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INTRA-REGIONAL COOPERATION IN DEVELOPMENT OF
PLANTATION-BASED FOREST INDUSTRIES

DU/RAF/87/117

Technical report: Marketing secondary woodbased
products in the PTA context*

Prepared for the Preferential Trade Area
for Eastern and Southern African States (PTA)
by the United Nations Industrial Development Organization,
associated agency of the Food and Agriculture Organization
of the United Nations, which acted as executing agency
for the United Nations Development Programme

Based on the work of Douglas F. C. Ede, consultant,
secondary wood products

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* This document has not been edited.

This report reviews the trading position of six PTA countries, in both the PTA and outside the sub region. It also considers the industry, in terms of performance potential, identifies the constraints and highlights the assets upon which trading success can be based. It outlines several courses of action designed to move the project forward and starts to lay the foundation for the marketing of added value secondary products in volumes demanded by the future resources availability of the Plantation forests.

INTRODUCTION

1. TITLE OF MISSION: Marketing of furniture and joinery products in the PTA context.
2. MISSION CARRIED OUT BY: Douglas F.C.Ede, Consultant in Secondary Wood Industries.
3. PERIOD OF MISSION: 1st to 22nd May
15th June to 20th July, 1991
4. TITLE AND NUMBER OF PROJECT: Intra-Regional Co-operation in Development of Plantation based Forest Industries - RAF187/117 (UNSP-funded regional project)
5. EXECUTING AGENCY: Food and Agricultural Organisation of the United Nations (FAO)
6. CO-OPERATING AGENCY: United Nations Industrial Development Organisation (UNIDO)
7. SUB-REGIONAL INSTITUTIONAL RELATIONSHIP: Secretariat of the Preferential Trade Area of Eastern and Southern African States (PTA) Headquarters: Lusaka, Zambia.
8. OBJECTIVES OF MISSION:
 - (a) Undertake a review of demand and supply of furniture and joinery products in domestic, regional and export markets outside the PTA subregion;
 - (b) Identify products which are currently traded in these markets and make suggestions for additional products which could be manufactured in the subregion.
 - (c) Classify products currently traded in the subregion according to their source of origin i.e. imported into the subregion from overseas countries, manufactured in the PTA subregion and major producers and importers in each country.
 - (d) Determine to what extent product quality cost of production and prices, marketing channels, inventories, imports and exports influence the trade pattern of furniture and joinery products in the subregion.
 - (e) Review information collected by the PTA ITC Project RAF/87/025 on furniture and joinery products trade in the subregion to assess the demand/supply situation in the subregion.
 - (f) Review the latest PTA Common List with a view to determining which furniture and joinery products should be included and therefore enjoy reduced tariff rates.

- (g) Make recommendations on trade and commercial policies and practices which influence intra-regional marketing and how identified constraints could be minimized in order to attain optimal development of trade in secondary wood industries products and also how distribution channels could be improved.
- (h) Recommend how the PTA project on plantation-based forest industries could facilitate greater cooperation in expanding trade on secondary forest industries products.
- (i) Identify training needs in marketing and distribution of secondary forest products.

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CHAPTER I - BACKGROUND & SUMMARY

1. Background

The project, designated DU/RAF/87/117 was initiated in 1988 with funds provided by the UNDP. The executing agency was the Food and Agricultural Organisation (FAO) in cooperation with the United National Industrial Development Organisation (UNIDO).

The purpose of the project was to give effect to that part of the PTA agreement concluded in December 1981, concerning Forest products, by recognising the potential of some 10 million m³ of plantation timber which could be made available annually. It further recognised that current imports into the PTA countries were in the region of 1 million m³ per annum, worth several hundred of millions of US\$, much of which was potentially capable of being substituted by alternatives from within the PTA sub-region. Some eight countries accounted for 87 per cent of the plantation area.

Per capita consumption in the sub-region, at 0.0015 M³ per annum, was low and capable of substantial growth in line with expansion in population and standards of living.

To convert available forestry resources, there were 636 saw mills, 16 plywood plants and 8 particle board mills, many of which operated at a utilisation/output level of around 50%.

By the spring of 1991 some 50 project documents had been produced covering the industry, products, markets and manpower, enabling an overview to be completed of the forestry industry within the PTA.

Net exporting countries in the PTA were Kenya, Angola, Malawi, Rwanda, Tanzania, Zambia and Zimbabwe - net import countries were Mauritius, Uganda and Ethiopia.

Whilst identifying the substantial potential by way of import substitution and opportunities for sub-regional trade, a number of constraints were recognised - lack of sound marketing information, high transportation costs and the need to grade and classify timber products were seen as key problem areas.

To ensure the availability of marketing information, the first of a series of micro marketing studies had commenced together with the approval for a marketing study of secondary products (Furniture and Joinery) in six selected countries in the PTA sub-region.

Whilst the plantation forests represented a sizeable potential for sawn timber, further potential was foreseen in downstream products by adding value and franchising end use products such as furniture. This implied the injection of technical expertise, management and technical skilled personnel plus access to certain markets.

The possibilities for joint ventures were recognised and regarded as more and more feasible in the current favourable trend towards privatisation of several parts of the industry.

Above all, the need for a macro forest industry development plan was seen - a vital ingredient to a strategic inovative plan for the sub-region.

CHAPTER II - TRADE IN FORESTRY PRODUCTS

1. Introduction

An initial review of available information showed that this was both incomplete and in many cases unreliable. This was particularly true in the case of secondary products, with an inadequate breakdown by end use and geographical area, of production, imports and exports.

For this reason, this section has been included which highlights trade in forest products (Industrial roundwood, and woodbased panels). Whilst removed for the value added products of Furniture and Joinery, the comparative levels provide some indication of the likely potential available for the end use products currently under investigation. They also indicate the real progress made by developing countries which commenced the process of adding value at an appreciably earlier stage, e.g. Malaysia and Indonesia.

TABLE 1

2. World Consumption - Forestry Products - ('000M3) - 1986

	Industrial Roundwood	Woodbased Panels	Paper & Paperboard	Fuelwood
WORLD	1,580,523	119,300	201,774	1,680,424
DEVELOPED	878,607	82,566	150,681	160,885
DEVELOPING	244,651	13,100	22,423	1,209,083
of which -				
Africa	36,276	1,288	1,137	367,926
Far East	90,470	4,391	8,268	526,111
PTA	13,454	183	313	160,291
CENTRALLY PLANNED	457,263	23,633	28,670	310,457

Source - Forest Products World Outlook Projections 1987/2000

The above Table 1. indicates the following:-

- (a) Low Industrial Roundwood consumption in the PTA at less than 1% of World consumption.
- (b) Even lower Woodbased Panels consumption at 0.15% of World consumption.
- (c) High usage of timber resources as Fuelwood compared with usage as Industrial Roundwood and Woodbased Panels, as below:-

	Fuelwood	Industrial Roundwood & Woodbased Panels
WORLD	50%	50%
DEVELOPED	14%	86%
DEVELOPING	84%	16%
PTA	92%	8%

TABLE 23. World Imports and Exports ('000M3) - 1988

	<u>IMPORTS</u>		<u>EXPORTS</u>	
	Industrial Roundwood	Woodbased Panels	Industrial Roundwood	Woodbased Panels
WORLD	134,037	25,238	123,057	25,471
DEVELOPED	94,374	20,381	64,900	12,997
DEVELOPING:				
Africa	1,217	121	4,512	297
Far East	25,705	3,121	22,648	9,742
PTA	74	19	280	40
CENTRALLY PLANNED	10,810	1,909	25,192	2,236

Source - Forest Products World Outlook Projection - 1987/2000.

The above figures provide a comparative indication of the potential for PTA countries in terms of Imports and Exports. both within the sub-region and markets outside the PTA sub-region.

TABLE 3Trade in Industrial Roundwood - PTA Countries ('000m3) - 1988

<u>Country</u>	<u>Production</u>	<u>Imports</u>	<u>Exports</u>
Angola	1,044		
Burundi	48		
Ethiopia	1,813		
Kenya	1,650		
Madagascar	807		2
Malawi	337		
Mauritius	13	2	
Mozambique	980		6
Rwanda	240		
Somalia	88		
Swaziland	1,663		270
Tanzania	1,943		
Uganda	1,796		
Zambia	584		
Zimbabwe	1,563		2
TOTAL PTA	14,569	2	280
Indonesia	39,609	-	932
Nigeria	7,868	1	60
S.Africa	12,283	27	23
Malaysia	36,364	21	20,776
Brazil	66,636	26	46

The above figures indicate the following:-

- (a) The low levels of PTA production compared with South Africa and other major producers, in particular Malaysia.

(b) The exports of Malaysia, at 20,776 000 M3, highlights their role as prime product producers and exporters as opposed to Indonesia, at 932 000 M3. It is assumed, further, that a large proportion of the latter countries balance is exported as penals, as shown in Table 4.

TABLE 4

Trade in Woodbased Panels - PTA Countries ('000m3) - 1988

<u>Country</u>	<u>Production</u>	<u>Imports</u>	<u>Exports</u>
Angola	7	-	-
Burundi	-	-	-
Ethiopia	15	-	-
Kenya	69	-	-
Madagascar	1	-	-
Malawi	6	1	-
Mauritius	-	8	-
Mozambique	5	-	2
Rwanda	2	2	-
Somalia	2	1	-
Swaziland	8	-	8
Tanzania	10	-	-
Uganda	3	-	1
Zambia	53	4	-
Zimbabwe	26	1	2
TOTAL PTA	207	17	13
Indonesia	6,614	-	6,426
Nigeria	233	23	-
S.Africa	396	21	33
Malaysia	1,421	9	1,076
Brazil	2,986	27	662

The above figures indicate the high levels of production and export in the case of the non-PTA countries, representing increased added value. In the case of Brazil, much has been retained either for local consumption or, more likely, for exports of higher added value products.

CHAPTER III - A PROFILE OF THE WOOD PROCESSING INDUSTRY IN PTA COUNTRIES

The countries within the Preferential Trade Area for Eastern and Southern African States currently number 20 Member States. There are wide differences between countries, both in terms of economic achievement and comparative wealth of these Member States.

There are substantial areas of indigenous timber in a number of the States but, of greater significance, there are substantial areas of new plantation forests capable of yielding up to 10 million M3 per annum; this allows for replanting annually to maintain the yield as it is depleted by planned cutting for consumption.

Some countries are particularly well endowed, e.g. Kenya with 165,000 hectares, Zimbabwe with 100,000 hectares, Swaziland with 99,000 hectares and Malawi with 91,500 hectares. Other countries, including Mauritius with 9,000 hectares and Somalia with 1,000 hectares are less fortunate.

Traditionally, trade has been generated by demand from the latter category and less surplus created by the former list of States. However, the benefit has not always passed to Member States and trading links have been forged with countries in the Far East, with South Africa and others.

Woodprocessing facilities have been set up over the years and these include 636 saw mills, 16 plywood plants and 8 particleboard mills.

The utilisation of these facilities has not been optimised and in several cases, this is as low as 50% of the planned output.

The industry, both of Furniture and Joinery products, has been characterised by a large number of small artisan type operations with a lesser number of larger operations, not always efficiently run. In general, the industry has not moved into the area of serialised, volume production.

There is now the opportunity of producing woodbased products to a higher level of production efficiency, in greater volumes and to a much higher technical and functional standard. This, in turn, will lead to higher levels of trade both within the PTA sub-region, and other countries outside the sub-region.

