



**Government of the Union of Myanmar**  
**Ministry of Forestry**  
**Forest Department**  
**Forest Research Institute**



## **Market Study on Myanmar Lesser-Used Timber Species**

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May, 2000



## မြန်မာ့လူသုံးနည်းသစ်မျိုးများ၏ဈေးကွက်ကိုလေ့လာခြင်း

ဦးဝင်းကြည်  
ညွှန်ကြားရေးမှူး  
သစ်တောသုတေသနဌာန

### စာတမ်းအကျဉ်းချုပ်

မြန်မာ့ကျွန်းသစ်သည် ကမ္ဘာ့ဈေးကွက်တွင် ထင်ရှားသကဲ့သို့ ဝက်သစ်ချ (White Oak) နှင့် မေပယ်(လ) သစ်မျိုးတို့သည်လည်းမြန်မာ့ကျွန်းသစ်၏ တန်ဖိုးနှင့်ယှဉ်နိုင်သော အဖိုးတန်သစ်မျိုးများ ဖြစ်ကြပါသည်။ အခြားသစ်မျိုးအားလုံး၏ဈေးနှုန်းသည် အဆိုပါတန်ဖိုးကြီးသောသစ်တို့ထက် သိသိသာသာ လျော့နည်းကြသည်။ သို့ရာတွင် ဈေးကွက်တွင်ဈေးနှုန်းပြိုင်ဆိုင်ရောင်းချနိုင်သော သစ်မျိုးများဖြင့်သာ လွှမ်းမိုးနေပါသည်။ မြောက်နှင့်အလယ်ပိုင်း၊ အမေရိက၊ ဥရောပနှင့်အာရှဒေသတို့သည် ကမ္ဘာတွင် သစ်ထုတ်လုပ်ခြင်း၊ သုံးစွဲခြင်းနှင့်ရောင်းချဖောက်ကားခြင်းတို့တွင် အင်အားကြီးမားသော ဒေသများ ဖြစ်ပြီး၊ တရုတ်နှင့်ဂျပန်နိုင်ငံတို့သည် အကြီးမားဆုံး သွင်းကုန်နိုင်ငံများ ဖြစ်ကြသည်။ သစ်တောထွက်ပစ္စည်း ထုတ်လုပ်မှု ကျဆင်းလာသော်လည်း လူဦးရေများတိုးပွားမှုကြောင့် သစ်တောထွက်ပစ္စည်း လိုအပ်ချက်မှာ ကြီးထွားနေဆဲဖြစ်ပါသည်။ လာမည့်ဆယ်စုနှစ်များအတွင်း အာရှဒေသသည် ကမ္ဘာ့သစ်တောထွက်ပစ္စည်း ဝယ်ယူနေရသော ဒေသအဖြစ် ဆက်လက်တည်ရှိနေဦးမည်ဟု ခန့်မှန်းပါသည်။ အဆိုပါ ကြီးထွားနေသော သစ်တောထွက်ပစ္စည်းလိုအပ်ချက်ကို ထိုသစ်များမှ ပြန်လည်ပြုပြင်ထားသော သစ်မျှင်ထွက်ကုန်များသို့ ပြောင်းရွှေ့အသုံးပြုသွားမည်ဟု ခန့်မှန်းထားပါသည်။ လုံးပတ်ကြီးမားသော သစ်တို့ကိုအသုံးပြုမှုမှ စိုက်ခင်းမှထွက်ရှိသော သစ်လုံးငယ်များနှင့်သစ်မျှင်များကို အသုံးပြုနိုင်သည့်နည်းပညာများ ထွန်းကား လာမည်ဟု တွက်ဆရပါသည်။ ဤသို့အခြေအနေတွင် မြန်မာနိုင်ငံသည် လက်ရှိသစ်ကုန်ကြမ်း ထုတ်လုပ်မှုမှ ကုန်ချောအဖြစ်ထုတ်လုပ်ရန်အတွက်လည်းကောင်း၊ လူသုံးနည်းသစ်များကို အကျိုးရှိစွာ အသုံးပြုရန်အတွက်လည်းကောင်း၊ ကြီးမားသောရင်းနှီးမြှုပ်နှံမှုများ ပြုလုပ်ရန်ပြင်ဆင်သင့်ကြောင်း တင်ပြ အပ်ပါသည်။

## **Market Study on Myanmar Lesser-Used Timber Species**

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### **Abstract**

Myanmar Teak timber is well-known in world's timber market. White Oak and Maple are also valuable timbers comparable to Myanmar Teak. Prices of all other timbers in the world market are significantly lower than that of those valuable timbers. However, volume of timber in global trade is increasingly overwhelmed with those timber having competitive price. North and Central America, Europe and Asia are the strongest regions over the world in production, consumption and trade of forest products, China and Japan being the largest importers. Despite the diminishing supply of wood resources demand for forest products is growing with the increasing population. Forecast for next decades suggests that Asia will continue to be the world's net importing region. While there is a continuing demand for forest products over the world pattern of trade in wood products will shift from solid wood to modified fiber products. Utilization of large diameter logs will be reduced and technology will develop to enhance the use of small diameter logs from plantation and other fiber sources. To this end Myanmar should expect to restructure its processing facilities and prepare higher investment to utilize what is now neglected as LUS.

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### Scientific Names of Myanma Trees

Sr. No.	Myanmar Names	Scientific Names
1	Aukchinsa	<i>Diospyros ehretioides</i>
2	Baing	<i>Tetrameles nudiflora</i>
3	Bambwe	<i>Careya arborea</i>
4	Binga	<i>Mitragyna rotundifolia</i>
5	Bonmeza	<i>Albizzia chinensis</i>
6	Chinyok	<i>Garuga pinnata</i>
7	Dahat	<i>Tectona hamiltoniana</i>
8	Didu	<i>Salmalia insignis</i>
9	Gwe	<i>Spondias pinnata</i>
10	Gyo	<i>Schleichera oleosa</i>
11	Gyok	<i>Diospyros montana</i>
12	Hingut	<i>Dolichandrone spathacea</i>
13	Hnaw	<i>Adina cordifolia</i>
14	In	<i>Dipterocarpus tuberculatus</i>
15	Kalaw-pyu	<i>Hydnocarpus spp.</i>
16	Kanyaung	<i>Shorea argentea</i>
18	Kanyin	<i>Dipterocarpus turbinatus</i>
17	Kathit	<i>Erythrina suberosa</i>
19	Kok-he	<i>Salmalia anceps</i>
20	Kokko	<i>Albizzia lebbek</i>
21	Kuthan	<i>Hymenodictyon excelsum</i>
22	Kyetyo	<i>Vitex pubescens</i>
23	Kyilan	<i>Shorea assamica</i>
24	Kywe-danyin	<i>Milletia atropurpurea</i>
25	Laukya	<i>Schima wallichii</i>
26	Lein	<i>Terminalia pyrifolia</i>
27	Letpan	<i>Salmalia malabarica</i>
28	Leza	<i>Lagerstroemia tomentosa</i>
29	Leza-byu	<i>Lagerstroemia calyculata</i>
30	Linyaw	<i>Dillenia parviflora</i>
31	Madama	<i>Dalbergia ovata</i>
32	Ma-u-kadon	<i>Nauclea orientalis</i>
33	Ma-u-lettan-she	<i>Anthocephalus cadamba</i>
34	Myat-ya	<i>Microcos paniculata</i>
35	Myaukchaw	<i>Homalium Tomentosum</i>
36	Myauk-lok	<i>Artocarpus lakoocha</i>

