	712	1676	30165	15054	6221	2343	1437	1095	645	749	875	1326	33999
DEVELOPED	22611	3087	804	662	1621	19524	8613	3810	2199	1437	1006	641	899	855	844	22587
Japan	14370	25	-	25	-	14345	8613	3767	3	1437	1	29	495	-	-	14994
Italy	1213	361	340	21	-	852	-	10	771	-	17	43	-	11	-	2359
France	1125	8	-	8	-	1117	-	-	457	-	502	67	-	91	-	1462
Germany FR	838	505	135	370	-	333	-	-	189	-	40	69	-	75	-	862
Spain	820	64	61	3	-	356	-	-	224	-	52	66	-	14	-	467
Canada	174	174	-	174	-	-	-	-	-	-	-	-	-	-	-	356
Others	4471	1950	268	61	1621	2521	-	33	595	-	394	387	4	264	844	2487
DEVELOPING	10750	109	4	50	55	10641	7241	2811	144	-	89	4	250	20	482	11012
China	4400	-	-	-	-	4400	3179	1221	-	-	-	-	-	-	-	4521
Korea RP	3541	9	-	9	-	3532	2982	352	1	-	-	-	197	-	-	4388
Singapore	752	2	-	2	-	750	315	431	-	-	-	-	4	-	-	776
Hong Kong	827	-	-	-	-	827	605	216	-	-	-	-	6	-	-	570
Others	1230	98	4	39	55	1132	160	191	143	-	89	4	43	20	482	757

✓ Volume identified with specific exporters  
 Volume provenant d'exportateurs identifiés  
 Volume indicado por los exportadores

✓ Volume reported by importers  
 Volume indiqué par les importateurs  
 Volume indicado por los importadores

*Annex*

*NC Sawlog Veneer Logs*

SITC PRODUCT CODE 246.0:

PULPWOOD BOUND AND SPLIT

BOIS DE TRITURATION

MADERA PAPA PULPA

QUANTITY 1000 CUB

QUANTITEZ 1000 CUB

CANTIDAD 1000 CUB

BAJOS EXPORTERS  
BAJOS IMPORTERS

WORLD	19086	18841	5736	1878	1680	1580	1169	1064	782	661	638	622	421	394	348	1870	605	468	137	19922
DEVELOPED	18348	18242	5573	1878	1680	1580	1169	1056	782	661	636	622	421	380	348	1860	98	76	22	19848
Finland	2124	2124	2050	-	-	-	31	-	-	-	-	-	42	1	-	-	-	-	-	3094
Sweden	2070	2070	118	-	-	233	433	103	731	-	31	-	421	-	-	-	-	-	-	2544
Belgium Lux	1722	1722	-	-	1472	208	-	-	-	-	42	-	-	-	-	-	-	-	-	2491
Yugoslavia	1099	1099	410	171	-	-	48	161	-	309	-	-	-	-	-	-	-	-	-	1547
Austria	2042	2042	230	816	-	493	315	-	-	145	1	-	-	-	42	-	-	-	-	1515
Italy	1423	1423	510	136	58	48	31	151	-	182	1	-	-	-	304	-	-	-	-	1438
Japan	1038	962	928	-	-	-	-	15	-	-	-	-	-	19	-	-	-	76	76	1136
Germany FR	871	871	-	657	72	-	135	-	2	5	-	-	-	-	-	-	-	-	-	940
Norway	641	641	-	-	-	1	49	12	-	-	-	-	579	-	-	-	-	-	-	692
Spain	492	492	-	-	-	-	-	-	-	-	-	492	-	-	-	-	-	-	-	605
France	483	483	284	-	-	12	-	118	-	-	69	-	-	-	-	-	-	-	-	594
German DE	650	650	648	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	593
Canada	360	360	-	-	-	-	-	-	-	-	-	-	-	360	-	-	-	-	-	580
USA	479	479	-	-	-	-	-	479	-	-	-	-	-	-	-	-	-	-	-	503
Bosnia	233	233	-	-	-	113	120	-	-	-	-	-	-	-	-	-	-	-	-	454
Switzerland	379	379	-	6	78	275	-	-	-	20	-	-	-	-	-	-	-	-	-	395
Netherlands	268	268	62	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	371
Hungary	335	335	228	59	-	-	-	-	48	-	-	-	-	-	-	-	-	-	-	277
Others	1631	1609	105	29	-	1	7	5	1	-	-	1	-	-	-	1460	22	-	22	115
DEVELOPING	706	199	163	-	-	-	-	10	-	-	2	-	-	14	-	10	507	392	115	54
Others	706	199	163	-	-	-	-	10	-	-	2	-	-	14	-	10	507	392	115	54