1. Kenya

Kenya, with a total land area of just under 600,000 sq.km., has a population of over 20 million, growing at a rate of 3.8% overall; urban growth is estimated to be growing at around 8% per annum.

Agriculture, in 195, contributed 31%, industry 21% and manufacturing over 12% to GDP.

Kenya, working largely through a free trade economy, has a well developed infrastructure with good road and rail facilities connecting her

with her neighbours, Somalia, Ethiopia, Uganda and Tanzania. Air and sea communication is good, with the further development of its seaport at Mombasa.

Plantation forests, based on an area of 165,000 hectares, provide pine and cypress softwoods in the main.

There are 350 sawmills producing some 180,000 M3 of sawn timber p.a. Three plywood mills produce 5.5 million M2, one fibreboard mill provides 1.5 million M2 and one particleboard mill provides 0.9 million M2, annually.

Trade in sawnwood, high in the late 80's, has since declined, whilst domestic consumption has been increasing by over 3% per annum. Main imports have been as hardwood.

The decline in sawnwood exports followed a restriction in the early 80's but trade liberalisation with the PTA could well generate an increase in export business in the future.

Growth in the production and consumption of plywood had been progressive, at an annual rate of 3%. External trade has been minimal.

Production of particleboard has equated with consumption and there has been little external trade.

The secondary woodprocessing sector consists of a large number of cottage industry producers located throughout the country and a much smaller number making a variety of products in the volume sector.

These manufacturing units produce designs including reproduction styles at one extreme and less expensive pine and cypress types at the other.

There is a substantial trend with producers such as Timsales Ltd., to vertically integrate their production so as to achieve a high utilisation of material and thus optimise the value of any waste.

The performance of the furniture and joinery sectors has been adversely affected since the mid 80's by a downturn in construction, in spite of an increased demand for housing.

To offset this, manufacturers have been active in terms of new product development. The Economic Housing Group has produced designs for complete timber houses, now selling well in the top end of the market. Further potential for their designs is currently being exploited in Tanzania and Uganda.

In furniture, the Economic Housing Group has produced designs for pine and cypress products which have the advantage of self assembly, using a clever technique without the need for expensive KD fittings.

The future looks bright and further opportunities will follow the liberalisation of trade. Two examples are Uganda and Ethiopia, where demand exceeds supply.

In preparation for such export opportunities within the PTA, Timsales are already negotiating the extension of their distribution network in both Uganda and Tanzania.

'Jua Kali', at the other end of the scale, is micro scale production consisting of many hundreds of individual units producing moderate quality furniture with basic equipment. Much of this production is sold through buying organisations such as Africa Retail Traders, who in turn supply the retail outlets. In the case of a number of the larger producers, sales are made direct.

There is a growing tendency for the producers to get together to form cooperatives, which will then negotiate and sell direct to the retail outlets.

Marketing of furniture and joinery products is often direct to the consumer or through the company's own outlets in the towns throughout the country.

Wholesalers also operate by buying direct from the supplier and by retailing the products in all of the major towns.

Particularly with joinery products, there are many timber and hardware merchants who also purchase direct, secondary products (doors, windows, etc.) and supply retailers in the up-country towns.

The distribution and marketing of secondary woodbased products has not been organised into a sound structure except in the case of a few substantial operators, such as Timsales.

Associations, such as the Kenya Association of Manufacturers, have been formed and these are active in promoting the manufactured products of their members and in negotiating on their behalf with trade bodies, Government departments, etc.

Opportunities within the PTA have, to some extent, been exploited, but these will grow as a direct result of the PTA treaty.

2. Malawi

Malawi has a total land area of 118,480 sq km with a population of 7 million, growing at the rate of just over 3%; urban growth is around 7.5% p.a.

Agriculture makes the greatest contribution to the economy, at 40% - industry contributes 22% and manufacturing 14%. Construction accounts for only 5%.

Malawi pursues an open market economic policy and enjoyed a high rate of economic growth, particularly during the construction of the new capital, Lilongwe. GDP has been growing slowly but not at the rate achieved during the

early 80's.

Plantation forests, with an area of 91,500 hectares provide pine (from 77,000 hectares) and eucalyptus (from 4,500 hectares). The bulk of the plantation forest potential is in the Northern Highlands.

There are two major parastatal organisations, the VIPLY woodworking complex, a joint public/private enterprise, and WICO, largely concerned with furniture production, much of which is sold in the OIC export market. WICO is also State owned.

Attempts have been made recently to attract investment into the WICO operation but this has not been successful due to its current financial condition. The lack of available finance has been a key factor in limiting the supply of furniture to the OIC market. It also casts some doubt over the future of WICO since no buyers have yet shown any interest in a joint investment or an acquisition.

Consumption and production of both sawn timber and woodbased panels during the 1980's have declined. For sawn timber, the decline has been some 42% in consumption and 33% in production.

For plywood, production over the period 1978/84 has declined by 34%. Consumption over the period declined by 84% with a substantial fall in the level of imports.

The secondary woodprocessing sector has been affected by the downturn in demand partly as a result of the conclusion of the capital of Lilongwe and partly in line with the reduction in overall domestic demand.

Subject to the financial condition of WICO, which produces over 90% of total timber, and to the successful exploitation of the market by VIPLY, the future for the secondary products sector should grow in line with GDP, and to a lesser extent, with population growth.

Significant growth will occur when the industry is fully geared to series production, thereby producing ranges of furniture and joinery products at appreciably lower costs than hitherto.

In the PTA context, there is considerable scope for trade both in primary products and secondary products. The former will be substantially assisted by the availability of products from the VIPLY Woodworking complex. Exports of sawntimber have already been made to Botswana and of woodbased panels to Zambia and Tanzania.

There is much lack of understanding of the PTA Treaty and the benefits to the Member States. As this becomes clearer, the producers in Malawi can be expected to take greater advantage of the facilities offered.

3. Mauritius

Mauritius is a small island, off the eastern coast of Madagascar, with a total land area of 2045 km². Population is currently 1 million with an overall growth rate of 1.7% p.a. and urban growth rate of 1.6% p.a.

GDP per capita stands at US\$ 1,025, the second highest in Eastern and Southern Africa, after Seychelles at US\$ 2,465.

Mauritius follows an open market economy with liberal industrial and trade policies, and with no restriction on the movement and exchange of currency.

Plantation forest resources, at 9,000 hectares, are low in comparison with other Member States compelling the industry to import from other parts of the world, notably South Africa and the Far East.

Industry provides the greatest contribution to GNP at 27.5%, with manufacture providing 18.3%, agriculture 14.5% and construction 5.6%.

Economic performance has been impressive with a growth rate in the 80's at between 6.8% and 8.6%. The latest Budget speech by the Prime Minister promises continued growth in the economy.

Communication with the island by sea is not easy, particularly by the PTA States. Easier routes exist with South Africa and with the Far East. This has been one of the more relevant reasons for such a high level of trade with these countries.

The Chamber of Commerce in Mauritius is well organised and provides useful trade contacts.

Government trade policies are liberal and there are no import restrictions. Export processing zones have been set up to promote local processing, thereby encouraging the importation and consumption of timber based products.

The future looks bright for Mauritius with opportunities for PTA exporters. Since only 25% of the annual sawn timber requirement is supplied from within the country, import requirements in the 1990's will be met from outside - these amount to 10/16,000 tonnes of sawn timber, 120/126 tonnes of particleboard, and 243 tonnes of fibreboard per annum.

4. Tanzania

Tanzania has an area of 950,000 sq.km., and shares borders with Kenya, Uganda, Rwanda, Burundi, Zaire, Zambia, Malawi and Mozambique.

The population is over 21 million, growing at 3.3% p.a., but 13.3% in the urban areas.

GDP per capita is put at US\$ 198.

The economy of Tanzania has declined over the period early 70's to mid 80's - agricultural output has been seriously eroded and has affected other sectors such as industry, manufacturing and construction.

Throughout the period, a Structural Adjustment Programme and the Trade Liberalisation Programme were adopted, producing positive results and boosting trade.

Whilst Tanzania's economy remains centralised, there are signs that point to substantial privatisation, especially in the manufacturing sector.

The major producer in wood processing is The Tanzania Wood Industry Corporation (TWICO) which runs 10 sawmills, 2 plywood mills, a fibreboard mill and a particleboard mill.

TWICO supply over 50% of all sawnwood produced and 100% of all panel products.

Despite the trade liberalisation policies, trade in sawntimber and panels has been slight, but since declaration of the source of foreign exchange was no longer required, imports have increased and have facilitated the ordering of essential parts and replacements for woodworking machinery.

Utilisation of production resources is particularly low, providing scope for a substantial increase in production output.

Production quality has traditionally been low and is in the process of being upgraded in view of the export potential TWICO are currently in the process of exploiting.

Imara Furniture Co., Mosti and Sao Mills, both TWICO subsidiaries, have each secured orders for the European market, part of which will be taken up by the IKEA organisation.

Domus Woodworkers Ltd. have also a continuing business in furniture, shipped both to the OIC and the USA.

TWICO have recently signed agreements thereby forming a joint venture company, Tanscan; this involves TWICO and two Swedish companies. The objective of the joint venture will be to increase the exports of softwood furniture and joinery products to foreign markets enabling TWICO to earn more foreign currency.

It is understood that the venture will be capitalised to a level of US\$ 500,000.

To assist the transit of goods from the port of Dar es Salaam to destinations in Zambia, reduction in transit time from 18 to 7 days has been announced by the Zambia Railways Authority (Tazara). Transit times for other routes in the region, currently 14 to 28 days, is expected to reduce accordingly.

Concurrently, improvements to Tanzania's rail network have been announced in a 5 year programme to be financed by a consortium led by the World Bank.

Despite substantial activity in the industry, there is the lack of a promotional body within the country which would oversee and promote the production, marketing, research and development both for domestic and export destined products.

5. Zambia

Zambia is a land locked country with Zimbabwe to the South, Malawi to the East, Tanzania to the North, Zaire to the North East, Angola to the West and Botswana to the South. Total land area is over 750,000 Km².

Population is just under 7 million with an overall growth of 3.3% p.a. and an urban growth of 6.3% p.a.

Copper mining is one of the most important contributors to the GDP with agriculture 4.2%, industry 35.2%, manufacturing 20% and construction 2.2%. Copper revenue has declined over the years, leaving Zambia very reliant on the industries output for which imported components are required.

Economic problems and political pressures with her neighbours have contributed to an economic decline involving longterm borrowings and heavy debt repayments.

Plantation forests amount to 60,000 hectares, of which 50,000 hectares are industrial plantations of which 40,000 hectares are pine and 10,000 hectares eucalyptus.

The primary woodprocessing industry consists of 2 sawmills working at some 45% capacity, 2 plywood mills working at 65% capacity and a particleboard mill working at 0% capacity.

The prime processing of timber in Zambia is carried out by The Zambia Forestry and Forest Industry Corporation (ZAFFICO) producing about 58% of the total sawn timber in the country.

Consumption of sawn timber has declined rapidly since 1985 when imports were drastically reduced due to foreign exchange restrictions. Consumption is now restricted to the production currently below demand, and declining.

Plywood production has been running at near capacity providing some 5,000 M3 for domestic consumption.