Sr. No.	Myanmar Names	Scientific Names
37	Myauk-ngo	<i>Duabanga grandiflora</i>
38	Nabe	<i>Lennea grandis</i>
39	Nagye	<i>Pterospermum semisagittum</i>
40	Nyaung	<i>Ficus spp.</i>
41	Padauk	<i>Pterocarpus macrocarpus</i>
42	Panga	<i>Terminalia chebula</i>
43	Pan-ma	<i>Anneslea fragrans</i>
44	Peinne-bo	<i>Palaquim polyanthum</i>
45	Pet-shat	<i>Grewia scabrophylla</i>
46	Petwun	<i>Berrya spp.</i>
47	Pok-thinma-myet-kauk	<i>Derris robusta</i>
48	Pyaukseik	<i>Holoptelea integrifolia</i>
49	Pyinkado	<i>Xylia dolabriformis</i>
50	Pyinma	<i>Lagerstroemia speciosa</i>
51	Sagat	<i>Quercus spicata</i>
52	Sagawa	<i>Michelia champaca</i>
53	Sawbya	<i>Pterocymbium tinctorium</i>
54	Seikchi	<i>Bridelia retusa</i>
55	Sha	<i>Acacia catechu</i>
56	Shaw	<i>Sterculia spp.</i>
57	Tamalan	<i>Dalberiga oliveri</i>
58	Taukkyan	<i>Terminalia alata /;tomentosa</i>
59	Taukkyan (Ywet-gyi)	<i>Terminalia coriacea</i>
60	Taukkyan (Ywet-they)	<i>Terminalia crenulata</i>
61	Tauksha	<i>Vitex canescens/; glabrata</i>
62	Taung-kanyin	<i>Phoebe paniculata</i>
63	Taung-me-ok	<i>Alstonia scholaris</i>
64	Taung-peinne	<i>Artocarpus calophylla</i>
65	Taungthabye	<i>Tristania burmanica</i>
66	Taung-thayet	<i>Swintonia floribunda</i>
67	Taw-thayet	<i>Mangifera caloneura</i>
68	Tayaw	<i>Grewia tiliaefolia</i>
69	Te	<i>Diospyros burmanica</i>
70	Teak	<i>Tectona grandis</i>
71	Thabye	<i>Eugenia spp.</i>
72	Thadi	<i>Protium serrata</i>
73	Thakut	<i>Dolichandrone serrulata</i>

Sr. No.	Myanmar Names	Scientific Names
74	Thakut-po	<i>Stereospermum fimbriatum</i>
75	Than	<i>Terminalia oliveri</i>
76	Thande	<i>Stereospermum personatum</i>
77	Than-that	<i>Albizzia lucida</i>
78	Thapan	<i>Ficus glomerata</i>
79	Thayet	<i>Mangifera indica</i>
80	Thingadu	<i>Parashorea stellata</i>
81	Thingan	<i>Homalium odorata</i>
82	Thinwin	<i>Millettia pendula</i>
83	Thit-e	<i>Castanopsis spp.</i>
84	Thitka	<i>Pentace burmanica</i>
85	Thitkado	<i>Cedrela toona</i>
86	Thitkya	<i>Juglans regia</i>
87	Thit-linda	<i>Heterophragma sulfuerum</i>
88	Thit-magyi	<i>Albizzia odoratissima</i>
89	Thitni	<i>Amoora rohituka</i>
90	Thit-pagan	<i>Millettia brandisiana</i>
91	Thit-payaung	<i>Neonauclea excelsa</i>
92	Thitpok	<i>Dalbergia kurzii</i>
93	Thitpwe	<i>Elaeocarpus floribundus</i>
94	Thit-pyauk	<i>Sapium insigne</i>
95	Thitsanwin	<i>Dalbergia paniculata</i>
96	Thitsein	<i>Terminalia belerica</i>
97	Thitsi	<i>Melanorrhoea usitata</i>
98	Tinyu	<i>Pinus insularis</i>
99	Wunthabok	<i>Quercus kingiana</i>
100	Yemane	<i>Gmelina arborea</i>
101	Yindaik	<i>Dalbergia cultrata</i>
102	Yingu-akyi	<i>Quercus helferiana</i>
103	Yinma	<i>Chukrasia tabularis</i>
104	Yinzat	<i>Dalbergia fusca</i>
105	Yon	<i>Anogeissus acuminata</i>
106	Zaungbale	<i>Lagerstroemia villosa</i>
107	Zaungbale (Ywet-gyi)	<i>Lagerstroemia venusta</i>
108	Zinbyun	<i>Dillenia pentagyna</i>



## **Introduction**

### **1. Lesser-known and Lesser-used Timber Species**

Although the terms lesser-known and lesser-used timber species are loosely used as synonyms there is a considerable differences between them. While some species are well known and much attracted in the market these could be less used due to insufficiency in supply to meet the demand. Many Myanma timbers have been well recognized in overseas trade since before the World War (II) (Ref. 4). However, most of these species are hardly available today for commercial purpose. Since Teak is easily available and traditionally accepted for most uses people are reluctant to utilize other timber species which, infact, have comparable in properties to Teak. There would be many more reasons why some species are commercially acceptable while others are not.

### **2. Stand density and distribution of Myanma lesser-used (LUS) timber species**

For commercial purpose one of the most outstanding reasons of being LUS is insufficiency in continuous supply of required timber species. Export data during the last decade revealed that only Teak,Pyinkado, Padauk and In-kanyin covered highest volume and earning continuously. The inventory data of stand density indicated also that these species are most abundant in the forest. Therefore, it is evident that adequate supply of timber is a major criteria in considering the promotion of LUS.

As Myanmar traverses many climatic and topographic zones it contains various forest types and vegetations through out the country so also the number of tree species. Wealthiness in tree species in a given area indicates that fewer stands for each species. An example on density of tree species is shown in annex (12). Out of nearly 500 species only 100 most abundant tree species are shown in the list. The most abundant species in the list is Taukkyan which is about 40 percent of the density of Teak at exploitable size.

Having harvested about 75 species for local use not more than 20 species are being exported including Thitka which is the least abundant among 100 species listed. Export of some species are found to be below the density of those listed eg. Thitkado. However, export of lower density timber showed lower volume of export compared to commercial ones. Nevertheless there is a possibility of promoting some more species to the market when attempt would be made to fulfill the demand of the consumers.

Although the density of stands shown in the list represents the overall inventory area some species are found to be limited to certain region or forest type thus allowing commercial harvesting of such species made possible eg. Taung-thayet and Thabye in Rakhine state and Nabe in Dry Upper Mixed deciduous forests.

## **Export Trade of Myanmar Hardwood Timbers**

### **3. Volume of timbers exported during last decade**

Major item of forest products exported by MTE is in the form of log which covers about 90 percent of the total volume exported.

Among 19 species exported during that period Teak, In-kanyin, Pyinkado and Padauk cover more than 90 percent of the total volume exported. Logs exported by the private sector showed similar pattern also. Therefore, other species could be regarded as LUS.

### **4. Export prices of Myanmar hardwood logs and price trend.**

Apart from Teak ITTO statistics revealed that Padauk gains maximum price (US \$ 267 per cu. m) followed by Thinwin, Yemane and Thingan during the period 1998-2000. Among the major species exported In-kanyin gets only US\$91 per cu. m, FOB. Similar pattern of price of logs also can be seen in the private sector in which average price of Padauk is US\$ 298 followed by Thinwin and Tamalan (Annex 14). It clearly indicates that some LUS are comparable or even higher in value to commercial species.

## **Global Production, Consumption and Trade of Wood Products**

Global statistics revealed that about 4390 million m<sup>3</sup> of wood and wood products were produced and consumed in 1996. Among the products industrial roundwood and woodfuel production and consumption together account for about 76 percent of the total.