1980

WORLD	19410	18716	5832	1716	1791	1278	1187	903	1286	709	252	531	453	374	246	2158	694	468	226	19514
DEVELOPED	18756	18703	5832	1716	1791	1278	1187	903	1286	709	250	531	453	370	246	2151	53	36	17	19488
Finland	3070	3070	2995	-	-	8	64	-	-	-	-	3	-	-	-	-	-	-	-	3137
Sweden	3029	3029	-	-	-	521	664	105	1286	-	-	-	453	-	-	-	-	-	-	4390
Belgium Lux	1712	1712	-	-	1506	204	-	-	-	-	2	-	-	-	-	-	-	-	-	2457
Yugoslavia	1467	1467	618	235	-	3	14	220	-	377	-	-	-	-	-	-	-	-	-	1512
Austria	1413	1413	10	847	-	120	224	-	-	158	-	-	-	54	-	-	-	-	-	1031
Italy	1184	1184	578	91	57	36	17	28	-	147	38	-	-	192	-	-	-	-	-	1135
Japan	802	766	766	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	811
Germany FR	774	774	-	529	122	-	99	-	-	9	17	-	-	-	-	-	-	36	36	1087
Norway	552	552	2	-	-	-	22	-	-	-	-	-	528	-	-	-	-	-	-	800
Spain	189	189	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	141
France	139	139	-	-	-	15	-	120	-	-	4	-	-	-	-	-	-	-	-	377
German DE	591	591	591	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	593
Canada	367	367	-	-	-	-	-	-	-	-	-	-	-	367	-	-	-	-	-	591
USA	424	424	-	-	-	-	-	424	-	-	-	-	-	-	-	-	-	-	-	358
Bosnia	124	124	-	-	-	45	79	-	-	-	-	-	-	-	-	-	-	-	-	135
Switzerland	361	361	-	2	106	235	-	-	-	18	-	-	-	-	-	-	-	-	-	341
Netherlands	126	126	29	-	-	91	-	6	-	-	-	-	-	-	-	-	-	-	-	194
Hungary	243	243	243	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	256
Others	2187	2170	-	12	-	-	4	-	-	-	-	-	-	3	-	2151	17	-	17	116
DEVELOPING	654	13	-	-	-	-	-	-	-	-	2	-	-	4	-	7	641	432	209	30
Others	654	13	-	-	-	-	-	-	-	-	2	-	-	4	-	7	641	432	209	30

1981

WORLD	19410	18716	5832	1716	1791	1278	1187	903	1286	709	252	531	453	374	246	2158	694	468	226	19514
DEVELOPED	18756	18703	5832	1716	1791	1278	1187	903	1286	709	250	531	453	370	246	2151	53	36	17	19488
Finland	3070	3070	2995	-	-	8	64	-	-	-	-	3	-	-	-	-	-	-	-	3137
Sweden	3029	3029	-	-	-	521	664	105	1286	-	-	-	453	-	-	-	-	-	-	4390
Belgium Lux	1712	1712	-	-	1506	204	-	-	-	-	2	-	-	-	-	-	-	-	-	2457
Yugoslavia	1467	1467	618	235	-	3	14	220	-	377	-	-	-	-	-	-	-	-	-	1512
Austria	1413	1413	10	847	-	120	224	-	-	158	-	-	-	54	-	-	-	-	-	1031
Italy	1184	1184	578	91	57	36	17	28	-	147	38	-	-	192	-	-	-	-	-	1135
Japan	802	766	766	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	811
Germany FR	774	774	-	529	122	-	99	-	-	9	17	-	-	-	-	-	-	36	36	1087
Norway	552	552	2	-	-	-	22	-	-	-	-	-	528	-	-	-	-	-	-	800
Spain	189	189	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	141
France	139	139	-	-	-	15	-	120	-	-	4	-	-	-	-	-	-	-	-	377
German DE	591	591	591	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	593
Canada	367	367	-	-	-	-	-	-	-	-	-	-	-	367	-	-	-	-	-	591
USA	424	424	-	-	-	-	-	424	-	-	-	-	-	-	-	-	-	-	-	358
Bosnia	124	124	-	-	-	45	79	-	-	-	-	-	-	-	-	-	-	-	-	135
Switzerland	361	361	-	2	106	235	-	-	-	18	-	-	-	-	-	-	-	-	-	341
Netherlands	126	126	29	-	-	91	-	6	-	-	-	-	-	-	-	-	-	-	-	194
Hungary	243	243	243	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	256
Others	2187	2170	-	12	-	-	4	-	-	-	-	-	-	3	-	2151	17	-	17	116
DEVELOPING	654	13	-	-	-	-	-	-	-	-	2	-	-	4	-	7	641	432	209	30
Others	654	13	-	-	-	-	-	-	-	-	2	-	-	4	-	7	641	432	209	30

1/ Volume identified with specific exporters  
Volume provenant d'exportateurs identifiés  
Volumen indicado por los exportadores

2/ Volume reported by importers  
Volume indiqué par les importateurs  
Volumen indicado por los importadores