Production and consumption of particleboard in 1988 was 8,000 M3. Export levels are small.

Zambia is capable of self-sufficiency in sawn timber and wood panels using industrial pines (40,000 hectares) and eucalyptus (10,000 hectares). This has not been realised due to economic constraints.

Markets and marketing are undeveloped in Zambia. ZAFFICO, having a near monopoly, has done little to promote her existing products and little towards new product development except furniture production, which is in its infancy.

Whilst the policy of the Government is import substitution, this has not been backed by measures which would cause this to happen. This could be achieved through corrected industrial policies and by marketing promotion as

practised by her neighbour members of the PTA. With the present population level of 7 million, a great deal of expansion will be necessary in the coming years, to service the needs of a population growing to 11 million by the year 2000 and 24 million by 2025.

6. Zimbabwe

Zimbabwe, with a land area of 39,000 sq.km., shares borders with South Africa, Botswana, Namibia, Zambia and Mozambique with sea outlets in South Africa and Mozambique.

Population is currently 9.3 million growing at a rate of 2.8% and 6% in the urban areas.

With GDP per capita at US\$ 500, Zimbabwe is comparatively well off, gaining its income from industry at 4%, 28% from manufacturing, agriculture at 16%, and construction at 4%.

Despite disturbances, economic and political since independence in 1980, the country has performed well in commercial and industrial areas with a thriving agricultural base.

Zimbabwe has followed an open market economic policy with a strong private involvement.

Plantation forest area amounts to some 100,000 hectares, of which 60% is privately owned. This forest area is the second largest in the PTA, second only to Kenya, with 165,000 hectares.

Processing capacity is provided by 28 sawmills, 2 plywood mills, 2 pulp mills and 1 match factory.

Zimbabwe has a well developed infrastructure and is the natural centre for the Southern PTA States as Kenya is for the Eastern States.

Most resources and woodworking industry operations are based in the east of the country at Mutare. This area produces 90% of all sawn logs of the country.

Domestic markets are the Harare districts (45%) Bulawayo (35%) and the rest of the country at 20%.

Marketing is normally conducted by the sawmills and penmills directly to the consumer via their own managed outlets in various parts of the country. The Forestry Commission produce in Mutare and distribute direct from Mutare also.

Export marketing is also carried out direct, the key markets being Botswana and South Africa. Attempts are being made to find other markets - these will become more important in the PTA context as knowledge increases and

as conditions in the infrastructure of the Member States improve.

Secondary furniture products in the form of furniture and joinery products are produced by a number of small companies and some 12 large organisations, which include Border Timber and P.G. Manufacturing.

Several of the furniture producers export their products to South Africa but there is a growing market with European countries, including the UK, for pine furniture.

Trade Associations, including the Furniture Manufacturing Association, play a leading role in representing the manufacturers and in assisting in their promotion.

This Association is shortly to produce the result of an industry wide Survey of Furniture Production, and trade within the country.

It is hoped that this document will prove to be a model, in a form which can be applied by other Member States.

CHAPTER IV - TRADE IN SECONDARY PRODUCTS

Trade in Secondary Products

Whilst much time was devoted, during the assignment, to reviewing and attempting to obtain data on secondary products' trade, this in the main was not available - at best the information was indicative and not capable of meaningful correlation.

For this reason, available information on production, imports and exports contained in the Forestry Year Book for 1988 and the Forest Products World Outlook Projects, were reviewed and the most relevant figures recompiled and presented in Tables 1 to 4, in Chapter II, Section 2.

More details of trade movements broken down for sawn timber, plywood, particleboard and fibreboard are given in ANNEX III, Tables 7 to 10.

There is no direct linkage between the above figures and the movement of secondary products but the considerable potential scope is implicit. Furthermore, an analysis of the import and export levels of two active Member States, Kenya and Mauritius, give some indication of the levels of trade and trading partners.

These are given in Tables 5 & 6 hereto.

Further trade statistics were obtained from the ITC databank at the PTA Secretariat. Tables 11 to 14 appear in ANNEX IV and provide valuable figures of trade between each Member State and the rest of the World. At this stage intra PTA trade figures are not available.

TABLE 5

Kenya - Exports and Imports of woodbased secondary products

Year 1989

<u>EXPORTS</u>		<u>IMPORTS</u>	
	US\$		US\$
<u>Wooden Doors</u>			
(Tanzania)	29,150		
(Uganda)			Nil
Other	1,080		
Total	30,230		
<u>Builders Carpentry & Joinery</u>			
(Tanzania)	152,000	Tanzania	2280
(Uganda)			
Other	14,000		
Total	166,000	Total	280
<u>Furniture</u>			
(Tanzania)	119,105	Denmark	129,020
(Uganda)		UK	6,345
UK	21,770	USA	6,995
Others	78,900	Emirates	10,005
Total	219,775	Others	6,260
		Total	158,625
Totals for all product headings:	416,005		158,625

Source Government Statistics.

TABLE 6

Year 1989

MAURITIUS - Exports and Imports of Woodbased Secondary Products

<u>EXPORTS</u>		<u>IMPORTS</u>	
	US\$		US\$
Other Seats with wooden frames			
Reunion	1,345	United Kingdom	12,720
Seychelles	2,295	France	2,540
Total	3,640	Other	3,595
		Total	18,855
Other wood furniture - office			
France	2,790	Belgium	7,775
Reunion	14,560	France	4,695
Others	5,045	Hong Kong	11,750
Total	22,395	Japan	8,145
		Other	2,340
		Total	34,705
Other wooden furniture - bedroom			
France	30,915	France	17,110
Reunion	43,990	S.Africa	4,955
Other	3,735	Other	17,200
Total	78,640	Total	39,275
Other wooden furniture			
France	27,755	France	13,545
Reunion	73,605	Germany	24,400
Switzerland	36,140	Australia	23,795
Other	18,465	India	25,915
Total	155,965	Singapore	36,040
		United States	70,935
		Taiwan	16,090
		Other	15,170
		Total	245,890

Source: Ministry of Trade and Shipping.

Conclusions

- (a) PTA Trade in primary products, as shown in Tables 1 to 4, is small in global terms and highlights the potential for intra PTA and trade outside the PTA. The development of trade, both in sawnwood and panel products, by Malaysia and Indonesia over a period of 25 years, give clear indications of potential both for sawnwood and panel products and for downstream secondary products also traded in significant volumes.
- (b) The basic Import and Export figures for Kenya and Mauritius underline the importance of local or easily accessible markets, e.g. Kenya exports secondary products to Uganda and Tanzania and Mauritius exports to Reunion.
- (c) Whilst relatively small, the balance of trade for Kenya has been strongly positive with most imports arising from Europe, USA and other developed economies. For Mauritius, the trading balance has been negative but indicates several areas for import substitution for furniture currently imported from developed countries.
- (d) Imports of builders' woodwork by the PTA from the rest of the world substantially exceeded exports by a ratio of 18:1. Imports of wood furniture (NES) exceeded exports by a ratio of 16:1. Much improvement can be achieved.
- (e) Key exporters of builders woodwork to the rest of the world were Kenya, Madagascar and Zimbabwe. Key exporters of wood furniture were Kenya, Madagascar, Mauritius, Malawi and Zimbabwe. More aggressive marketing could well increase substantially the volume in these two product areas.
- (f) There is much scope available to PTA Members in successfully exporting builders' woodwork products to other PTA countries currently importing from outside to PTA. Significant importers of builders' woodwork in

1989 were Angola (over US\$ 2 million), Ethiopia (over US\$ 4 million), Mozambique (over US\$ 1 million), Somalia (over US\$ 2 million), Tanzania (over US\$ 2 million) and Uganda (over US\$ 1.5 million). The combined total amounts to US\$ 12.5 million.

The imports by the more progressive producing States, Kenya and Zimbabwe, were much lower at less than US\$ 1 million.

- (g) Imports of furniture in 1989 were highest in Angola (over US\$ 2 million), Djibouti (over US\$ 1 million), Ethiopia (over US\$ 1 million), Mozambique (ca US\$ 1 million) and Somalia (ca US\$ 1 million). Imports by Kenya were correspondingly low at a combined value of US\$ 0.75 million.
- (h) Kenya's key market for builders' woodwork in 1989 was the USA at a value of US\$ 238,000.
- (i) Kenya's key markets were for furniture in 1989, the USA, Italy, UK, Spain and Germany to a combined value of US\$ 82,000.
- (j) Zimbabwe's key markets for builders' woodwork in 1989 were Belgium, UK and Portugal, taking over 90% of total exports.
- (k) Zimbabwe's key markets for furniture in 1989 the UK (60% of total), Japan (13%) and the USA (25%).
- (l) The only recorded intra PTA transactions obtainable show the exports of wooden furniture from Zimbabwe in 1988 amounting to US\$ 87,500 to Mozambique and US\$ 78,000 to Zambia.
- (m) Zimbabwe also exported in 1988 joinery products amounting to US\$ 52,000 to Malawi, US\$ 125,500 to Mozambique and US\$ 182,000 to Zambia.
- (n) Other significant exporters of builders woodwork were Madagascar and Mauritius. For wooden furniture, these were Madagascar, Mauritius and Malawi.

2. Schedule of Secondary Products in Furniture & Joinery on the Common List

<u>Items on Common List</u>	<u>Common</u>	<u>Recommended additions</u>
1. Wood in the rough	1	None
2. Plywood & blockboard	6	Add "edge laminated board"
3. Cellular wood panels	7	None
4. Improved wood in sheet blocks.	8	None.
5. Reconstituted wood etc.	9	"Whether unfinished or finished with film, foil or veneer".
6. Wood sawn lengthwise	10/11	None
7. Wood of non coniferous species	13	None
8. Builders carpentry & joinery	14	Add "prefabricated and sectional buildings, roof trusses, door frames, door sets, flush doors, solid doors, windows and window frames and other sawn, planed and moulded sections for joinery end uses.
9. Panels, boards, etc.	23	Detail softboard (fibreboard), hardboard, and medium density fibreboard (MDF), finished or unfinished.
10. Chairs and other seats	24	Stipulate "fully assembled" or in 'knock down' condition consisting of self assembly components.
11. Beds and bedframes	Not	Beds and bed frames in fully covered assembled or in 'knock down' condition consisting of self assembly components.
12. Cupboards & cabinets	"	Cupboards and cabinets in fully assembled or in 'knock down' condition consisting of self assembly components.
13. Other furniture and parts thereof.	"	Other furniture and parts thereof in fully assembled or in 'knock down' condition consisting of self assembly components.

Note: The new products have been included in the relevant Common List headings. For statistical purposes, product headings could be expanded to provide further details by end use product.

CHAPTER V - CONSTRAINTS - TRADE IN SECONDARY PRODUCTS

Chapter IV contains a list of the secondary products which it is recommended should appear in the common list in which there are 43 item headings. All products considered in the Charter fall within the scope of the Common List.

Whilst the constraints to wider trade in the PTA are the main considerations, the removal of constraints will not only benefit trade within the PTA Sub Region, but also trade outside the Sub Region.

1. Management Skills and Training

There is an acute shortage of trained managers, supervisory staff and skilled operators throughout the primary and secondary sectors of the woodworking industry. Of particular relevance is the small number of management level marketing personnel which includes commercial directors, marketing directors, marketing and export managers, distribution managers, etc.