**Table(1) Global production and consumption of wood products in 1996 (million m<sup>3</sup>)**

<b>Item</b>	<b>Production</b>	<b>Consumption</b>	<b>Percent</b>
Industrial roundwood	1,490	1,493	34.02
Sawnwood	430	426	9.71
Wood-based panel	149	148	3.37
Pulp and paper	179	178	4.06
Paper and paperboard	284	279	6.36
Woodfuel	1,865	1,864	42.48
<b>Total</b>	<b>4,397</b>	<b>4,388</b>	<b>100.00</b>

About 9 percent of the total global production of wood and wood products entered the global market during the same period. Share of industrial roundwood and woodfuel in the world trade was about 33 percent which is significantly lower than their share in the production.

**Table (2) Global imports and exports of wood products in 1996 (million m3).**

<b>Item</b>	<b>Imports</b>	<b>Exports</b>	<b>Percent</b>
Industrial roundwood	123	120	30.77
Sawnwood	109	113	28.97
Wood-based panel	44	45	11.54
Pulp and paper	31	32	8.21
Paper and paperboard	68	74	18.97
Woodfuel	6	6	1.54
Total	381	390	100.00

## **5. Industrial roundwood**

### **5.1 Imports**

More than 80 percent of industrial roundwood was imported by world top ten importing countries in 1996 as follow:

**Table(3) World top ten industrial roundwood importing countries (1996)**

<b>No.</b>	<b>Country</b>	<b>Volume import (thousand m<sup>3</sup>)</b>	<b>Percent of World Total</b>
1	Japan	47,860	38.79
2	Republic of Korea	9,066	7.35
3	Finland	7,323	5.94
4	China	7,169	5.81
5	Canada	7,022	5.69
6	Sweden	5,737	4.65
7	Austria	5,708	4.63
8	Belgium	3,503	2.84
9	Norway	3,123	2.53
10	France	2,753	2.23
Total		99,264	80.46
World Total		123,372	100.00

### **5.2 Exports**

More than 59 percent of industrial roundwood was exported by the world top ten exporting countries in 1996 as follow:

**Table(4) World top ten industrial roundwood exporting countries (1996).**

<b>Sr.No</b>	<b>Country</b>	<b>Volume export (thousand m3)</b>	<b>Percent of World Total</b>
1	United States	20,977	17.49
2	Russian Federation	16,312	13.60
3	Australia	7,895	6.58
4	Chile	6,451	5.38
5	Germany	4,148	3.46
6	France	3,650	3.04
7	Belgium	3,239	2.76
8	Republic	3,315	2.70
9	Papua New Guinea	3,039	2.53
10	South Africa	2,473	2.06
Total		71,499	59.60
World Total		119,963	100.00

## **6. Sawnwood**

### **6.1. Imports**

More than 77 percent of sawnwood in global trade was imported by world top ten consuming countries in 1996 as follow:

**Table (5)**

<b>Sr.No</b>	<b>Country</b>	<b>Volume import (thousand m3)</b>	<b>Percent of world total</b>
1	United States	43,823	40.13
2	Japan	11,528	10.56
3	United Kingdom	5,952	5.45
4	Italy	5,527	5.06
5	Germany	4,817	4.41
6	Netherlands	3,398	3.11
7	China	2,684	2.46
8	Egypt	2,534	2.32
9	Thailand	2,296	2.10
10	France	2,214	2.02
Total		84,773	77.63
World Total		103,200	100.00

### **6.2 Exports**

More than 83 percent of sawnwood in global trade was exported by world top ten producing countries in 1996 as follow:

**Table (6)**

<b>Sr.No</b>	<b>Country</b>	<b>Volume import (thousand m<sup>3</sup>)</b>	<b>Percent of world total</b>
1	Canada	50,458	44.81
2	Sweden	11,665	10.36
3	United States	7,139	6.34
4	Finland	7,044	6.26
5	Russian Federation	4,723	4.19
6	Austria	4,100	3.64
7	Malaysia	3,805	3.38
8	Germany	1,871	1.66
9	Brazil	1,640	2.46
10	Czech Republic	1,407	1.25
Total		93,852	83.34
World Total		112,612	100.00

## **7. Wood-based panels**

### **7.1. Imports**

More than 73 percent of wood-based panels in global trade was imported by world top ten consuming countries as follows:

**Table(7)**

<b>Sr No.</b>	<b>Country</b>	<b>Volume import (thousand m<sup>3</sup>)</b>	<b>Percent of world total</b>
1	United States	7,936	18.17
2	Japan	6,704	15.30
3	China	4,612	10.52
4	Germany	3,700	8.44
5	United Kingdom	2,736	6.24
6	Republic of Korea	1,644	3.75
7	Netherlands	1,398	3.19
8	Hong Kong	1,277	2.91
9	France	1,221	2.79
10	Canada	1,096	2.50
Total		32,351	73.82
World Total		43,822	100.00

### **7.2 Exports**

More than 74 percent of wood-based panels in global trade was exported by world top ten producing countries as follow:

**Table(8)**

<b>Sr No.</b>	<b>Country</b>	<b>Volume export (thousand m<sup>3</sup>)</b>	<b>Percent of World total</b>
1	Indonesia	8,302	18.56
2	Canada	6,860	15.34
3	Malaysia	5,186	11.59
4	United States	2,960	6.62
5	Belgium	2,279	5.09
6	Germany	2,088	4.67
7	France	1,954	4.37
8	Austria	1,274	2.85
9	Brazil	1,164	2.60
10	Finland	1,154	2.58
Total		33,221	74.27
World Total		44,732	100.00

## 8. Discussion

Overall assessment of compiled data as mentioned above indicated that North America (USA and Canada) and Europe are found to be the strongest regions in the world regarding the volume of timber trade, both export and import. Outside these regions, Japan and China are found to be very attractive consumers. Having greater proportion in volume (about 72 percent) of global timber and products trade, industrial roundwood, sawnwood and wood-based panels should be given priority for further discussion. Statistics mentioned in section 5 could be summarized as follow:

### World top importers (RWE 1000m<sup>3</sup>)

Japan	Industrial roundwood	47,860
	Sawnwood	11,528
	Wood-based panels	6,704
	<b>Total</b>	66,092

RWE = Round Wood Equivalent

United States	Industrial roundwood	-
	Sawnwood	43,823
	Wood-based panels	7,936
	<b>Total</b>	51,759

China	Industrial roundwood	7,169
	Sawnwood	2,684
	Wood-based panels	4,612
	<b>Total</b>	14,465

Republic of Korea	Industrial roundwood	9,066
	Sawnwood	1,161
	Wood-based panels	1,644
	<b>Total</b>	<b>11,871</b>

#### World top exporters (RWE 1000m<sup>3</sup>)

Canada	Industrial roundwood	2,607
	Sawnwood	50,458
	Wood-based panels	6,860
	<b>Total</b>	<b>59,925</b>

United States	Industrial roundwood	20,977
	Sawnwood	7,139
	Wood-based panels	2,960
	<b>Total</b>	<b>31,076</b>

Russian Federation	Industrial roundwood	16,312
	Sawnwood	7,723
	Wood-based panels	939
	<b>Total</b>	<b>24,974</b>

Referring to the above information it seems most likely that huge industrial roundwood requirement of Japan could partly be met by the supply of the United States. Also, it is reasonable to assume that supply of sawnwood from Canada would significantly contribute the demand of the United States and Japan. Similarly, shortages in wood products of China and Republic of Korea could possibly be met by the surplus of the Russian Federation. However, demand for wood-based panels by the United States, Japan, China and Republic of Korea could, probably, be met by the supply of Canada, Indonesia and Malaysia.

## 9. Future Trend

Overall statistics mentioned in section 5 and 6 remind that there is a significant shortage in supply of industrial roundwood. It is noted that Asia will continue to be world's only net roundwood importing region. Not much expectation is possible to increase the production and export of industrial roundwood, especially large diameter logs, in the future because of the following reasons;

- (i) World's natural forests comprising of large trees are rapidly diminishing at the rate of about 11 million hectares per year in the later part of the century.
- (ii) Many countries have the tendency to produce value added products rather than exporting logs.
- (iii) Greater areas of natural forest are likely to be made legally protected areas
- (iv) Certification requirement will have a great impact on exporting forest products which are not produced from sustainably managed forest.