Annex: Pulpwood Round & Split



## SITC PRODUCT CODE 288.2

## SAWWOOD (C)

## SCIAGES (C)

## MADERA ASERRADA

## QUANTITY 1000 CUB

## QUANTITE 1000 CUB

## CANTIDAD 1000 CUB

MAJOR EXPORTERS	1980														WORLD
	B	D	C	S	P	S	A	C	P	P	O	D	C	C	
MAJOR IMPORTERS	E	L	A	E	E	A	I	O	A	L	E	L	E	E	
USA	22113	22113	22109	-	-	8	-	-	-	-	-	-	-	-	
UK	5768	5768	1581	1014	1285	985	126	12	162	377	226	-	-	-	
Japan	4397	4359	2578	134	-	-	1896	-	151	-	-	38	38	-	
Germany FR	3791	3721	238	533	944	904	167	677	-	130	128	70	70	-	
Italy	4277	4257	235	425	224	317	439	2877	133	2	5	20	20	-	
France	2479	2441	575	359	773	880	34	12	33	57	118	38	38	-	
Netherlands	2392	2364	110	212	939	804	23	42	74	139	21	26	26	-	
German DR	1314	1316	-	1312	-	1	-	2	1	-	-	-	-	-	
Denmark	1211	1211	12	86	485	604	10	-	-	2	10	-	-	-	
Belgium lux	905	858	172	232	249	49	62	2	-	67	25	47	47	-	
Hungary	791	791	2	445	70	17	-	32	25	-	-	-	-	-	
Spain	593	593	13	83	124	242	-	-	-	1	-	-	-	-	
Australia	528	528	308	-	7	-	213	-	-	-	-	-	-	-	
Canada	860	860	-	-	-	-	860	-	-	-	-	-	-	-	
Others	6136	5825	100	642	742	647	64	288	396	24	33	2869	311	46	
DEVELOPING	8501	4623	933	1454	1056	793	1043	703	67	94	123	357	1878	973	
Saudi Arab	716	670	109	112	23	272	97	55	-	2	-	46	46	-	
Egypt	1047	1067	220	214	283	246	91	-	9	-	4	-	-	-	
Lat America	1449	927	177	-	10	1	739	-	-	-	-	522	522	-	
Others	5269	3959	427	1128	740	274	116	648	58	92	119	357	1310	405	
	1981														
WORLD	60789	58935	27293	6925	5377	5624	4077	3787	1090	780	565	3017	1854	847	
DEVELOPED	52697	52561	26205	5658	4519	4696	3219	3330	1049	709	483	2693	136	62	
USA	21311	21310	21310	-	-	-	-	-	-	-	-	1	1	-	
UK	5104	5102	1464	800	1027	1105	76	1	171	272	186	2	2	-	
Japan	3364	3364	2087	122	-	-	1195	-	-	-	-	2	2	-	
Germany FR	3287	3280	129	549	712	815	116	538	124	181	95	47	47	-	
Italy	3738	3734	155	383	186	253	209	2424	121	4	1	2	2	-	
France	1978	1978	443	258	578	470	14	5	30	53	127	-	-	-	
Netherlands	1625	1624	23	163	598	574	11	22	63	144	26	1	1	-	
German DR	1303	1303	-	1300	-	1	-	1	-	-	1	-	-	-	
Denmark	859	859	3	54	311	478	6	-	-	-	5	-	-	-	
Belgium lux	755	747	144	100	324	52	35	2	12	60	18	8	8	-	
Hungary	715	715	-	664	13	8	-	30	-	-	-	-	-	-	
Spain	449	449	12	83	84	232	37	-	-	1	-	-	-	-	
Australia	644	644	371	-	-	-	289	-	-	-	-	-	-	-	
Canada	1172	1172	-	-	-	-	1172	-	-	-	-	-	-	-	
Others	6373	6298	104	1161	682	708	59	307	526	34	24	2693	75	1	
DEVELOPING	8092	6374	1088	1267	858	928	1258	457	41	71	82	324	1718	785	
Saudi Arab	756	727	234	67	43	239	105	36	-	3	-	29	29	-	
Egypt	1061	982	188	200	268	285	83	2	-	-	-	79	79	-	
Lat America	1369	996	167	-	1	2	826	-	-	-	-	373	373	-	
Others	4906	3669	543	1000	546	402	244	419	41	68	82	324	1237	304	

1/ Value identified with specific exporters  
 Volume provenant d'exportateurs identifiés  
 Valores indicado por los exportadores

2/ Value reported by importers  
 Volume indiqué par les importateurs  
 Valores indicado por los importadores

Annex

C. Sawwood

SITC PRODUCT CODE 288.3

SANBWOOD (NC)

SCIAGES (NC)

MADERA ASERRADA (NC)