It is estimated that the PTA total in this category was 141 in 1990 and that this would increase to a total of 185 by the year 2000, but this is likely to be exceeded. The emphasis, however, is on the quality of training provided and the overall management abilities possessed by those already in management positions. In many cases, some may need to be replaced.

Tatu Olukainen, in his pilot study, completed in January 1990, recommends three marketing training courses concerned with trade and marketing of woodbased products in both domestic and overseas markets.

A number of courses have been arranged in the PTA countries aimed at all levels and others are currently under consideration. This year, an export marketing course was held from 22 July - 2 August, in Nairobi.

Adequately trained marketing managers will be better equipped to tackle and overcome many of the constraints considered in this section of the report.

2. Marketing Knowledge and Information

Many business opportunities within the PTA sub region exist but often these cannot be pursued due to lack of essential information. This key need has been recognised by the PTA Secretariat and considerable progress has been made, firstly by the appointment of a marketing and information specialist charged with creating an operational Marketing Information System for forestry products in the PTA sub region; secondly, a number of marketing surveys have been commissioned covering both the primary and secondary woodworking industry sectors.

In parallel with the above, a further project PTA/ITC/RAF/87/025 has been set up aimed at providing detailed information on intra sub regional trading opportunities. Computerised information has already become available for the benefit of a selected number of strategically important primary industries in which, regrettably, forestry products is not included. Basic information on forestry products is available but, in the case of secondary products, this needs to be more sophisticated to provide further detail on end use breakdown and geographical coverage. The first stage would be acceptance by the PTA Member States that forestry is a key industry capable of providing substantial revenue.

3. Conflict - PTA and World Trade

The more successful producing companies have been attracted by export potential outside the PTA sub region. This carries the advantage of generation of hard currency which in turn eases the problem of importation of foreign woodworking machinery, spares, etc.

This often happens to the exclusion of trading offices within the PTA sub region but, by inference, such companies can the more easily take advantage of these opportunities once the disincentives to intra PTA trade have been removed.

Of key importance, both for PTA and World Trade, is an acceptance that marketing personnel need to visit customer or potential customers to establish business contact and negotiate deals which would stimulate further trade. Within the PTA, currency problems should no longer exist - outside the PTA essential funds had to be provided in hard currency.

4. Product definition and specification

Primary forestry products first need to be defined and offered to known and recognisable specifications. Such specifications should be based on an accepted system of timber grading, known levels of moisture content and

optional chemical treatment. Other items would include frequency of knots, acceptability of finger jointing, etc.

A survey has recently been completed aimed at harmonising timber grading, the results of which will enable timber producers to offer fully specified products. Such products suitably graded, marked and packaged, would then represent product items which could be marketed thereby fully recovering the additional costs of such a selection procedure. Pilot schemes by TWICO in Tanzania have worked well and point to the viability of such a movement.

5. Classification of Species - Inventories/Availability

Item 4 presupposes the identification of the product in terms of the timber species from which the proposed product offer is derived.

Information on the various species (principally Pine, Cypress and Eucalyptus) their geographical occurrence and their end use suitability needs to be collated and compiled in a User Handbook. Inventory levels could thereby be established.

Marketing programmes could then be designed, aimed at the promotion of specified products suitable for defined end uses.

6. Product design - Functional/aesthetic

The next stage, from primary to the finished secondary product, is the design of that end use product.

In the case of sawn timber, planed, tongued and grooved, the process involves simple machining to a known size and specification.

In the case of a piece of furniture, the function of the product needs to be defined, as does the expected appearance.

The former needs to satisfy specific ergonomic requirements, practical requirements of size, strength etc., and the mode of assembly - KD or fully assembled.

The more difficult aspect, that of product appearance, requires either a detailed specification set by the buyer or the use of specialist designers to produce an aesthetically pleasing result.

There is a great need for such design inputs which may be provided within the company or from outside, free lance professionals. Certainly, this is an important subject for inclusion in training courses, seminars etc.

7. Tariff barriers

The signing of the PTA Treaty in 1981 brought about an immediate commitment by Member States to reduce current Tariff levels progressively so that by the year 2000 all Tariff levels would be reduced to zero.

At that time, a number of products were identified and added to the Common list. Each product's tariff level, operated by each Member State, was then reduced by a percentage, determined by its use and value, within the range of 15% and 70%. Progressive reductions from the newly established levels were designed to be made annually by a nominal 10% subject also to a differential determined by the local equity holding - for a 51% equity holding, and above, 100% preferential treatment was accorded. This dropped to 30% preferential treatment for an equity holding of between 30% and 39%.

Additions to the Common List were to be made every two years.

Whilst some Member States claimed that the reductions of tariff levels would cause hardship, the timescale was adjudged to be reasonable.

8.

Non-tariff barriers

Non tariff barriers are not as clear cut as the tariff barriers as they can take several forms, consisting of quotas, need for import licences, levies and surcharges. Even more difficult to identify are the problems occasioned by the use of complex documentation, deliberate delays causing demurrage costs, etc.

Such barriers were foreseen and the Treaty was designed in such a way that non tariff levels would also progressively reduce in line with the tariff levels. All less definable barriers put up by Member States were considered to be in conflict and mechanisms were produced to prevent such abuse of both the spirit and the letter of agreement.

9. Transport costs

In assessing the cost of transport, there are several factors which need to be considered

When considering the cost of conveying logs, two factors are important. Firstly the value of the log is low, in comparison with the value as sawn trunk and even lower in comparison with secondary products such as furniture. Secondly, transport of logs involves shipment of the total log bulk - with a recovery of 50%. As sawn timber, twice the useful volume would have been transported.

When converting sawn timber to useful resawn, planed and moulded sections, recovery from the log may well be reduced to 25%. Bulk therefore further decreases; so also does the value increase.

When the processed material is converted to finished furniture, the value is further enhanced but the assembled item of furniture is also increased in volume. Shipment of furniture can therefore be expensive since freight cost will be measured by volume rather than by weight.

There are several other factors which affect the final cost of delivery to its destination:-

- (a) Distance from producer to customer. This can be substantial. In the case of carriage from Blantyre in Malawi to South Africa, this would mean a journey through Malawi into Tanzania, across into Zambia to the West, through Zambia into Zimbabwe and thence to South Africa.
- (b) The state of the roads is generally poor throughout the PTA sub region, the best surfaces being in Malawi and Zimbabwe. The consequences are high wear and tear on the conveying vehicle and the delay in reaching the destination, a combination of long distance and low speeds.
- (c) Formalities at each border involves both cost and time delay, and could cause refusal of entry until the necessary documentation is approved or even resubmitted.
- (d) Statutory road transit charges, road tolls and sundry other charges have, until recently, involved additional on costs and payment in several different currencies.

Under a harmonised agreement approved by the PTA Authority, road transit charges have recently been reduced to US\$ 8 per 100 kms for heavy goods vehicles of more than three axles and all

articulated vehicles and US\$ 3 for 100 kms for vehicles with up to three axles without a trailer.

Effective from the 1st of July 1991, these will be reviewed from time to time at the request of Member States, the first to be within 12 months of implementation in July 1991.

An additional advantage of this facilitation is that charges can now be paid in UAPTA (the PTA unit of account) rather than in several national currencies.

The agreement will lead to a gradual reduction and final elimination of road tolls and other levies.

- (e) In the case of transport over long distances, road costs could be prohibitively expensive but could be reduced by the use of rail transport.

In a cost analysis carried out in Zambia by Cooper and Lybrand and by the National Transport Committee in 1980, the cost ratio road/rail was 2.65:1 for the former and 1.93:1 for the latter. However rail routing is not as flexible as road and severe delays may well render the rail option uneconomic.

- (f) Sea transportation is an option for transit in the case of long distances between the Southern and Eastern States. Considerable work is now in progress, or planned, to upgrade the facilities of ports which include Beira, Dar Es Salaam and Mombasa. Mpulangu, in Zambia, and at the southernmost tip of Lake Tanganika, is to be rehabilitated by the Zambian Industrial and Mining Corporation and, in time, will benefit from new road and rail improvement.

- (g) Current infrastructure currently makes road and rail transportation difficult and costly. As road and rail communication improves, costs will gradually reduce to more economic levels. Improvement in the Trans-Caprivi highway to link Zambia and other land-locked areas to Walvis Bay is a case in point. Much of the foregoing is long term and benefits will only be felt over a long timescale.

More immediately, industrial production of forestry products will benefit from closer integration especially by the linking of sawn timber and panel product production with the production of secondary products on the same site complex.

In this way, transportation costs related to the ex factory cost can be minimised and the on cost from factory greatly reduced. In the case of furniture products, where fully assembled furniture can be costly to transfer, equivalent knock down (KD) designs can result in much lower costs per unit volume.

Many examples of high costs of delivery can be cited, sometimes leading to a cost equal to the ex factory price. However, by way of example, a consignment of sawn, planed and moulded section is sent regularly by road from Blantyre in Malawi by way of Tanzania, Zambia, Zimbabwe to South Africa. For a 50 M3 consignment, at South African Rand 1200/M3 ex factory, the total transport charge was R.140/M3, an on cost of approximately 8.5%.

10. Documentation procedures

The procedures and systems employed in the processes of import and export are multifarious and in many cases laborious and time consuming.

Within the terms of the PTA agreement, many of these processes will be simplified in preparation for their complete removal by the year 2000.

The process could be accelerated by an implementation of model systems adopted by certain Member States. By way of example, Zambia has recently adopted a new system for exportation which is both simpler and less costly to administer. Much valuable time will thereby be saved.

Exposure and explanation to other States could allow them also to reap the benefit of such streamlined systems.

11. Distribution and Marketing Channels

In an industry where latent demand comfortably exceeds production, there is little incentive for the manufacturer to do more than sell his product. In several cases, the market is dominated by parastatals such as ZAFFICO in Zambia, TWICO in Tanzania and WICO in Malawi, a situation which tends to make matters worse by restricting competition.

Whilst in the case of VIPLY in Malawi, there is a full time Sales Manager, the selling and/or marketing function for many other companies is carried out by the Works or Mill Manager.

As a consequence, there is little promotion of the product, little incentive to improve its specification and little new product development.

The larger producers (WICO & TWICO) have established contact with overseas buyers and sales to the European Market have been made for furniture to the buyer's specification. In the case of WICO, a local agent negotiated the business operating on a percentage fee, based on volume shipped.

In contrast, the producers in Mauritius, Zimbabwe and Kenya can be described as more thrusting in their commercial approach. In most cases, they are privately owned, the main exception being the Forestry Commission in Zimbabwe.

In the case of Kenya, it is a free market with several privately owned production organisations. Timsales is the largest and the most fully integrated having also a sizeable marketing organisation which ensures good exploitation of the market and effective market development. Distribution of product is ex factory in Nairobi or ex depot or mill site outside Nairobi.

Substantial sales are also made through wholesalers, timber yards and hardware merchants, who in turn sell to retailers throughout the country.

If superior grades of product are required, these are supplied at a premium but the option does not always exist.

The substantial cottage industry in Kenya, of which Jua Kali is a part, produces medium quality to high quality furniture products for sale either direct to retailers in Nairobi and up country towns, or through buying organisations such as Allied Retail Traders.

In the case of Mauritius, trade is mainly by import with some export. The trade is therefore characterised by a number of large importers, some of which own their own vessels.

The importers sell in turn to a number of dealers, some having their own secondary processing facilities.