Forest until year 2010 is that there would be an equilibrium between demand and supply of forest products. However, types of forest products will differ from those at present. Most of the growth in production and consumption of wood-based panel is expected in the reconstituted or engineered products rather than plywood. Broader range of timber species

and even non-wood fiber sources would be utilized efficiently to substitute the present commercial forest products. Vast area of commercial plantation will be established at short rotation. Processing technology will develop to utilize small diameter logs. Recycling of waste and reduction and utilization of wood residues will have a great impact on fulfilling the supply demand gap.



## Regional Production, Consumption and Trade of Wood Products.

### 10. Tropical Asia.

This region comprises of 17 nations in South and South East Asia with a forest cover of 8 percent of the forest area of the world. South East Asia countries are important timber producing region, particularly tropical hardwoods, accounting for 6 percent of the world's industrial roundwood production. More than 85 percent of this comes from Indonesia and Malaysia. About 14 percent of world production of wood-based panel comes from this region, especially from Indonesia and Malaysia. Export value of wood-based panel from these two countries accounting for about 34 percent in value of world trade in panels. Production and consumption of wood products in 1996 could be summerized as follow:

**Table(9) Tropical Asia-production and consumption of wood products in 1996 (1000m<sup>3</sup>)**

Item	Production	Consumption	Percent
Industrial roundwood	127,817	120,407	14.10
Sawnwood	37,483	36,484	4.27
Wood-based panel	19,971	6,272	0.73
Pulp and paper	5,714	5,959	0.70
Paper and paperboard	11,991	13,670	1.60
Woodfuel	672,714	671,222	78.60
<b>Total</b>	<b>875,690</b>	<b>854,014</b>	<b>100.00</b>

About 3 percent and 7 percent of the regional production of wood products entered the import and export market of the world respectively. Except for pulp and paper and paper and paperboard there is a significant contribution in supply of wood products by the region as a whole to the world's demand for wood products, especially wood-based panel.

**Table(10) Tropical Asia-imports and exports of wood products in 1996(thousand m<sup>3</sup>)**

Item	Imports	Exports	Percent	
			imports	exports
Industrial roundwood	2,509	3,009	19.10	11.15
Sawnwood	4,201	5,196	31.97	19.26
Wood-based panel	1,413	14,132	10.75	52.39
Pulp and paper	1,473	1,279	0.26	0.26
Paper and paperboard	3,199	1,676	24.34	6.12
Woodfuel	346	1,665	0.00	0.51
<b>Total</b>	<b>13,141</b>	<b>26,925</b>	<b>100.00</b>	<b>100.00</b>

#### 10.1 Industrial roundwood

##### 10.1.1. Imports, industrial roundwood, tropical Asia

About 2 percent of industrial roundwood of world import was imported by the top ten tropical Asia importing countries in 1996 as follow:

**Table (11) Tropical Asia-Top industrial roundwood importing countries in 1996  
(thousand m<sup>3</sup>)**

Sr.	Country	Volume import	percent of World Total
1	Thailand	939	0.76
2	Philippines	636	0.52
3	India	336	0.27
4	Malaysia	224	0.18
5	Indonesia	178	0.14
6	Pakistan	130	0.11
7	Singapore	55	0.04
8	Bangladesh	1	0
Total		2,509	2.03
World Total		123,372	100.00

### 10.1.2. Exports, industrial roundwood, tropical Asia

About 1 percent of industrial roundwood of world's export was exported by the top tropical Asia exporting countries in 1996 as follow;

**Table (12) Tropical Asia-Top industrial roundwood exporting countries in 1996  
(Thousand m<sup>3</sup>)**

Sr.	Country	Volume export	percent of World Total
1	Indonesia	683	0.57
2	Myanmar	493	0.41
3	Cambodia	459	0.38
4	Laos	417	0.35
5	Thailand	388	0.32
6	Vietnam	350	0.29
7	Malaysia	152	0.13
8	Singapore	26	0.02
9	India	23	0.02
10	Philippines	13	0.01
Total		3,009	1.00
World Total		119,963	100.00

## 10.2. Sawnwood

### 10.2.1. Imports, sawnwood, tropical Asia

More than 4 percent of sawnwood in global trade was imported in tropical Asia in 1996. Thailand, a world's top ten sawnwood importing the country, has a share of about 55 percent of imports of sawnwood in the area.

**Table (13) Tropical Asia-Top sawnwood importing countries in 1996 (thousand m<sup>3</sup>)**

<b>Sr.</b>	<b>Country</b>	<b>Volume export</b>	<b>percent of World Total</b>
1	Thailand	2,296	2.22
2	Singapore	758	0.73
3	Philippines	567	0.55
4	Malaysia	409	0.40
5	Pakistan	62	0.06
6	Brunei Durussalam	35	0.03
7	Indonesia	33	0.03
8	India	17	0.02
9	Sri Lanka	16	0.02
10	Vietnam	8	0.01
Total		4,201	4.07
World Total		103,200	100.00

### **10.2.2. Exports, sawnwood, tropical Asia**

A surplus of about 0.8 million m<sup>3</sup> of sawnwood was exported from tropical Asia in 1996 as follow;

**Table (14) Tropical Asia-Top sawnwood exporting countries in 1996 (thousand m<sup>3</sup>)**

<b>Sr.</b>	<b>Country</b>	<b>Volume export</b>	<b>percent of World Total</b>
1	Malaysia	3,805	3.38
2	Indonesia	429	0.38
3	Singapore	268	0.24
4	Myanmar	172	0.15
5	Cambodia	155	0.14
6	Philippines	145	0.13
7	Thailand	45	0.04
8	Vietnam	31	0.03
9	India	27	0.03
Total		5,077	4.51
World Total		112,612	100.00

### **10.3. Wood-based panels**

#### **10.3.1. Imports, wood-based panels, tropical Asia**

Imports of wood-based panels in global scale was low in tropical Asia in 1996 as follow;

**Table (15) Tropical Asia – Top wood based panel importing countries in 1996  
(thousand m<sup>3</sup>)**

<b>Sr.</b>	<b>Country</b>	<b>Volume export</b>	<b>percent of World Total</b>
1	Singapore	657	1.50
2	Philippines	278	0.63
3	Malaysia	176	0.40
4	Thailand	142	0.32
5	Indonesia	47	0.11
6	Vietnam	39	0.09
7	India	20	0.05
8	Brunei Darussalam	17	0.04
9	Pakistan	17	0.04
10	Sri Lanka	12	0.03
Total		1,405	3.21
World Total		43,822	100.00

### 10.3.2. Exports, wood-based panels, tropical Asia

Highly significant proportion of wood-based panel was exported from tropical Asia in 1996, in which 95.58 percent was from Indonesia and Malaysia. In fact, these two countries are the world's largest exporters of wood-based panels.

**Table (16) Tropical Asia-Top wood-based panel exporting countries in 1996  
(thousand m<sup>3</sup>)**

<b>Sr.</b>	<b>Country</b>	<b>Volume export</b>	<b>percent of World Total</b>
1	Indonesia	8,302	18.56
2	Malaysia	5,186	11.59
3	Singapore	325	0.73
4	Thailand	181	0.40
5	Philippines	41	0.09
6	Cambodia	29	0.06
7	Vietnam	20	0.04
8	Myanmar	19	0.04
9	Laos	9	0.02
Total		14,112	31.55
World Total		44,732	100.00

## **11. Discussion**

Among the tropical Asia countries Thailand was the biggest importer (2,296 thousand m<sup>3</sup>) and Malaysia was the biggest exporter (3,805 thousand m<sup>3</sup>) of tropical sawnwood in 1996. Indonesia and Malaysia were by far the most important suppliers of wood-based panels in the world. Myanmar ranked second in export of industrial roundwood after Indonesia by volume. Generally, export of tropical timber and its products exceeded the local demand. Most of the surpluses, therefore, would flow to the regional timber deficit countries such as Japan and China.