QUANTITY 1000 CUB

QUANTITE 1000 CUB

CANTIDAD 1000 CUB

MAJOR EXPORTERS	1980																			
	U	D	U	Y	F	R	G	C	B	O	D	B	I	S	P	B	P	I	O	W
MAJOR IMPORTERS	S	E	S	G	R	A	A	A	E	T	E	A	A	I	A	A	A	A	A	A
WORLD	12616	4290	885	860	475	431	368	305	135	831	8326	3141	1203	1134	742	622	285	277	922	12702
DEVELOPED	8233	3848	805	685	475	351	345	305	134	740	4365	1272	579	533	680	557	6	245	485	8765
Italy	1201	742	45	572	48	34	26	15	2	-	459	53	301	41	17	26	3	18	-	1366
Germany FR	728	278	96	8	83	1	-	21	69	-	450	298	10	49	39	43	-	11	-	987
France	506	79	45	3	-	-	0	11	12	-	427	88	14	132	89	9	-	95	-	757
Canada	442	386	384	-	-	-	-	-	-	-	54	1	-	-	4	51	-	-	-	747
USA	564	167	-	-	-	-	-	167	-	-	397	66	21	12	80	206	2	18	-	675
Netherlands	703	181	69	6	24	1	62	19	-	-	522	249	51	150	45	10	-	19	-	651
UK	433	108	11	8	26	13	29	21	2	-	327	116	16	30	82	61	-	22	-	634
Japan	551	39	33	-	-	-	-	6	-	-	512	159	129	21	199	-	-	-	-	555
Spain	374	248	10	12	93	5	123	1	4	-	124	10	13	48	37	-	-	18	-	522
Belgium Lux	872	326	77	7	145	-	21	38	38	-	146	68	5	55	10	-	-	4	-	489
Australia	210	1	1	-	-	-	-	-	-	-	209	112	-	-	28	67	2	-	-	289
USSR	239	239	-	33	-	206	-	-	-	-	-	-	-	-	-	-	-	-	-	232
Austria	104	48	2	12	4	-	46	1	3	-	36	27	9	-	-	-	-	-	-	159
Others	1706	1000	30	28	52	91	50	5	4	748	698	25	10	15	10	104	1	48	485	692
DEVELOPING	4383	422	80	175	-	80	3	-	1	83	3961	1869	626	601	54	65	279	32	437	3937
Singapore	1262	1	1	-	-	-	-	-	-	-	1261	984	267	-	10	-	-	-	-	1098
Brazil	69	-	-	-	-	-	-	-	-	-	69	-	-	-	-	-	-	49	-	462
Thailand	598	-	-	-	-	-	-	-	-	-	598	473	59	66	-	-	-	-	-	342
Malaysia	103	-	-	-	-	-	-	-	-	-	103	-	100	3	-	-	-	-	-	209
Iran	2	-	-	-	-	-	-	-	-	-	2	2	-	-	-	-	-	-	-	195
Argentina	162	-	-	-	-	-	-	-	-	-	162	-	-	-	-	-	162	-	-	189
Saudi Arab	290	7	3	4	-	-	-	-	-	-	283	129	-	151	1	2	-	-	-	180
Hong Kong	115	-	-	-	-	-	-	-	-	-	115	37	42	16	20	-	-	-	-	148
China	94	-	-	-	-	-	-	-	-	-	94	1	87	-	6	-	-	-	-	136
Egypt	118	118	-	118	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	126
Others	1570	296	74	53	-	80	3	-	1	83	1274	243	69	365	17	63	48	32	437	850
1981																				
WORLD	10970	3870	931	631	438	442	366	278	180	644	7180	2808	1112	916	547	569	121	266	769	11594
DEVELOPED	6971	3499	829	528	438	342	362	278	139	583	3472	1095	420	366	501	480	2	233	375	7858
Italy	835	550	43	416	39	19	25	7	1	-	285	30	220	7	4	7	1	16	-	1007
Germany FR	469	244	87	5	72	-	-	10	70	-	225	146	7	28	18	18	-	8	-	723
France	353	96	49	1	-	-	6	22	18	-	257	72	-	61	59	3	-	62	-	516
Canada	464	402	401	-	-	-	-	-	1	-	62	7	2	2	4	47	-	-	-	888
USA	488	167	-	-	-	-	-	167	-	-	321	54	4	13	65	177	-	6	-	670
Netherlands	616	131	65	5	-	-	55	6	-	-	485	329	25	94	20	3	-	14	-	663
UK	525	114	23	2	26	-	35	24	4	-	411	124	17	16	112	117	-	25	-	643
Japan	392	42	36	-	-	-	6	-	-	-	350	89	99	22	136	4	-	-	-	414
Spain	313	256	10	6	99	3	133	2	3	-	57	9	6	2	13	12	-	15	-	445
Belgium Lux	419	289	76	6	134	-	21	16	36	-	130	66	4	47	5	2	-	4	-	405
Australia	220	4	3	-	-	-	-	-	1	-	216	124	12	28	50	2	-	-	-	288
USSR	254	-	-	52	-	200	-	-	2	-	-	-	-	-	-	-	-	-	-	253
Austria	90	57	-	12	-	-	43	-	-	-	33	25	8	-	-	-	-	-	-	118
Others	1533	893	34	23	68	120	44	18	3	583	640	20	12	46	15	88	1	83	375	825
DEVELOPING	3999	371	102	103	-	100	4	-	1	61	3628	1705	692	550	66	89	119	33	394	3736
Singapore	1204	2	2	-	-	-	-	-	-	-	1202	972	224	-	6	-	-	-	-	1063
Brazil	13	-	-	-	-	-	-	-	-	-	13	-	-	-	-	-	-	13	-	335
Thailand	316	-	-	-	-	-	-	-	-	-	316	183	85	48	-	-	-	-	-	433
Malaysia	70	-	-	-	-	-	-	-	-	-	70	-	66	4	-	-	-	-	-	209
Iran	4	-	-	-	-	-	-	-	-	-	4	-	-	4	-	-	-	-	-	195
Argentina	72	-	-	-	-	-	-	-	-	-	72	-	-	-	-	-	-	72	-	189
Saudi Arab	187	6	4	1	-	-	1	-	-	-	181	37	8	126	4	6	-	-	-	151
Hong Kong	103	1	1	-	-	-	-	-	-	-	102	33	46	6	17	-	-	-	-	148
China	143	4	4	-	-	-	-	-	-	-	139	-	105	24	10	-	-	-	-	136
Egypt	72	72	4	64	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	62
Others	1815	286	83	38	-	100	3	-	1	61	1529	480	158	338	9	83	34	33	394	815

1/ Volume identified with specific exporters  
 Volume provenant d'exportateurs identifies  
 Volumes indicado por los exportadores

2/ Volume reported by importers  
 Volume indique par les importateurs  
 Volume indicado por los importadores