There seemed to be no set pattern of distribution in the Member States visited; there was little evidence of a price structure and margins attained tended to be the highest achievable in each deal negotiation.

Once products are made available by manufacturers to an agreed standard, suitably packaged, it will then be possible to market the products as opposed to selling them.

At that time distribution can be better organised and, with branded products in particular, structures can be set up with the concomitant introduction of rational pricing policies.

There is no sophisticated distribution network in the above examples but sales are made at the several depots in town or up country, or to retailers accustomed to buy as the demand arises.

CHAPTER VI - Conclusions

- (1) There is a substantial opportunity to harvest, convert and market primary and secondary woodworking products derived from existing plantation forest resources and expected to amount to 10 million M3 p.a.
- (2) There is the opportunity of achieving a measure of import substitution up to a level of 1 million M3 currently imported into the PTA Member States from outside the sub region.
- (3) A further opportunity arises from the large volumes of timber product currently used for fuelwood. An immediate line of action would be to find alternatives, waste or timber species not capable of addition of value, leaving higher value material for further added value.
- (4) The combined revenue expected to arise from (1), (2) and (3) above is valued at many hundreds of millions of US dollars per annum.
- (5) Success will depend upon the availability of prespecified wood products available in the right place at the right time.
- (6) Many of the opportunities are exploitable by intra PTA trade - others will be in world markets.
- (7) Implied by (5) above is knowledge of inventory levels of all usable species, their costs and their proven suitability for a number of specific end uses.
- (8) A prerequisite of the above will be the progressive improvement of the infrastructure by way of better roads, rail links and port facilities.
- (9) A further prerequisite will be a progressive series of investments both to rehabilitate existing processing plant and to instal new plant preferably in the context of vertically integrated timber complexes from tree to end use product.
- (10) It will be necessary to achieve a mode of manufacturing by series

production using intermediate or high technology machinery and modern state of the art expertise in planning, organisation and processing.

- (11) The financial implications of the above are considerable and outside finance will be required. This could be made available for infrastructural improvement from donor agencies and in some cases as an equity investment for plant and working capital. In all cases, feasibility studies will be necessary and these will be based on hard information which would be available in the context of a strategic plan, as below.
- (12) Funding will depend upon the existence of a strategic plan for the sub region based on national plans written to define each country's foreseen objectives. Much information is available but needs retrieving, collating and consolidating into an instrument of action agreed by all relevant Member States. A model action plan has been prepared by the Tanzanian Government.
- (13) An alternative, and potentially attractive way of securing finance would be by joint venture with potential partners from within the PTA sub region or outside. Resource availability on the one hand and technical expertise and market access on the other could produce realistic and profitable joint venture opportunities. Several organisations have been identified as showing interest in potential joint ventures and being willing to take part in 'eye opener' seminars to be set up in the future. A list of such organisations can be found in Annex I.
- (14) It is emphasised that much relevant data required as an input to this assignment has not been available. This is needed as part of a future marketing plan and can be expected to become available following the outcome of PTA/ITC/87/205 and the efforts of the newly appointed Marketing Information Officer in Lusaka, together with inputs from National Marketing Consultants appointed by the CTA.
- (15) Several organisations, some of which are potential JV partners, are already exporting product to European and USA markets. Such activity could be directed towards PTA markets, subject to demand, but in any event the strong base necessary to service an overseas market can only

assist that operation, or a joint operation, in succeeding in PTA markets.

- (16) This document has attempted to set out the constraints to intra PTA sub regional trading. It also refers to several facilitations, such as tariff reduction, which should stimulate trade within member countries. The key requirement is the ability to deliver secondary products to the right specification, at the right price, and the required volume to a delivery schedule acceptable to the buyer. All other requirements will fall into place on a progressive basis.
- (17) To achieve the above, even on a progressively improving basis, will require a great deal of time, money and effort. It also requires a considerable organisational input in order to coordinate the respective inputs as indicated by the above.
- (18) Whilst much of the foregoing is long term, there is considerable scope for action in the shorter term. The key areas of activity appear in Chapter VII entitled Development of the Market.

CHAPTER VII - DEVELOPMENT OF THE MARKET

The successful development of the market for secondary woodbased (added value) products manufactured from the timber resources available or to be made available is considerable, even by global standards.

Income generation is dependent upon three key factors. Firstly, the successful development and production of a series of furniture, constructional and paper products, in marketable condition, both for PTA and for overseas consumption - from the potential of 10 million M3 per annum.

Secondly, the substitution of imported forestry products by locally (PTA) produced alternatives - a potential substitution of 1 million M3 per annum.

Thirdly, the switching away from using prime timber as fuelwood to the greater use of alternatives made from arisings and waste. (Some 92% of resources from which industrial roundwood, woodbased panels and fuelwood is produced, is consumed as fuelwood.) The further resources made available by substitution could be in addition to the 10 million M3 indicated above. Furthermore, the lower the percentage used as fuelwood, the higher the recovery for non-fuelwood end uses and the greater the overall financial return.

1. Long-term market development

In recognition of the above, a number of constraints, and facilitations, have been identified which will lead to a series of actions greatly facilitating the development of value added products necessary for effective marketing promotion - these have been further emphasised by a number of surveys and reports.

It is evident that the whole industry needs considerable reorganisation, plant rehabilitation and investment. As part of the organisational changes will be the commissioning of new plant and the formation of integrated complexes so set up as to maximise the concomitant cost advantages. Transport costs would be considerably reduced by the optimal siting of production facilities and the use of knock down (KD) techniques which in themselves need not be expensive.

Production at all levels needs to be organised with the greater use of technology, planning and layout. This would be intermediate technology as dictated by the labour cost/investment ratio for the production envisaged and would be designed in each case to cover the range from serial production to batch production, small or large. Such expertise would be as appropriate to

cottage scale production as to series production on a large scale.

Effective training at all levels will be vital in this context.

More quick acting improvement could be achieved by joint ventures where a potential partner has the technical expertise, market access and the essential funds for investment. This would probably be the only way to ensure the levels of input which would lead to ranges of marketable products worldwide. Whilst the primary objective is to produce and sell within the PTA sub region and, therefore, achieve import substitution, this could be a slow process. Intra PTA or foreign investment would be an important way to accelerate this process and lead to products saleable on the world market; they would also serve as an encouragement to the production of quality items at competitive prices for sale in the PTA sub region by other producers.

2. Short term market development

In the shorter term, there is much scope provided the resources can be found both to organise and monitor such activities. These are itemised under the following headings, all of which are designed for inclusion in the overall marketing plans of each Member State.

Training

Training at all levels with emphasis on production management, planning, organisation and plant layout.

Training with emphasis on marketing management, PTA and outside.

Product design and production implications.

Modular design and use of KD fittings.

Training in a production environment.

Product

Product specification.

Product marketing.

Product branding.

Trading opportunities

Identification of demand/supply situations.

Demand/supply negotiations as arranged by ITC for other products.

Identification of locally produced alternatives as a substitute for imported products.

Progressive use of the PTA newsletter, and editorial in relevant journals.

More supportive activities by Chamber of Commerce and Trade Associations.

Greater use of the growing PTA/ITC databank to identify new trading

opportunities.

Trade barriers

Optimum activity to reduce the detrimental effects of non-tariff barriers and documentation procedures.

Chapter VIII - RECOMMENDATIONSStrategic

- 1 Negotiate the preparation of a draft Action Plan to be written by each of the relevant Government Ministries on the lines of the document produced in 1989 by the Ministry of Lands, Natural Resources and Tourism, Dar es Salaam, Tanzania. Such a document would deal specifically with the following:-
 - (a) The existing industry, ownership and contribution to the National Economy.
 - (b) Products and output.
 - (c) Current markets - Domestic and Export.
 - (d) Wood supply from plantations.
 - (e) Development strategy:
 - Objectives
 - Government policies
 - Parastatals
 - Private sector
 - Production
 - Markets
 - Management and Manpower
 - Environment and infrastructure
 - (f) Production programme by markets.
2. Collect information available from several sources within the PTA and produce inventories of plantation timbers by geographical location and species.
3. Finalise the harmonisation programme designed to grade timber according to the African Regional Organisation for Standardisation, or acceptable alternative body. At the same time, prepare specifications of grading

standards, moisture content, units of measure, impregnation and terminology.

4. Prepare a Plantation Timber User's Guide incorporating the findings of 7.3 above and indicate suitability for specified end use application.
 5. Conduct surveys designed to provide accurate cost information from plantation resource through to secondary product thereby enabling assessments of development viability for harvesting timber and assessment of opportunities for further investment downstream to be made.
 6. Review, within the PTA framework, and in collaboration with Member States, national strategic and trade policies, in order to identify and rectify those tending to contradict the objectives of cooperation within the sub-region as contained within the PTA Treaty signed in December 1981.
 7. Establish the net availability of each species throughout the PTA sub-region which could potentially be a substitute for current importation of timber amounting to 1 million cubic feet per annum.
 8. Identify high priority manufacturing operations which, by new investment or by rehabilitation, would provide production resources for new output, both for further PTA consumption and for import substitution. Examples are new productions of MDF (Medium Density Fibreboard) or MFC (Melamine Faced Chipboard).
 9. Negotiate, within the PTA framework, incentives to attract new investment from within the PTA or outside, designed to provide fresh capital, technical expertise and market access into new markets.
- The recent moves by Zimbabwe and the formation of the new Zimbabwe Investment Centre reported in the PTA Newsletter of June 91, could serve here as a useful model.

10. Examine the feasibility of setting up Export Processing Zones in selected PTA countries as currently under way in Kenya, quoted in the PTA Newsletter of June 91.
11. In consultation with each of the Member States, agree and write a strategic plan for the sub-region.

Barriers to free trade within the PTA

12. Extend the coverage of the currently successful quarterly Newsletter to Government and private readers, ensuring this reaches levels other than the top where the newsletter often resides or is destroyed. Follow up, wherever possible, by direct contact.
13. Within the PTA Newsletter, attempt to further clarify the workings and objectives of the PTA Treaty and describe the advantages of the use of the PTA Clearing House, the PTA Trade and Development Bank, the PTA Federation of Chamber of Commerce and Industry, and the PTA Travellers' Cheques Scheme.

For reasons of readability and interest, the foregoing is recommended to be additional to the booklet produced by the PTA Secretariat entitled 'The Objectives, Structure and Development Programmes'.

14. The PTA Common List, with respect to forestry products, contains some 45 product categories. It is recommended that the additional forest products noted in Chapter IV be added at the next review.
It is not recommended that there should be any changes to the current tariff levels which were designed and agreed to allow the Member States to adjust progressively to the charges brought about by the new levels.
15. Representations should be made to Member States where the spirit of the PTA Agreement is not followed in cases where imports are effectively blocked by the ad hoc or permanent imposition of non-tariff barriers,

- e.g. non issue of import licences, levies, surcharges and the like.
16. Export documentation should be streamlined by all Member States on the model recently adopted by Zambia which has reduced work and delay appreciably. It is recommended that all systems currently used by the Member States be reviewed and efforts made to convince members of the advantages of the simplest and most workable system currently identified.
 17. It is further recommended that Member States should examine the procedures followed in the cases of both importation and export to investigate in particular the local bottlenecks and the delays caused in passing transactional monies from one party to another.
 18. Provide, through the relevant banking system in the Member State, access to foreign exchange (FOREX) sufficient to pay for importation of the following items:-
 - (a) Spare parts for existing woodworking machinery which could otherwise be in productive use.
 - (b) New or secondhand woodworking machines needed to expand output or to replace equipment which could otherwise not be rehabilitated.
 - (c) Related products, used in the woodprocessing industry, such as adhesives, lubricants etc.
 19. Collate available information concerning the costs of transporting and handling of goods from given points to selected destinations within or outside the Member State. Such an assessment should consider the rail, road, sea or air alternatives and review the pending changes in the infrastructure which will have a future effect on the cost of transportation.
 20. Negotiate the removal of sales and value added taxes on sales of forest products, essential for building materials, for accommodation and furniture products, for residential consumption.