### **Future Trend of Myanmar Timber in Global Trade**

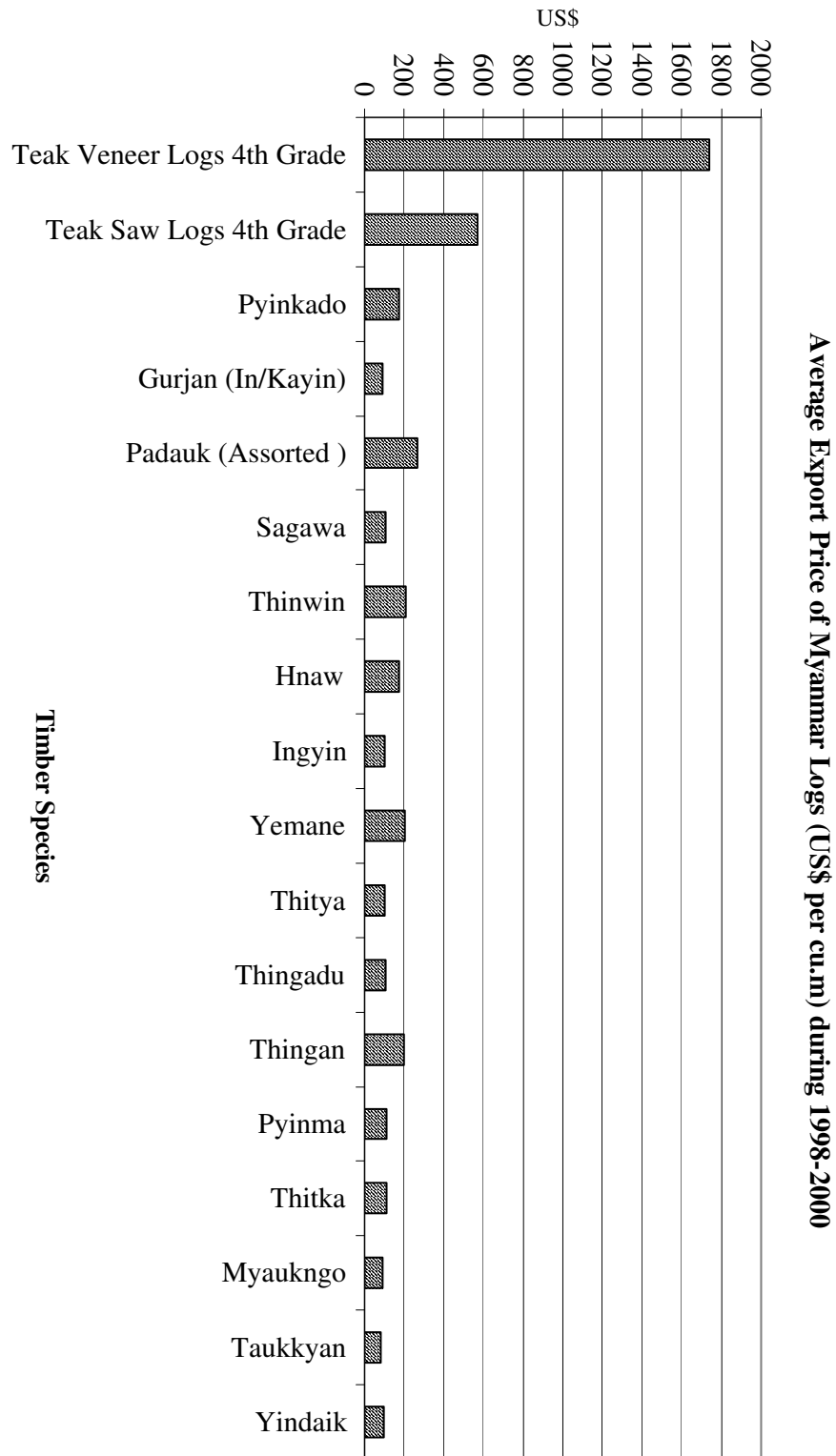
Teak, White Oak and Maple are the most valuable timbers in the world market (around US\$ 1,000 per m<sup>3</sup>) whereas sale value of most of primary wood products are around US\$100 per m<sup>3</sup>. However, supply of such valuable timber could not meet the world's demand in the long run since the requirement of wood products is increasing far beyond the limit of production. The deficit will, however, be met by substitutes including the recycled fiber products.

There is a great potential for Myanmar's lesser-used timber species in local and world market since the standing volume of LUS is about the same as those commercially harvested. However, technological improvement and financial investment are major inputs facing the challenges for LUS to be competitive in the international market. Other important needs for promotion of LUS timber trade are reduction in wastage through out the production and processing of timber which is now being neglected, and reduction in consumption of wood as fuel which otherwise would become very efficient resource as valuable products.

## **Conclusion**

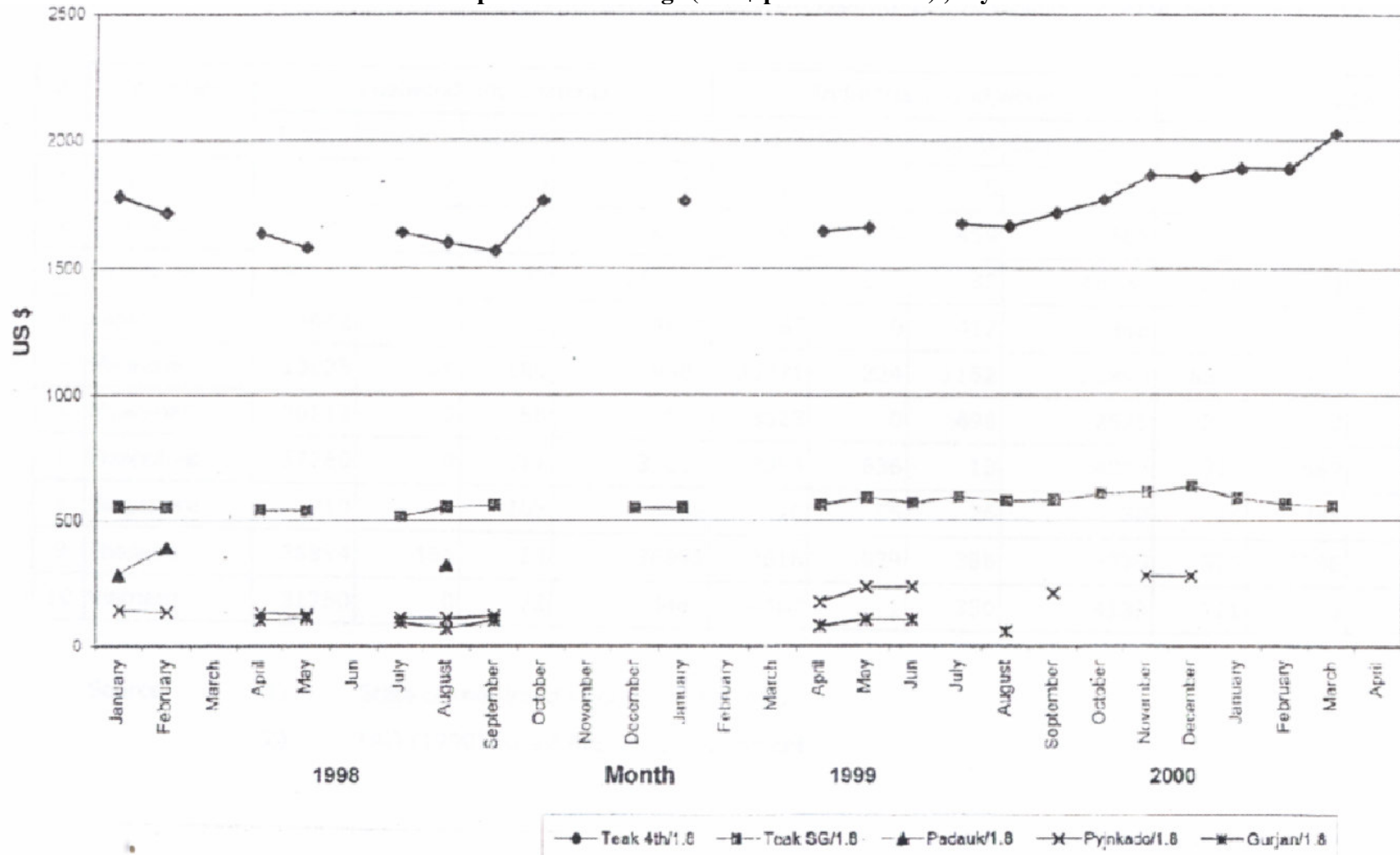
Myanmar, with a long history of scientific forest management and possessing valuable natural Teak forest, is a wonderful nation in the world. Conservative production and export of timber reflect in sustainable management of the natural forests for nearly one and a half century. However, great care should be taken not to overexploit the forest which has been experienced in many neighboring countries. Myanmar is now on the crossroad in management of the forests and development of technology in processing of timber. At present and in near future, timber industry in many countries will depend on plantation timber with small diameter logs and hi-tech facilities.