Annex

NC Sawwood

SITC PRODUCT CODE 63a.1

VENEER SHEETS

FEUILLES DE PLACAGES

HOJAS DE CHAPA

QUANTITY 1000 CUB

QUANTITE 1000 CUB

CANTIDAD 1000 CUB

EXPORTERS	1980																	
	USA	Canada	UK	France	USSR	Japan	Italy	Denmark	Germany	Australia	Others	Brazil	Singapore	Saudi Arab	Afganistan	Oman	Others	
USA	175	135	-	133	1	-	1	10	-	-	-	40	1	18	-	16	5	340
Germany FR	215	157	121	12	5	20	-	5	18	-	-	58	-	15	-	8	35	151
France	94	54	5	1	-	-	-	-	-	-	-	40	-	2	-	-	38	134
USSR	22	22	-	-	10	-	11	-	1	-	-	-	-	-	-	-	-	135
Japan	10	2	2	-	-	-	-	-	-	-	-	8	3	5	-	-	-	111
Italy	93	48	32	2	7	-	22	2	1	2	-	25	-	-	-	2	23	82
UK	54	46	7	-	5	26	-	2	2	4	-	8	3	-	-	-	5	77
Netherlands	57	34	4	1	4	10	1	1	10	1	-	23	-	3	-	-	20	67
Israel	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	44
Belgium Lux	31	18	7	1	6	-	1	3	-	-	-	13	-	2	-	-	11	32
Canada	43	42	42	-	-	-	-	-	-	-	-	-	-	1	-	-	-	30
Denmark	24	20	8	1	7	-	1	2	1	-	-	4	-	-	-	-	4	24
Germany DR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19
Australia	9	1	1	-	-	-	-	-	-	-	-	8	-	7	-	-	-	18
Others	272	201	34	11	25	-	7	17	8	4	1	98	71	-	-	2	36	33
DEVELOPING	316	75	31	-	4	-	-	1	2	3	25	9	241	119	10	63	12	10
Brazil	56	-	-	-	-	-	-	-	-	-	-	56	-	-	56	-	-	87
Singapore	84	-	-	-	-	-	-	-	-	-	-	84	80	8	-	-	-	47
Saudi Arab	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32
Afganistan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27
Oman	3	-	-	-	-	-	-	-	-	-	-	3	3	-	-	-	-	25
Others	173	75	31	-	4	-	-	1	2	3	25	9	98	36	6	7	12	10
1981																		
WORLD	1359	879	291	215	64	47	34	37	38	22	33	96	480	134	39	33	43	178
DEVELOPED	1032	767	247	208	63	39	34	37	36	18	1	84	265	2	36	-	30	168
USA	238	191	-	189	1	-	-	1	-	-	-	47	-	21	-	18	8	382
Germany FR	180	139	109	11	-	-	-	13	6	-	-	81	-	3	-	7	31	125
France	30	19	1	-	5	1	-	-	12	-	-	11	-	-	-	-	11	131
USSR	14	14	-	-	-	-	14	-	-	-	-	-	-	-	-	-	-	95
Japan	7	3	1	-	2	-	-	-	-	-	-	4	1	3	-	-	-	114
Italy	69	45	16	2	6	-	18	4	2	1	-	24	-	-	-	1	23	64
UK	55	52	6	-	6	35	-	2	3	-	-	3	1	-	-	-	2	77
Netherlands	31	14	2	-	4	1	-	-	7	-	-	17	-	1	-	-	16	54
Israel	2	2	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	44
Belgium Lux	22	17	5	-	6	-	-	-	-	-	-	5	-	-	-	-	5	32
Canada	40	39	39	-	-	-	-	-	-	-	-	3	-	-	-	-	-	34
Denmark	20	18	3	-	10	-	1	4	-	-	-	2	-	-	-	-	2	43
Germany DR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19
Australia	8	2	2	-	-	-	-	-	-	-	-	6	-	-	-	-	-	21
Others	276	174	24	6	22	2	5	8	20	2	1	84	102	-	2	-	8	67
DEVELOPING	327	112	44	7	3	8	-	2	4	32	12	215	132	3	33	13	10	24
Brazil	29	-	-	-	-	-	-	-	-	-	-	29	-	-	29	-	-	41
Singapore	91	1	1	-	-	-	-	-	-	-	-	90	90	-	-	-	-	97
Saudi Arab	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31
Afganistan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27
Oman	10	-	-	-	-	-	-	-	-	-	-	10	10	-	-	-	-	49
Others	194	110	42	7	3	8	-	2	4	32	12	86	32	3	4	13	10	24

1/ Volume identified with specific exporters  
 Volume provenant d'exportateurs identifiés  
 Volumen indicado por los exportadores

2/ Volume reported by importers  
 Volume indiqué par les importateurs  
 Volumen indicado por los importadores

Annex:

Veneer Sheets

SITC PRODUCT CODE 63A.