TRAINING**Mandover**

21. Negotiate with International Aid Agencies financial support packages for setting up further Forest Industries Training Centres, as set up by Zimbabwe in Mutare.

The thrust of such a move would be to modify the existing modus operandi and curricula to create, in addition to the specific pure research activities, a production orientated environment from which finished products could be sold to produce income. Facilities would be similar to those in Mutare with the equal emphasis both on conversion of materials for prime and secondary products.

Since the Centre at Mutare is in financial difficulties, support from the Government of Italy having been withdrawn, such an approach could be appropriate and could apply equally to the Centres in Kenya, Tanzania and others to be set up in Member States.

The courses would be so structured that a steady flow of trained management/supervisors/operatives would be available to take up posts in industry or, alternatively, to set up as self-employed persons in the industry.

22. Negotiate with International Aid Agencies the setting up of small scale industry training centres as financed in Zambia and Zimbabwe by the Danish Volunteer Service, both of which are production orientated centres.
23. Organise regional workshops for supervisory staff and key operatives from prime and secondary woodprocessing manufacturers to:
- (a) Present new timber grading standards.
 - (b) Explain suitability of Pine, Cypress and Eucalyptus for specified end uses.

- (c) Present new techniques in timber processing, e.g. new KD constructional techniques.
 - (d) Explain the use of jigs and gauges.
 - (e) Provide instruction on the proper use of tools, their sharpening and maintenance.
 - (f) Present latest techniques on finishing.
 - (g) Instruct on materials handling and transportation.
 - (h) Explain basic management skills, production planning, cost and waste and quality control, materials handling, etc.
24. Check the feasibility of the use of one or more heavy vehicles to demonstrate:
- (a) Basic precision equipment
 - (b) KD Systems hardware
 - (c) Wood processing and finishing techniques of the Furniture and Joinery industries.

Physical demonstration could be supplemented by presenting on video. A productive adjunct of the foregoing programme would be the trouble shooting role of a member of the team designed to identify and correct problems in production. A full time national consultant could be considered for the role of expert.

Management

25. Expose a selected number of key managers in the Furniture and Joinery industries to seminars designed to include the following, taken in toto or separately:-
- (a) 'Eye openers' on successful production operations and/or promotion of manufactured products.
 - (b) Presentation of current 'high and intermediate technology' and

- its correct applicability to local conditions.
- (c) The key role of the marketing function within a modern forest industry enterprise.
 - (d) Explanation of the PTA objective, the facilitations, and mode of operation for forest products.
 - (e) Illustration of the several promotional techniques relevant to both export and domestic marketing.
 - (f) Methods of achieving acceptable standards of product design applicable to the demands of discriminating buyers both in PTA and other export markets (USA, Europe and Middle East).
26. By negotiating donor grants, arrange for a number of professional managers to attend the Annual Woodworking Machinery Exhibition and Symposia, held either at Hanover or Milan. The next exhibition will be held in Milan in 1992, the 1993 exhibition being in Hanover, dualled with the Interzum (Components and Finishing) Exhibition in Cologne.
27. Arrangements for the funding of a number of places at Institutions in the UK, Europe or the USA for courses of study to degree level in Furniture Production or Woodworking; the Buckinghamshire College in the UK and the Woodworking Institute in Rosenheim, W.Germany, are two suitable places of learning.
28. Liaison, directly or via the appropriate Agency, with development organisations in the Far East, Central and South America to learn of the success, or otherwise, of training methods adopted in the appropriate developing countries.

Marketing

29. Extend the terms of reference, and duration of contract to 1 year, of each National Marketing Executive appointed by the CTA, Lusaka.

Such an extension would provide time for the generation of a marketing plan for each State, to be written by the NEC's.

30. An initial list of development projects to be researched and obtained, expected to produce prime investment possibilities for joint venture partners. Such projects to be identified by the NME's would include the following:-

- Rehabilitation of existing conversion operations from log to sawn timber.
- New conversion plant from log to sawn timber.
- Rehabilitation of existing mills for the production of veneers, plywood, particleboard and fibreboard.
- New conversion plant for above.
- Production of Medium Density Fibreboard (MDF).
- Production of Melamine Faced Chipboard (MFC).
- Integrated complexes involving some or all of the above facilities.

31. Produce basic information relative to the opportunities identified from the above for the preparation of investment proposals. It is envisaged that the relevant feasibility studies and investment proposals would be carried out by consultants engaged for each project which, on initial analysis, look viable.

32. Identify manufacturers already producing or planning the manufacture of Furniture or Joinery products (such as timber housing by Economic Housing Group in Kenya and Furniture by Hartwood, Mutare) with the object of expanding activity in the selected areas by the producer's own efforts or in cooperation with other producers within the PTA. Such investigations could also indicate joint venture possibilities.

33. Encourage the formation of trade associations designed to promote the joint interests of all relevant producers of secondary products in Furniture and Joinery products - the Association's role would be to act as an effective body to influence and/or to regulate policies inhibiting the flow of trade within the PTA.

It is here emphasised that the above recommendations would be given full effect following the production of national strategic plans as proposed in the recommendations; such plans may not be in existence and may take time to prepare.

However, whilst such plans will be essential in the longer term, as the information gathered will greatly assist in the elaboration of new

marketing recommendations, the non-availability of strategic plans should not inhibit the effect of the recommendations made, all of which should be pursued with all speed and with resources available or made available for the purpose.

The following further recommendations are additional to those shown in previous sections and relate more to the shorter term. These will be areas for activity by the NME's.

34. Negotiate, with selected producers, the preparation and offer of standardised value added products selected and identifiable by grade, moisture content, dimension, machined condition and packaging, and branded for full effect. It should be noted that such product offers have been successfully made by TWICO in Tanzania, the detail of which should be examined.
35. In the light of 7.34, discuss with the producers pricing levels and strategies in line with both local and export demand potential.
36. Discuss the requirements of small, cottage industry, manufacturers and explore the scope for the marketing of their products through cooperatives.
37. In the light of the above, assess in greater depth the need for assistance in promotion, product design and product processing. Clear definition of need, both for smaller and larger producers will assist in identifying the most effective training programmes.
38. Explore the means of establishing training/production workshops, as existing in Zambia and Zimbabwe, on a finance formula as implemented by the Danish Volunteer Service.
39. Continue the process of providing more training facilities, seminars and workshops as previously described in 7.21 to 7.28.
40. Stimulate the generation of new products which could be made by selected manufacturers in the sub region and sold to all or several of the Member States. Plans could be agreed with identified manufacturers, with the will plus the resources, prepared to offer design and development facilities. Key areas of activity would include the following:-

Joinery Products (Domestic & Institutional)

- Windows (Frames, casings, stops & linings)
- Doors (solid or flush)
- Door Sets (Frames, beadings & architraves)
- Skirting sections
- Roofing sections

- Roof trusses
- Flooring (Parquet & others)
- Staircase sections
- Partitions

Wooden Bridges (UNIDO's system)

Furniture

(Assembled or K.D. for both domestic & Institutional use)

Solid furniture

- Chairs
- Tables
- Occasional

Panel furniture

- Lounge
- Bedroom
- Kitchen

Initial approaches could be made to the manufacturers listed in Annex I. Assistance could be provided by organisations such as F.I.R.A. (Furniture Industry Research Association) as successfully carried out in Swaziland leading to substantial exports to Texas, UK.

41. The appointment, at the earliest opportunity, of a Senior Marketing Executive to oversee and coordinate all marketing activities within the PTA sub-region, in cooperation with the national executives of each Member State. In view of the importance of the overall project and the resultant benefits to all Member States, it is recommended that this appointment be made on a permanent basis or at least for the duration of DU/RAF/87/117.

It is foreseen that the Executive's role would be essentially advisory and that he would report directly to the PTA Secretariat working closely with the CTA in Lusaka.

ANNEX IExemplary Organisations - Potential Joint Venture PartnersZAMBIA

Furncoz Ltd., Ndola.

ZIMBABWE

Wilgro Ltd., Harare.

Border Timber Ltd., Harare.

P.G. Manufacturing Ltd., Harare.

Field Furniture (Adam Bede) Ltd., Harare.

Hartwood (PVT) Ltd., Harare.

Johnson & Fletcher Ltd., Harare.

KENYA

Timsales Ltd., Nairobi.

Economic Housing Group, Nairobi.

TANZANIATWICO, Dar es Salaam, Kilimanjaro,
Tanga & Moshi.

Domus Woodworkers Ltd., Dar es Salaam.

MALAWI

International Timber Ltd., Blantyre

WICO Ltd., Blantyre

MAURITIUS

Howard & Sang Furniture ltd., Saint Louis.

ANNEX IILIST OF PEOPLE MET AND INSTITUTIONS VISITEDITALY

Mr.P.V.Tesha	Chief, African Region, Food & Agriculture Organization, Rome.
Mr.L.Lintu	Marketing Coordinator, Food & Agriculture Organization, Rome.
Dr.I.J.Bourke	Senior Forestry Officer, Food & Agriculture Organization, Rome.
Mr.K.Foss	Forestry Officer, Food & Agriculture Organization, Rome.

ZAMBIA

Mr.F.M.Kamau	Chief Technical Adviser, F.A.O., Lusaka.
Mr.R.K.Raina	Forestry Adviser, F.A.O., Lusaka.
Mr.J.Lockyiwa	Manpower Adviser, F.A.O., Lusaka.
Mr.P.Bayly	Marketing and Information Specialist, F.A.O., Lusaka.
Mr.L.Mtanda	Deputy Director for Industries, Ministry of Commerce & Industry, Lusaka.
Mr.J.O.Ong'Iro	Director of Agriculture, Preferential Trade Area for Eastern and South African States (PTA), Lusaka.
Mr.M.Mengistu	PTA. Project Co-ordinator, Lusaka.
Mrs.E.Domingo-Barker	PTA. Senior Trade Information Adviser, Lusaka.
Mr.G.Sanspeur	PTA. Promotions Counsellor, Lusaka.
Dr.E.S.Taylor	Country Director, U.N.I.D.O., Lusaka.
Mr.A.S.Nasir	Chief Industrial Planning Adviser, U.N.I.D.O., Lusaka.
Mr.B.Chisanja	Zambia Association of Industries & Commerce (ZACI), Lusaka.
Dr.C.O.NG'Andwe	Executive Director, Small Industries Development Organization (SIDO), Lusaka.
Mr.J.S.Tembo	Assistant Branch Manager, ZAFFICO, Lusaka.
Mr.D.Mahalu	Area Marketing Manager, ZAFFICO, Lusaka.
Mr.B.Nchite	Managing Director, Dwinchi Investments Ltd., Lusaka.
Mr.S.Damalis	Managing Director, Farmers Wood Manufacturers Ltd., Lusaka.
Mr.T.S.Ndhlovu	Director, Chris Furniture (1966) Ltd.
Mr.Chanda	Production Manager, Mutengo Wanga Joinery & Furniture, Lusaka.
Mr.M.Tembo	Assistant Project Manager, Chilenje Trades School.