Larger diameter logs from natural forest become rare in coming decades. This kind of timber will be luxury item in the future whereas engineered timber products would overwhelm the market. LUS, at that time, will no longer be LUS anymore. Under any circumstances conserving the natural forests and at the same time growing more trees would be the assured solution for the necessity of future demand.



Annex 2

Trend of Export Prices of Logs ( US \$ per meter cube ) , Myanmar



**Annex - 3**

**Production, Trade and Consumption of Forest Products, 1996 (Cu.M x 1000) of ASEN Countries**

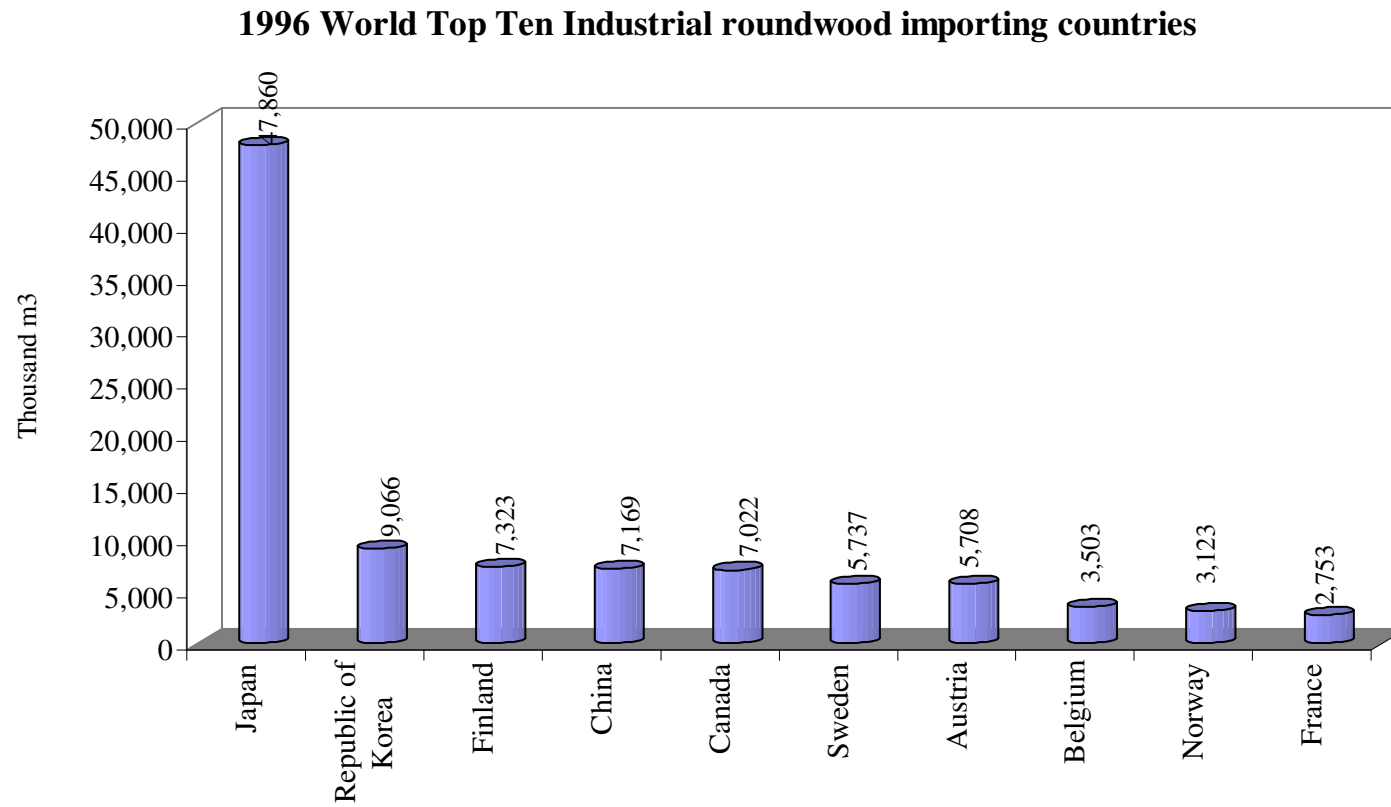
Sr.	Countries	Fuelwood and charcoal				Industrial round wood				Sawn wood			
		Prod:	Imports	Exports	Consumption	Prod:	Imports	Exports	Consumption	Prod:	Imports	Exports	Consumption
1	Brunei	79	2	0	81	216	0	0	217	90	35	0	125
2	Cambodia	6907	0	47	6860	1040	0	459	581	175	0	155	20
3	Indonesia	153540	0	1039	152501	47245	178	683	46739	7338	33	429	6941
4	Laos	4642	0	0	4641	785	0	417	368	310	0	119	191
5	Malaysia	10035	39	186	9888	35771	224	7152	28843	8382	409	3805	4985
6	Myanmar	20612	0	58	20554	3023	0	498	2525	351	0	172	179
7	Philippines	37280	0	211	37069	3394	636	13	4017	313	567	145	735
8	Singapore	210	78	203	86	710	55	26	30	25	758	268	514
9	Thailand	36894	154	53	36995	2818	939	388	3370	325	2296	45	2575
10	Vietnam	31250	0	72	4487	4487	1	350	4139	721	8	31	698