PLYWOOD

CONTREPLAQUES

TABLEDOS DE PARTICULAS

QUANTITY 1000 CUB

QUANTITE 1000 CUB

CANTIDAD 1000 CUB

MAJOR EXPORTERS  
 MAJOR IMPORTERS

WORLD	USA	UK	FRANCE	GERMANY	NETHERLANDS	BELGIUM	DENMARK	ITALY	JAPAN	SWEDEN	CANADA	SWITZERLAND	NORWAY	AUSTRALIA	OTHERS				
6578	2766	588	531	314	288	169	135	113	104	604	3812	966	868	616	476	367	245	296	5908

1980

WORLD	USA	UK	FRANCE	GERMANY	NETHERLANDS	BELGIUM	DENMARK	ITALY	JAPAN	SWEDEN	CANADA	SWITZERLAND	NORWAY	AUSTRALIA	OTHERS					
6578	2766	588	531	314	288	169	135	113	104	604	3812	966	868	616	476	367	245	296	5908	
DEVELOPED	6525	2452	542	481	236	204	151	105	106	92	535	2073	707	543	156	167	277	62	161	4352
USA	1002	157	44	23	7	-	-	-	83	-	885	380	305	2	6	166	26	-	-	1001
UK	634	402	187	92	61	44	4	6	5	3	-	232	26	26	60	58	46	16	-	772
Netherlands	316	206	61	33	5	10	61	-	36	-	-	110	54	24	16	2	16	-	-	488
Germany FR	296	267	68	107	10	14	47	11	10	-	-	29	10	12	5	2	-	-	-	486
France	182	127	39	36	-	-	-	-	52	-	-	55	21	3	11	7	13	-	-	335
Belgium Lux	239	107	38	11	6	39	10	3	-	-	-	132	47	22	26	6	31	-	-	209
Denmark	113	81	81	18	-	31	1	-	-	-	-	22	8	3	9	2	-	-	-	136
Italy	102	82	31	18	-	15	13	5	-	-	-	20	5	12	3	-	-	-	-	125
Japan	105	57	26	-	26	5	-	-	-	-	-	48	34	4	-	-	1	9	-	113
Sweden	91	86	2	66	13	-	-	5	-	-	-	5	1	4	-	-	-	-	-	109
Canada	71	29	-	3	3	23	-	-	-	-	-	42	12	25	1	-	4	-	-	81
Switzerland	17	17	1	10	-	2	8	-	-	-	-	-	-	-	-	-	-	-	-	78
Norway	32	29	-	29	-	-	-	-	-	-	-	3	3	-	-	-	-	-	-	67
Australia	44	-	-	-	-	-	-	-	-	-	-	44	-	39	4	1	-	-	-	63
Others	1281	795	4	35	105	21	11	75	3	6	535	486	186	64	21	83	-	11	161	289
DEVELOPING	2053	314	6	50	78	44	18	30	7	12	69	1739	239	325	440	307	90	183	135	1554
Saudi Arab	300	26	-	20	-	5	-	-	-	1	-	274	139	94	37	4	-	-	-	327
Singapore	274	1	-	1	-	-	-	-	-	-	-	273	-	17	-	206	-	50	-	248
Hong Kong	326	2	1	-	-	-	-	-	-	1	-	324	-	56	42	38	88	100	-	237
Egypt	91	20	-	9	10	-	-	-	-	-	-	71	24	45	-	-	-	-	-	106
Nigeria	23	-	-	-	-	-	-	-	-	-	-	23	-	16	7	-	-	-	-	65
Others	1039	265	5	20	68	39	17	30	7	10	69	774	74	97	374	59	2	33	135	573

1981

WORLD	USA	UK	FRANCE	GERMANY	NETHERLANDS	BELGIUM	DENMARK	ITALY	JAPAN	SWEDEN	CANADA	SWITZERLAND	NORWAY	AUSTRALIA	OTHERS					
7013	2755	408	520	324	437	162	110	121	107	564	4258	1068	868	587	469	408	535	323	6423	
DEVELOPED	4525	2408	405	442	244	389	148	86	114	95	485	2117	601	590	231	112	311	85	187	4671
USA	1028	147	42	13	7	-	-	-	85	-	881	344	320	5	5	205	-	-	-	1226
UK	784	359	189	84	-	79	4	-	3	-	425	75	28	118	87	63	58	-	-	1008
Netherlands	233	123	24	37	3	38	-	-	21	-	110	54	21	16	2	13	2	-	-	446
Germany FR	267	246	84	102	6	25	46	9	18	-	-	21	8	8	2	2	1	-	-	472
France	122	107	37	32	-	8	-	-	15	-	-	15	1	5	2	5	-	-	-	261
Belgium Lux	277	203	33	21	-	78	71	-	-	-	-	74	29	14	13	5	13	-	-	223
Denmark	93	73	9	15	1	46	1	-	1	-	-	20	6	3	7	4	-	-	-	74
Italy	59	45	23	5	-	2	13	2	-	-	-	14	1	12	1	-	-	-	-	102
Japan	154	21	18	-	-	3	-	-	-	-	-	133	4	106	-	3	2	18	-	38
Sweden	56	51	-	49	-	-	-	2	-	-	-	5	1	4	-	-	-	-	-	90
Canada	85	35	-	1	7	23	-	-	4	-	-	50	19	24	-	-	5	-	-	246
Switzerland	14	14	1	8	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	75
Norway	31	25	-	25	-	-	-	-	-	-	-	6	3	3	-	-	-	-	-	65
Australia	54	-	-	-	-	-	-	-	-	-	-	56	1	41	5	1	7	-	-	74
Others	1266	959	5	50	220	87	4	73	29	2	485	307	51	2	63	1	3	-	187	249
DEVELOPING	2488	347	3	78	80	48	14	24	7	12	81	2141	467	278	356	357	97	450	136	1752
Saudi Arab	473	39	-	28	-	10	-	-	-	1	-	434	175	53	68	8	-	126	-	433
Singapore	412	1	-	1	-	-	-	-	-	-	-	411	-	73	-	211	-	127	-	319
Hong Kong	390	2	-	-	-	1	-	-	-	1	-	388	1	83	60	42	92	110	-	237
Egypt	26	11	-	11	-	-	-	-	-	-	-	15	3	12	-	-	-	-	-	86
Nigeria	92	-	-	-	-	-	-	-	-	-	-	92	71	17	4	-	-	-	-	65
Others	1095	294	3	38	80	37	14	24	7	10	81	801	213	40	228	94	5	87	136	612