Mr. H. Bager	Project Adviser, Dzithandizeni Trades School, Danish Volunteer Service, Lusaka.
Mr. Hichingabula	Project Manager, Dzithandizeni Trades School.
Mrs. L. Kanene	Project Officer, Danish Volunteer Service, Lusaka.

ZIMBABWE

Mr. H. Mapimbiro	Senior Advisory & PTA Coordinator, Ministry of Industry & Commerce, Zimbabwe.
Mr. R. Tendere	Deputy Director, Central Statistical Office, Harare.
Mrs. I. S. Nduna	Corporate Planner, Forestry Commission, Harare.
Mr. M. Ghieth	Deputy Representative, F.A.O., Harare.
Mr. G. Verwimp	Programme Officer, U.N.D.P., Harare.
Mr. V. Margesson	Chairman, Border Timbers Ltd.
Mr. J. Middlemost	Managing Director, P.G. Merchandising Ltd., Harare.
Mr. J. T. Armstrong	Director, P.G. Merchandising Ltd., Harare.
Mr. J. Young	Timber Council of Zimbabwe, Harare.
Mr. C. M. Davidson	Managing Director, Adam Bede Furniture (PVT) Ltd., Harare. (Currently Chairman, Furniture Industry Manufacturers' Association)
Mr. S. Harris	Managing Director, Harlequin Furniture Manufacturers (PVT) Ltd., Harare.
Mr. J. P. Hartnack	Managing Director, Hartwood (PVT) Ltd., Harare.
Mr. A. E. Stangroom	Production Director, Hartwood (PVT) Ltd., Harare.
Mr. A. Stewart	Group Production Manager, Johnson & Fletcher Ltd., Harare.
Mr. M. Humphrey	Chief Economist, Confederation of Zimbabwe Industries, Harare.
Mr. V. Berthelson	Director, Danish Volunteer Service, Harare.

KENYA

Mr. B. Larsen	Programme Officer, UNIDO, Nairobi.
Mr. Z. N. Mwaura	Senior Planning Officer, Ministry of Planning & National Development, Nairobi.
Mr. C. D. Kahuki	Senior Forestry Officer, Forest Department, HQS, Nairobi.
Mr. P. Mulwa	Head, Marketing Branch, Forest Department, HQS, Nairobi.
Mr. G. B. Jennings	Managing Director, Timsales Ltd., Nairobi.
Mr. U. Ngibuini	Marketing Director, Timsales Ltd.,

Mr. J. A. Kigoto
Mr. J. P. D. Barsby

Mr. R. Mediratta
Mr. A. Clark
Mr. D. Shah

Nairobi.
Deputy Commissioner of Prisons, Nairobi.
Marketing Consultant, Economics Housing
Group Ltd., Nairobi.
Victoria Industries, Nairobi.
Managing Director (Kenya) Ltd., Nairobi.
Managing Director, Furniture Master
Ltd., Nairobi.

TANZANIA

Mr. E. M. Mnzawa

Mr. G. P. L. Mbonde

Mr. P. E. Kimariyo

Mr. H. A. Mwakalinga

Mr. I. T. Kuringe

Mr. V. Srinivasan

Mr. I. A. Mongi
Mr. P. Meliara

Mr. Mbalilaki
Mr. P. S. Massawe

Director of Forestry, Ministry of
Tourism & Natural Resources, Dar es
Salaam.
Senior Forest Officer, Ministry of
Tourism & Natural Resources, Dar es
Salaam.
Senior Forest Officer (Training),
Ministry of Tourism & Natural Resources,
Dar es Salaam.
Deputy Manager, Small Industries
Development Organization, Dar es Salaam.
General Manager, Tanzania Wood Industry
Corporation (TWICO), Dar es Salaam.
Trade Promotion Adviser, International
Trade Centre, Dar es Salaam.
Marketing Manager, TWICO, Dar es Salaam.
Assistant Marketing Manager, TWICO,
Kilimanjaro Timber Utilisation Co. Ltd.,
Imara Furniture Co. Ltd., & Sao Mills
Ltd., Dar es Salaam.
Govt. Statistician, Bureau of Statistics.
Bureau of Statistics.

MALAWI

Mr. F. Runchel
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UNIDO Representative, Lilongwe.
Food & Agriculture Organization,
Lilongwe.
General Manager, Wood Industries
Corporation Ltd., Blantyre.
Managing Director, International Timber
Ltd., Limbe, Blantyre.
Production & marketing Manager,
International Timber Ltd., Limbe,
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MAURITIUS

Mr. Ragoobar

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Senior Extension Officer, Small
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Mr. S. M. Cassam Nabybaccus	Principal Assistant Secretary, Ministry of Agriculture, Fisheries & Natural Resources, St. Louis.
Mr. L. Koo Seen Lin	Managing Director, Meubles Laval Ltd., St. Louis.
Mr. J. J. Bone	Factory Manager, Howard & Sang Furniture Ltd., Saint Louis.
Mr. M. M. Moharaullez	Managing Director, The Furniture People, Saint Louis.
Mr. V. R. Rambaccussing	Manager, The Furniture People, Saint Louis.
Mr. C. E. Piat	General Manager, Historic Marine, Goodlands.

Annex III
Table 7.

		PRODUCTION TRADE AND CONSUMPTION OF SAWN TIMBER (000M³)										
		1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Swaziland	P	100	121	122	106	103	95	82	122	124	NA	NA
	I	-	-	5	5	1	-	-	-	-	-	-
	E	82	113	97	85	80	81	68	98	99	NA	NA
	AC	18	8	30	31	24	14	14	24	25	-	-
Zimbabwe	P	146	147	191	200	188	133	147	130	114	174	188
	I	4	7	9	15	9	5	4	4	3	-	-
	E	34	24	21	19	23	19	13	8	24	25	24
	AC	116	130	175	196	174	119	138	126	93	149	164
Malawi	P	43	46	48	43	38	33	36	39	35	40	32
	I	3	7	5	1	1	1	1	1	-	-	-
	E	-	-	-	-	-	-	-	-	-	1	2
	AC	46	51	53	44	39	34	37	40	35	39	31
Tanzania	P	91	119	108	106	111	109	117	125	127	140	133
	I	-	-	-	2	-	-	-	-	-	-	-
	E	-	-	2	2	2	1	-	8	1	5	1
	AC	91	119	106	106	109	108	117	117	126	135	137
Uganda	P	34	32	29	23	23	25	26	28	20	25	27
	I	1	-	-	-	-	3	-	-	-	-	-
	E	-	7	-	4	-	2	2	3	3	3	3
	AC	35	25	29	19	23	26	24	25	17	22	24
Ethiopia	P	65	65	40	41	45	45	30	32	34	35	38
	I	-	-	-	-	(0.006)	(0.05)	(0.12)	(0.2)	(0.2)	(0.2)	(0.2)
	E	-	-	-	-	-	-	-	-	-	-	-
	AC	65	65	40	41	45	45	30	32	34	35	38
Kenya	P	143	159	134	144	147	158	161	186	160	184	180
	I	-	-	-	-	-	1	(0.06)	(0.2)	1	2	4
	E	5	5	10	17	-	4	5	1	1	-	-
	AC	138	154	124	127	147	155	156	185	160	186	184
Mauritius	P	4	3	5	2	4	3	1	4	4	4	3
	I	11	15	12	11	7	9	13	13	9	5	9
	E	-	-	-	-	-	-	-	-	-	-	-
	AC	15	18	17	13	11	12	14	17	13	9	12
Zambia	P	42	51	59	58	58	46	40	63	50	-	76
	I	13	10	16	15	13	11	10	2	1	-	-
	E	-	-	-	1	1	-	4	4	-	-	-
	AC	57	61	73	67	70	57	46	61	51	76	-

KEY

P = Production
 I = Imports
 E = Exports
 AC = Apparent consumption

Annex III
Table 8.

PRODUCTION, TRADE AND CONSUMPTION OF PLYWOOD (000m²)

		1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Swaziland	P	-	-	-	-	-	-	-	-	-	-	-
	I	390	380	390	470	770	670	560	810	630	NA	NA
	E	30	50	60	-	70	140	30	-	-	NA	NA
	* (150	138	140	203	326	245	247	369	275	NA	NA)
	AC	360	330	330	470	700	530	670	813	630	-	-
Zimbabwe	P	2500	2670	2000	2000	1430	1000	950	950	950	1770	1230
	I	-	-	-	-	-	-	-	-	-	-	-
	E	670	330	160	160	170	330	430	330	190	230	100
	AC	1830	2340	1840	1840	1260	670	520	620	760	1540	1130
Malawi	P	380	370	360	370	310	250	250	250	240	250	270
	I	880	780	210	200	200	40	-	10	30	-	40
	E	-	-	30	330	310	-	-	-	40	10	-
	AC	1260	1150	540	240	200	290	250	260	230	240	310
Tanzania	P	350	370	400	430	450	300	350	400	500	500	600
	I	-	-	100	30	-	-	180	-	-	-	-
	E	-	-	-	10	-	-	-	-	-	-	-
	AC	350	370	390	450	450	300	530	400	500	500	600
Uganda	P	150	150	140	80	400	400	500	530	180	450	600
	I	-	145	54	-	-	76	60	20	130	100	50
	E	-	-	-	-	2	-	-	-	-	-	-
	AC	150	300	190	150	400	480	560	550	310	550	650
Ethiopia	P	750	800	780	650	680	680	650	550	550	600	630
	I	-	-	-	-	-	-	-	-	-	-	-
	E	-	-	-	-	-	-	-	-	-	-	-
	AC	750	800	780	650	680	680	650	550	550	600	630
Kenya	P	4330	4850	5180	4650	4480	4330	4950	5080	6250	5600	5530
	I ₁ /	20	10	10	10	10	100	20	140	90	20	120
	E ₁ /	20	10	10	10	10	-	10	20	20	10	10
	AC	4330	4850	5180	4650	4480	4430	4960	5200	6320	5610	5640
Mauritius	P	-	-	-	-	-	-	-	-	-	-	-
	I	1250	1020	370	500	790	720	770	1170	1620	2230	(5060Ton) 1300m ²
	E	-	-	-	-	-	-	-	-	-	-	-
	AC	1250	1020	370	500	790	720	770	1170	1620	2230	1300
Zambia	P	-	-	900	830	1250	1390	1430	1170	1580	2460	860
	I	1170	670	330	330	-	-	-	-	-	-	-
	E	-	-	-	-	-	-	-	-	-	-	-
	AC	1770	1670	1230	1280	1250	1300	1430	1170	1580	2460	860

*B/B - Blockboards exported. Swaziland imports plywood for manufacturing of blockboards which then exports.

1/ - The figures are between 5 and 20, hence the rounding to nearest 10 units.

KEY: P = Production
I = Imports
E = Exports
AC = Apparent consumption

Annex III
Table 9.