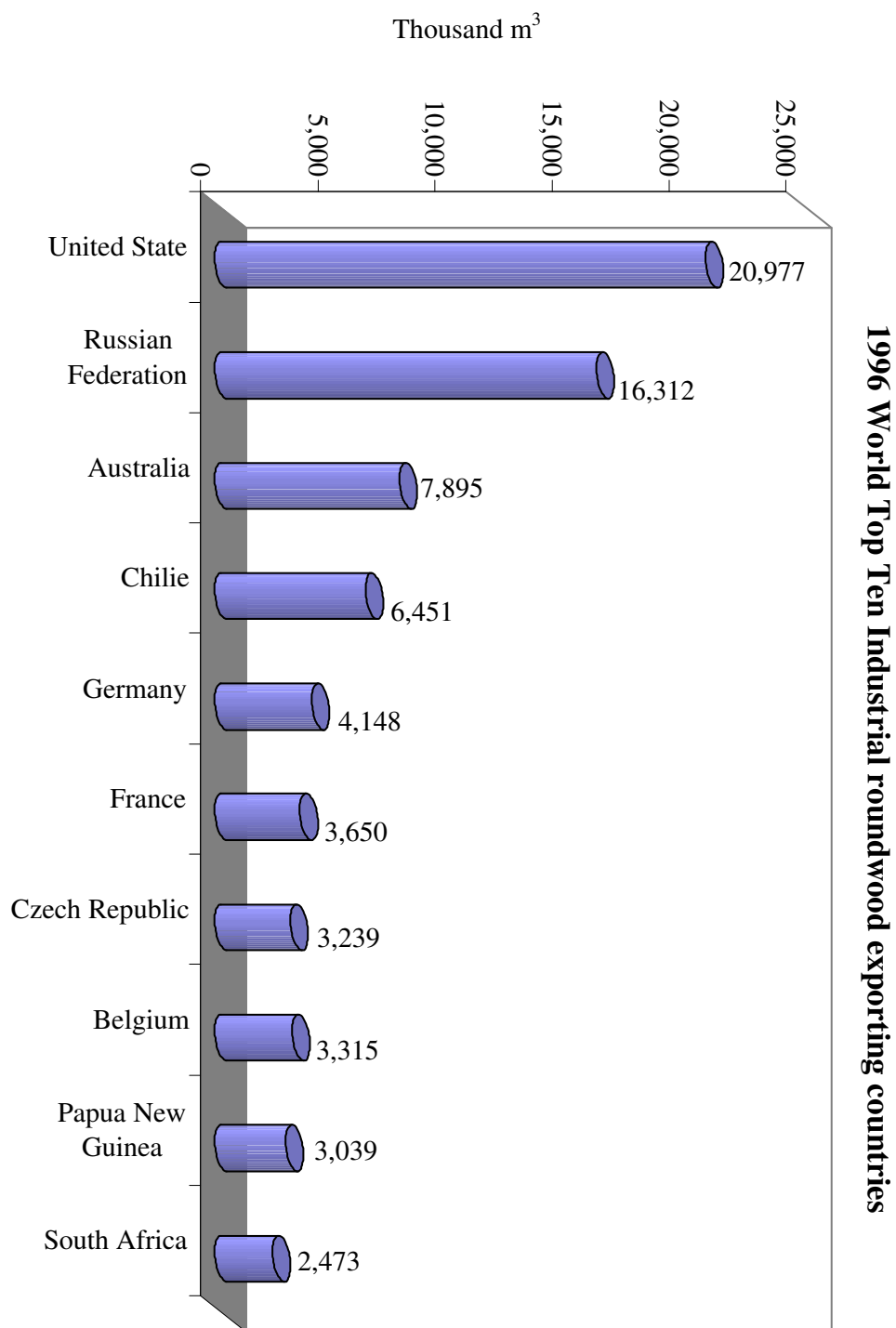
Source (1) State of the World's Forest (1997) FAO  
(2) FAO (1990) Forest Resource Assessment