1/ Volume identified with specific exporters  
 Volume provenant d'exportateurs identifiés  
 Volumen indicado por los exportadores

2/ Volume reported by importers  
 Volume indiqué par les importateurs  
 Volumen indicado por los importadores

Annex :

Plywood



SITC PRODUCT CODE 634.32

PARTICLE BOARD

TABLEAU DE PARTICULES

TABLES DE PARTICULAS

QUANTITY 1000 CUB

QUANTITE 1000 CUB

CANTIDAD 1000 CUB

SAJOS EXPORTERS	1980																			
	WORLD	DEVELOPED	UK	Germany FR	USA	Netherlands	Italy	France	Germany DR	Poland	Denmark	Belgium Lux	Switzerland	Norway	Japan	Czechoslovakia	Ireland	Others	DEVELOPING	Lat America
WORLD	5429	5330	1186	675	660	374	372	332	295	281	247	237	227	83	68	62	253	99	99	5716
DEVELOPED	5131	5072	1186	647	654	361	351	302	294	260	247	237	154	79	18	62	241	59	59	5359
UK	1186	1186	212	54	87	221	36	-	133	254	23	20	3	72	4	27	-	-	-	1280
Germany FR	967	967	326	237	-	8	206	10	34	-	106	27	-	-	-	13	-	-	-	971
USA	1	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	538
Netherlands	618	618	378	5	169	2	50	5	1	-	1	-	2	1	-	-	-	-	-	529
Italy	481	481	7	201	136	-	38	-	9	87	3	-	-	-	-	-	-	-	-	483
France	401	401	216	16	129	1	-	13	1	22	-	-	1	2	-	-	-	-	-	386
Germany DR	189	189	-	36	-	26	-	113	14	-	-	-	-	-	-	-	-	-	-	180
Poland	169	169	-	-	-	16	-	102	-	-	-	-	51	-	-	-	-	-	-	169
Denmark	105	105	8	-	24	11	-	19	-	58	-	-	-	-	-	-	-	-	-	135
Belgium Lux	104	104	-	2	66	-	-	-	-	-	-	-	-	-	-	-	17	-	-	111
Switzerland	77	77	-	69	7	-	6	1	-	-	-	-	-	-	-	-	-	-	-	84
Norway	52	52	-	-	-	-	-	-	46	-	-	-	-	-	-	-	-	-	-	79
Japan	70	70	-	-	-	-	-	-	-	-	-	-	-	-	57	-	13	-	-	75
Czechoslovakia	68	68	1	37	1	1	-	21	-	-	-	-	-	7	-	-	-	-	-	73
Ireland	26	26	7	-	6	10	-	-	3	-	-	-	-	-	-	-	-	-	-	66
Others	641	602	2	10	25	39	-	38	5	4	8	129	91	4	1	5	241	59	59	200
DEVELOPING	298	258	7	8	6	33	21	30	1	13	-	-	73	8	50	-	12	40	40	357
Lat America	76	76	-	-	2	-	2	11	1	-	-	-	60	-	-	-	-	-	-	93
Others	222	182	7	8	4	33	19	19	-	13	-	-	13	8	50	-	12	40	40	264

SAJOS IMPORTERS	1981																			
	WORLD	DEVELOPED	UK	Germany FR	USA	Netherlands	Italy	France	Germany DR	Poland	Denmark	Belgium Lux	Switzerland	Norway	Japan	Czechoslovakia	Ireland	Others	DEVELOPING	Lat America
WORLD	5153	5099	1022	582	646	382	367	362	388	325	196	156	248	74	54	51	276	104	104	5546
DEVELOPED	4820	4742	1016	578	635	273	307	330	347	315	194	156	167	60	14	51	259	78	78	5210
UK	1094	1094	200	51	98	180	16	-	156	293	19	-	9	55	-	17	-	-	-	1322
Germany FR	822	822	248	236	-	3	185	10	27	-	88	14	1	-	-	10	-	-	-	866
USA	3	3	-	-	-	-	1	65	-	-	-	-	-	-	1	2	1	-	-	518
Netherlands	445	445	224	2	151	1	65	-	1	-	-	-	-	-	-	-	-	-	-	486
Italy	362	362	2	147	117	-	33	-	8	54	-	-	1	-	-	-	-	-	-	411
France	445	445	230	19	126	2	3	26	-	8	23	-	2	2	-	-	-	-	-	429
Germany DR	70	70	-	16	-	28	-	-	26	-	-	-	-	-	-	-	-	-	-	180
Poland	141	141	-	-	-	-	-	-	116	-	-	-	-	25	-	-	-	-	-	142
Denmark	126	126	5	-	34	12	-	-	75	-	-	-	-	-	-	-	-	-	-	166
Belgium Lux	119	119	-	2	57	-	40	-	-	-	-	-	-	-	-	20	-	-	-	104
Switzerland	77	77	-	66	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	86
Norway	59	59	-	-	-	6	-	-	53	-	-	-	-	-	-	-	-	-	-	86
Japan	13	13	-	-	-	-	-	-	-	-	-	-	8	-	5	-	-	-	-	12
Czechoslovakia	9	9	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	48
Ireland	30	30	-	8	11	-	-	5	3	-	-	-	-	-	1	-	2	-	-	94
Others	1005	927	99	30	33	30	5	178	4	7	10	117	146	1	7	1	259	78	78	240
DEVELOPING	333	307	6	4	11	69	20	32	1	10	2	-	81	14	40	-	17	26	26	336
Lat America	54	54	-	-	2	-	-	-	-	-	-	-	50	2	-	-	-	-	-	87
Others	279	253	6	4	9	69	20	32	1	10	2	-	31	12	40	-	17	26	26	249