PRODUCTION, TRADE AND CONSUMPTION OF FIBRE BOARDS (000m²)

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Swaziland	P -	-	-	-	-	-	-	-	-	-	-
	I -	-	-	-	-	-	-	-	-	-	-
	E -	-	-	-	-	-	-	-	-	-	-
	AC -	-	-	-	-	-	-	-	-	-	-
Zimbabwe	P -	-	-	-	-	-	-	-	-	-	-
	I ¹ /310	630	630	900	940	920	300	320	350	500	630
	E -	-	-	-	-	-	-	-	-	-	-
	AC 310	630	630	900	940	920	300	320	350	500	630
Malawi	P -	-	-	-	-	-	-	-	-	-	-
	I 160	120	110	100	100	60	80	140	170	150	90
	E -	-	-	-	-	-	-	-	-	-	-
	AC 160	120	110	100	100	60	80	100	170	150	90
Tanzania	P 840	940	810	840	530	910	1560	1160	1750	1660	1780
	I -	-	-	-	-	-	-	-	-	-	-
	E -	-	20	20	-	-	-	-	-	-	-
	AC 840	940	790	830	530	910	1560	1160	1750	1660	1780
Uganda	P -	-	-	-	-	-	-	-	-	-	-
	I 120	70	150	120	70	80	-	-	-	-	-
	E -	-	-	-	-	-	-	-	-	-	-
	AC 120	70	150	120	70	80	-	-	-	-	-
Ethiopia	P 2370	2340	-	-	-	-	-	-	-	-	-
	I -	-	-	-	-	-	-	-	-	-	-
	E -	-	-	-	-	-	-	-	-	-	-
	AC 2370	2340	-	-	-	-	-	-	-	-	-
Kenya	P 1030	1090	1160	1530	1280	1340	1310	1380	1470	1460	1520
	I ¹ / 220	-	-	-	340	440	380	570	880	830	670
	E -	-	-	-	-	-	-	-	-	-	-
	AC 1250	1090	1160	1530	1620	1780	1690	1950	2350	2290	2190
Mauritius	P -	-	-	-	-	-	-	-	-	-	-
	I 90	80	90	50	110	60	50	80	-	70	80
	E -	-	-	-	-	-	-	-	-	-	-
	AC 90	80	90	50	110	60	50	80	-	70	80
Zambia	P -	-	-	-	-	-	-	-	-	-	-
	I -	-	-	-	-	-	-	-	-	-	-
	E -	-	-	-	-	-	-	-	-	-	-
	AC -	-	-	-	-	-	-	-	-	-	-

¹/ These imports are mainly softboards.

KEY P = Production
I = Imports
E = Exports
AC = Apparent consumption

Annex 111
Table 10.

PRODUCTION TRADE AND CONSUMPTION OF PARTICLE BOARDS (000M²)

		1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Zimbabwe	P	1400	1600	2900	2700	2900	2500	1700	1700	2000	2700	2740
	I	-	-	-	-	100	-	-	-	-	-	-
	E	100	100	100	100	-	-	200	-	-	-	-
	AC	1300	1500	2800	2600	2800	2500	1500	1700	2000	2700	2700
Swaziland	P	-	-	-	-	-	-	-	-	-	-	-
	I	-	-	-	-	-	-	-	-	-	-	-
	E	-	-	-	-	-	-	-	-	-	-	-
	AC	-	-	-	-	-	-	-	-	-	-	-
Malawi	P	-	-	-	-	-	-	-	-	-	-	-
	I	-	-	-	1	3	-	-	-	-	4	8
	E	-	-	-	-	-	-	-	-	-	-	-
	AC	-	-	-	1	3	-	-	-	-	4	8
Tanzania	P	210	160	180	270	220	100	270	240	390	360	400
	I	-	-	-	-	-	-	-	-	-	-	-
	E	-	-	-	10	-	-	-	-	-	-	-
	AC	210	160	180	160	220	100	270	240	390	360	400
Uganda	P	50	100	100	100	-	-	-	-	-	-	-
	I	30	30	70	20	60	120	120	140	150	160	170
	E	-	90	-	-	30	-	-	-	-	-	-
	AC	80	40	170	120	30	120	120	140	150	160	170
Ethiopia	P	300	340	280	260	520	470	470	380	610	720	660
	I	-	-	-	-	-	-	-	-	-	-	-
	E	-	-	-	-	-	-	-	-	-	-	-
	AC	300	340	280	260	520	470	470	380	610	720	660
Kenya	P	450	490	430	560	700	820	870	850	970	820	940
	I	-	-	-	-	-	-	-	-	-	-	-
	E	-	-	-	-	-	-	-	-	-	-	-
	AC	450	490	430	560	700	820	870	850	970	820	940
Mauritius	P	-	-	-	-	-	-	-	-	-	-	-
	I	(5)	(5)	(11)	(5)	(4)	(7)	(8)	(6)	(9)	(5)	(16)
	E	-	-	-	-	-	-	-	-	-	-	-
	AC	10	10	10	10	-	10	10	10	10	10	20
Zambia	P	-	-	-	-	-	-	220	280	370	570?	440
	I	-	-	-	-	-	-	-	-	-	-	-
	E	-	-	-	-	-	-	-	-	-	-	-
	AC	-	-	-	-	-	-	220	280	370	570?	440

? This production figure is questionable as it is unusually high and above installed capacity.

KEY P = Production
I = Imports
E = Exports
AC = Apparent consumption.

ANNEX IVTABLE II

**TOTAL EXPORTS OF BUILDERS WOODWORK, PREFABS TO THE REST OF THE
WORLD BY PTA**
(Values in US\$)

Countries/years	1985	1986	1987	1988	1989
Angola	0	16,000	0	0	1,000
Burundi	0	5,000	0	0	0
Djibouti	0	0	0	7,000	0
Kenya	21,000	2,000	33,000	17,000	238,000
Comoros	0	0	0	0	27,000
Madagascar	0	19,000	302,000	104,000	233,000
Mauritius	5,000	16,000	9,000	25,000	28,000
Mozambique	81,000	66,000	59,000	49,000	1,000
Somalia	2,000	0	0	0	0
Tanzania	0	1,000	0	0	9,000
Zambia	0	0	0	1,000	0
Zimbabwe	191,000	76,000	164,000	502,000	378,000
TOTAL PTA	300,000	201,000	567,000	705,000	915,000

Source: PTA Secretariat

ANNEX IVTable 12**TOTAL IMPORTS OF BUILDERS WOODWORK, PREFABS FROM THE REST OF THE WORLD BY PTA**

(Values in US\$)

Countries/years	1985	1986	1987	1988	1989
Angola	2,269,000	3,125,000	4,745,000	3,611,000	2,072,000
Burundi	31,000	21,000	120,000	68,000	282,000
Djibouti	392,000	231,000	376,000	441,000	479,000
Ethiopia	1,703,000	613,000	864,000	10,915,000	3,953,000
Kenya	12,000	71,000	9,000	803,000	550,000
Comoros	53,000	30,000	40,000	63,000	95,000
Madagascar	8,000	3,000	33,000	797,000	472,000
Mauritius	34,000	12,000	9,000	823,000	333,000
Malawi	41,000	3,000	0	743,000	109,000
Mozambique	397,000	130,000	1,219,000	2,255,000	1,263,000
Rwanda	159,000	6,000	753,000	724,000	100,000
Seychelles	104,000	612,000	37,000	163,000	682,000
Somalia	558,000	901,000	1,918,000	910,000	2,274,000
Tanzania	572,000	822,000	821,000	1,416,000	2,039,000
Uganda	640,000	290,000	245,000	435,000	1,595,000
Zambia	187,000	362,000	0	157,000	108,000
Zimbabwe	14,000	2,000	0	0	305,000
TOTAL PTA	7,189,000	7,234,000	11,189,000	24,324,000	16,711,000

Source: PTA Secretariat

ANNEX IV**Table 13**

TOTAL IMPORTS OF WOOD FURNITURE NES FROM THE REST OF THE WORLD BY PTA
(Values in US\$)

Countries/years	1985	1986	1987	1988	1989
Angola	2,279,000	1,664,000	992,000	1,835,000	2,158,000
Burundi	221,000	121,000	252,000	42,000	91,000
Djibouti	1,148,000	1,335,000	806,000	1,299,000	1,055,000
Ethiopia	1,015,000	2,159,000	927,000	1,045,000	1,139,000
Kenya	406,000	301,000	1,423,000	1,108,000	655,000
Comoros	106,000	228,000	238,000	436,000	451,000
Madagascar	184,000	149,000	122,000	242,000	302,000
Mauritius	37,000	128,000	120,000	290,000	344,000
Malawi	108,000	62,000	22,000	995,000	204,000
Mozambique	241,000	484,000	802,000	1,364,000	918,000
Rwanda	197,000	286,000	198,000	230,000	180,000
Seychelles	13,000	276,000	107,000	87,000	230,000
Somalia	995,000	1,581,000	2,262,000	1,381,000	1,932,000
Tanzania	1,094,000	1,287,000	802,000	1,024,000	982,000
Uganda	385,000	355,000	2,911,000	1,048,000	294,000
Zambia	100,000	610,000	1,801,000	88,000	447,000
Zimbabwe	38,000	65,000	55,000	151,000	151,000
TOTAL PTA	17,134,000	22,182,000	27,680,000	25,330,000	23,066,000

Source: PTA Secretariat

ANNEX IV**Table 14**

TOTAL EXPORTS OF WOOD FURNITURE NES TO THE REST OF THE WORLD BY PTA
(Values in US\$)

Countries/years	1985	1986	1987	1988	1989
Angola	0	0	0	11,000	3,000
Burundi	0	1,000	0	1,000	0
Djibouti	1,000	2,000	3,000	7,000	6,000
Ethiopia	10,000	56,000	6,000	0	0
Kenya	8,000	43,000	62,000	117,000	89,000
Comoros	0	1,000	4,000	0	0
Madagascar	5,000	99,000	222,000	283,000	269,000
Mauritius	88,000	172,000	277,000	316,000	162,000
Malawi	0	2,000	12,000	118,000	167,000
Mozambique	25,000	25,000	2,000	6,000	12,000
Rwanda	4,000	46,000	0	0	0
Seychelles	0	0	0	0	1,000
Somalia	0	2,000	0	17,000	28,000
Tanzania	0	1,000	79,000	85,000	5,000
Uganda	0	0	0	1,000	0
Zambia	0	3,000	0	10,000	0
Zimbabwe	221,000	303,000	539,000	863,000	744,000
TOTAL PTA	362,000	756,000	1,206,000	1,835,000	1,486,000

Source: PTA Secretariat

ANNEX V - Backstopping Officer's Comments

The Report well summarizes the production and current sales channels of secondary wood products in the 6 PTA countries visited and in general points to the need for improved organization of distribution.

The comments on the need for streamlining road and rail transport and reducing non-tariff barriers should be taken seriously and the recommendation to publicize Zambia's model export administration system is good. Also, training of all levels and types of marketing personnel is obviously needed.

The conclusions in Chapter VI are all reasonable but particular attention must be drawn to the need for basic information on both availability and cost of primary plantation products upon which reasonable marketing plans can be made (Conclusion 7).

Conclusion 12 mentions the model action plan for development of the sector in Tanzania which should be replicated, with adjustments, for other PTA countries. (See also Chapter VIII - Recommendation 1.). A similar model for others to follow is the new Zimbabwe Investment Centre (Recommendation 9). The many other specific recommendations also deserve close attention and action at the national and sub-regional levels.