1/ Volume identified with specific exporters  
 volume provenant d'exportateurs identifies  
 volúmenes indicado por los exportadores

2/ Volume reported by importers  
 volume indique par les importateurs  
 volúmenes indicado por los importadores

Annex: Particle Board

SITC PRODUCT CODE 681.6

FIBREBOARD

PANNEAUX DE FIBRES

TABLEROS DE FIBRA

QUANTITY 1000 CUB

QUANTITE 1000 CUB

CANTIDAD 1000 CUB

NAJOS EXPORTERS	1	D	U	S	P	U	P	S	C	A	R	B	B	Y	O	D	B	O	2		
	WORLD	DEVELOPED	USA	GERMANY FR	POLAND	NETHERLANDS	FRANCE	ITALY	GERMAN DR	BELGIUM LUX	CANADA	DENMARK	SWITZERLAND	OTHERS	DEVELOPING	NIGERIA	ARGENTINA	SINGAPORE	MOROCCO	SAUDI ARAB	MALAYSIA

1980																					
WORLD	2308	2054	303	280	201	200	138	120	118	93	72	67	63	60	54	107	252	183	69	2014	
DEVELOPED	1896	1716	264	227	158	150	128	97	90	91	70	67	53	44	38	239	180	131	69	1763	
UK	271	256	12	65	54	6	15	50	26	1	1	1	25	1	15	15				316	
Germany FR	216	206		38	38	2	39	6	28		41	8	2	1	3		10	10		301	
USA	181	111	12	1	7			1		90							70	70		238	
Poland	88	88																		160	
Netherlands	105	83	13	42	4			12	6		4		1	1			22	22		132	
France	22	22		5	4			3	10											125	
Italy	115	114	39		2	6	3		13		16	3		32				1	1	101	
German DR	74	74	53	5	7															74	
Belgium Lux	54	47		9	7		18	3	3		47	2	5					7	7	75	
Canada	151	148	15		5	128						2	5					3	3	71	
Denmark	78	78	4	43	15				2						14					60	
Switzerland	6	6		6																29	
Others	535	483	28	19	9	8	53	11	4		9	53	45	3	2	239	52	3	49	79	
DEVELOPING	412	340	39	53	43	50	10	23	28	2	2		10	16	16	48	72	52	20	251	
Nigeria	95	79		34	31			11						2	1		16	16		55	
Argentina	15	7		7													8	8		25	
Singapore	4																4	4		21	
Morocco	18	18				1			11				5	1						21	
Saudi Arab	5	5				4								1						21	
Malaysia	10	9				7								2						21	
Others	265	222	39	12	12	30	10	12	17	2	2		5	11	14	48	43	23	20	87	

1981																					
WORLD	2415	2136	319	241	162	338	136	115	131	83	57	62	47	49	53	321	281	289	72	2043	
DEVELOPED	2104	1912	278	232	128	320	138	104	103	82	55	62	39	48	37	290	192	183	69	1792	
UK	277	263		68	48	37	20	31	26	2	1			27	3		14	14		300	
Germany FR	176	166		24	27	10	48	6	10		30				3		10	10		238	
USA	217	143	16	2	17			3		79		26					74	74		273	
Poland	278	278	243	7																165	
Netherlands	76	55		24	2	11		13	1		4						21	21		123	
France	14	10		2		3		5									8	8		137	
Italy	33	33					8		3		12				10					104	
German DR	21	21		5	6			9					1							76	
Belgium Lux	76	70		1	5	8	52	2	1					1	1		6	6		60	
Canada	217	207	9	1		197											10	10		95	
Denmark	54	54		26	10	3			1											57	
Switzerland	16	16		1	5	2														41	
Others	649	546	2	72	8	49	6	40	56	1	1	36	9	6	20	290	53	8	49	123	
DEVELOPING	311	222	41	9	34	18	2	11	28	1	2		8	21	16	31	89	66	23	251	
Nigeria	84	46		1	24			1	20								38	38		55	
Argentina	4																4	4		25	
Singapore	5	1						1									4	4		17	
Morocco	14	14							8					2						21	
Saudi Arab	6	6				1		1						4						21	
Malaysia	2																2	2		21	
Others	196	155	41	4	10	17	2	8		1	2		6	17	16	31	41	18	23	91	

1/ Volume identified with specific exporters  
 Volume provenant d'exportateurs identifiés  
 volúmenes indicado por los exportadores

2/ Volume reported by importers  
 volume indiqué par les importateurs  
 volume indicado por los importadores

Annex: Fibreboard