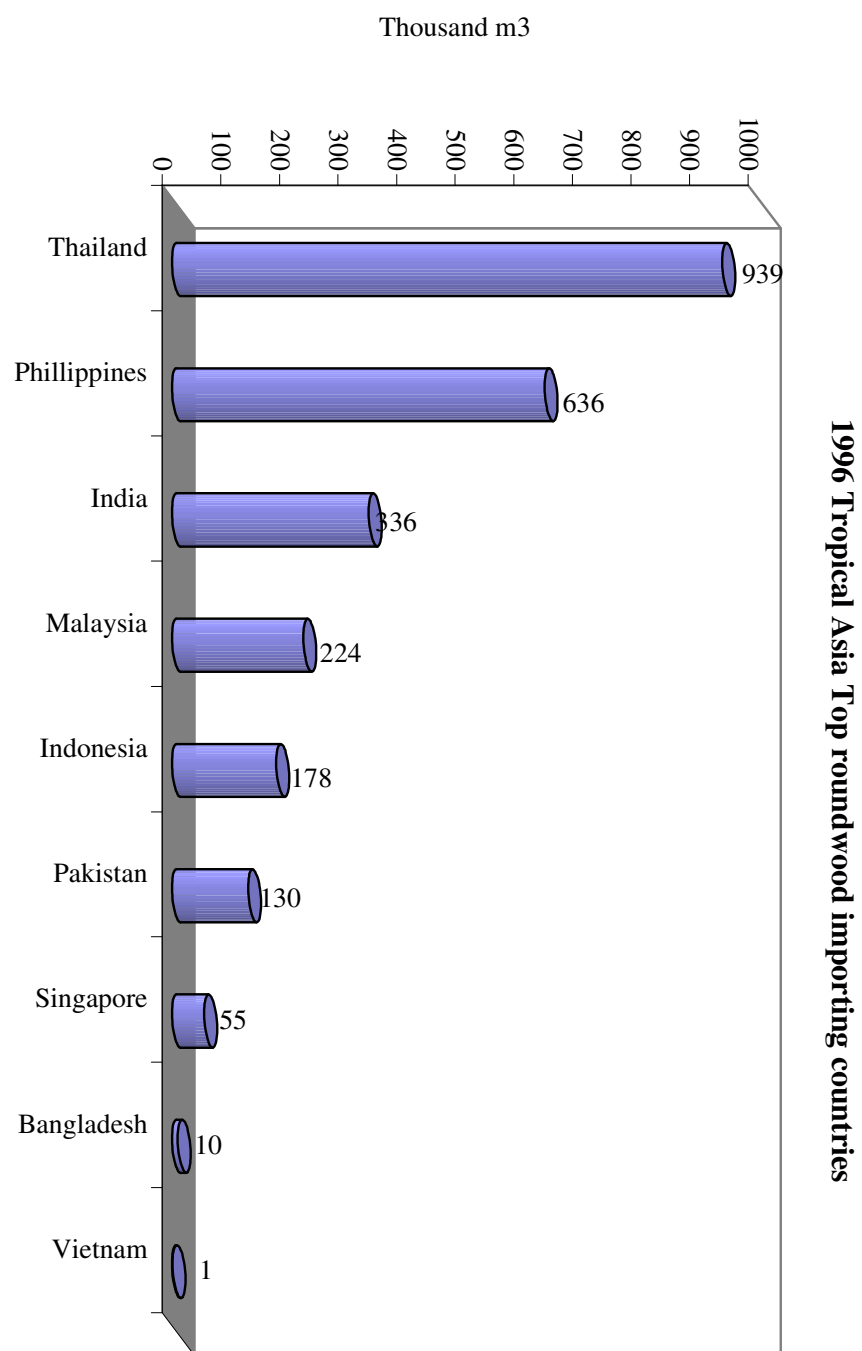


**Production, Trade and Consumption of Forest Products, 1996 (Cu.Mx 1000) of ASEAN Countries**

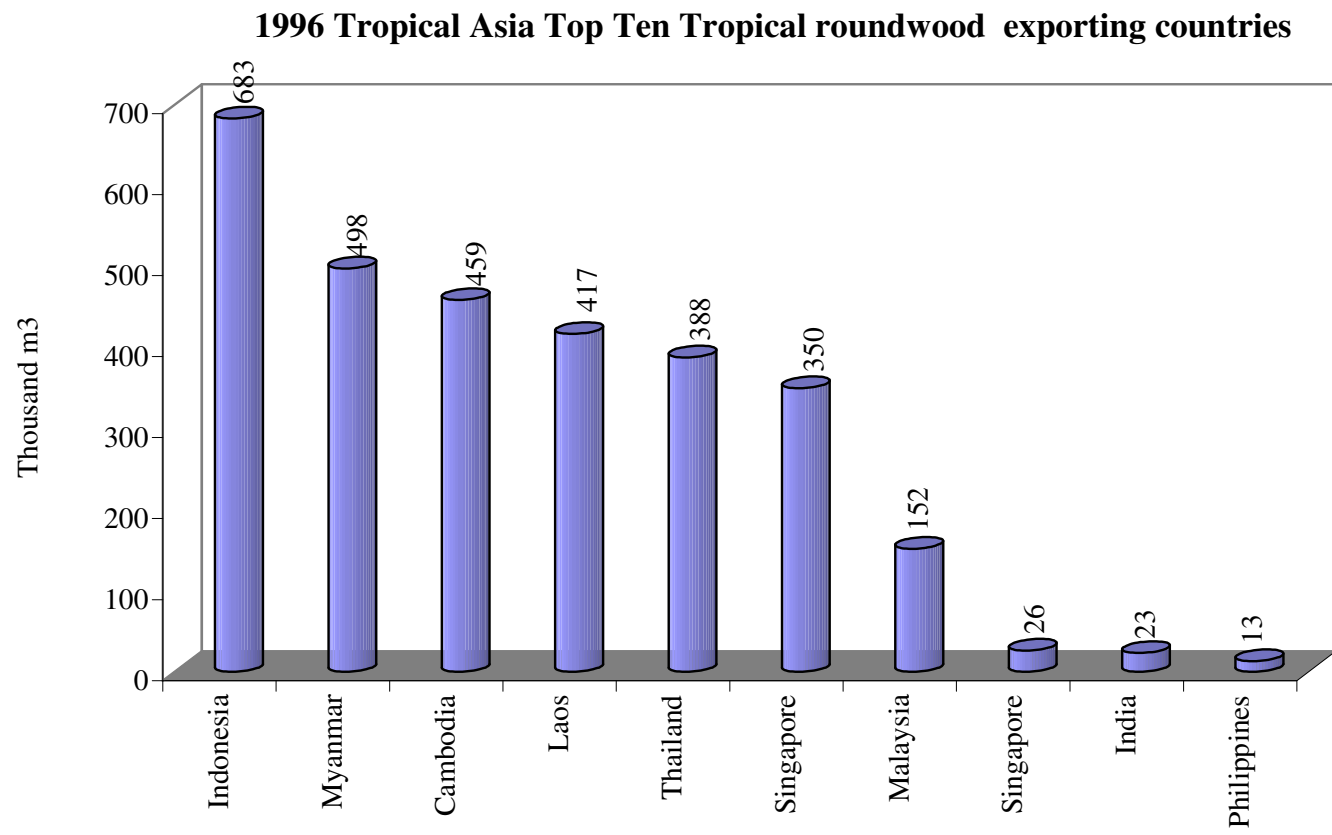
Sr.	Countries	Pulp				Paper and paper board				Wood-based panels				(1995) Forest area Mha
		Prod:	Imports	Exports	Consumption	Prod:	Imports	Exports	Consumption	Prod:	Imports	Exports	Consumption	
1	Brunei	0	0	0	0	0	1	0	1	0	37	0	37	434
2	Cambodia	0	0	0	0	0	1	0	1	58	1	29	30	9830
3	Indonesia	2636	637	1129	2143	4386	199	1213	3372	10128	47	8302	1873	109791
4	Laos	0	0	0	0	0	0	0	0	12	0	9	5	12435
5	Malaysia	103	64	0	167	674	808	41	1442	6770	176	5186	1760	15471
6	Myanmar	9	0	0	9	15	13	0	28	25	2	19	7	27151
7	Philippines	149	64	12	201	613	348	13	948	596	278	41	833	6766
8	Singapore	0	31	16	15	87	891	210	768	355	657	325	687	4
9	Thailand	503	346	131	718	2241	468	204	2506	493	142	181	454	11630
10	Vietnam	133	35	0	167	125	71	2	194	39	39	20	58	9117





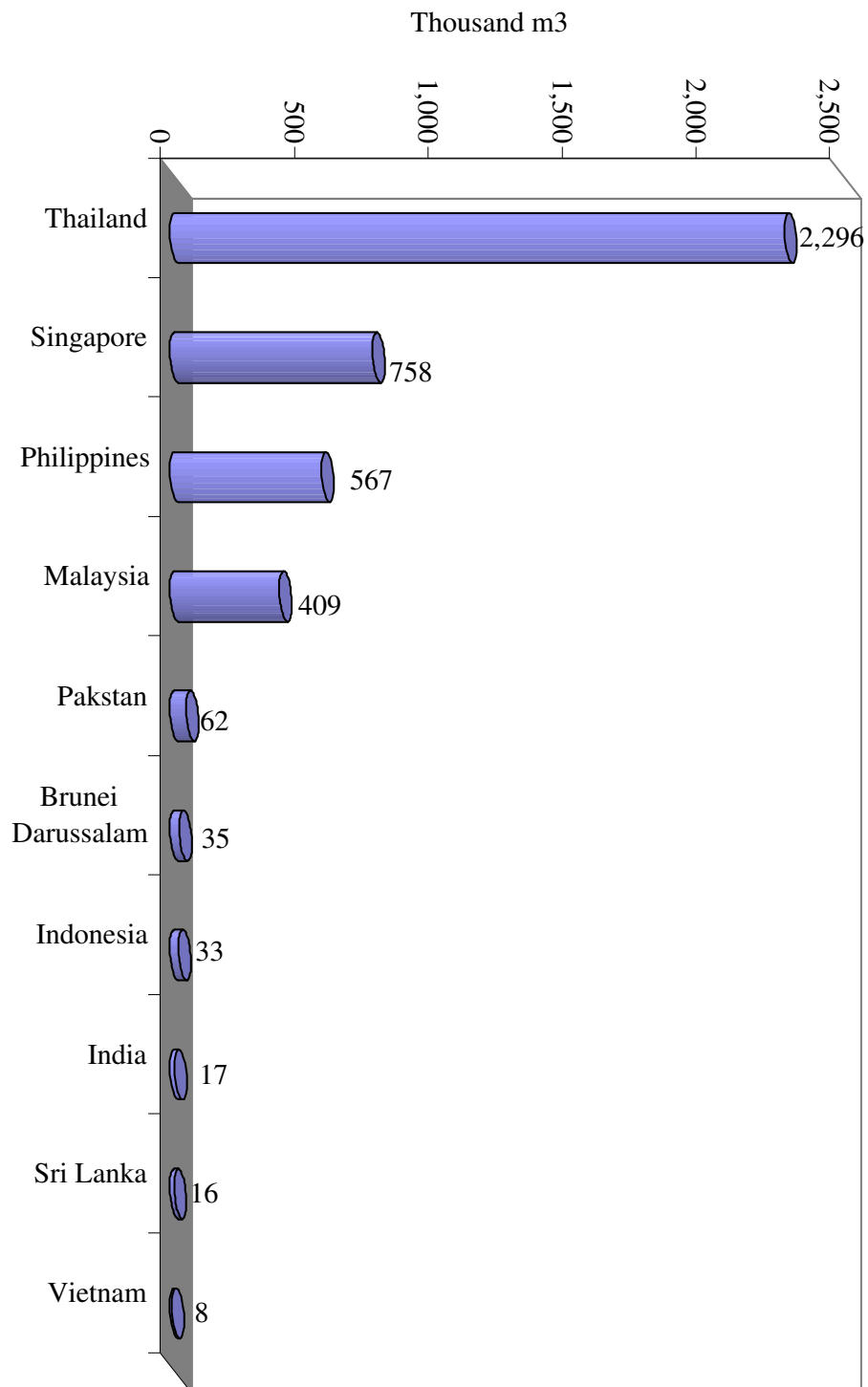


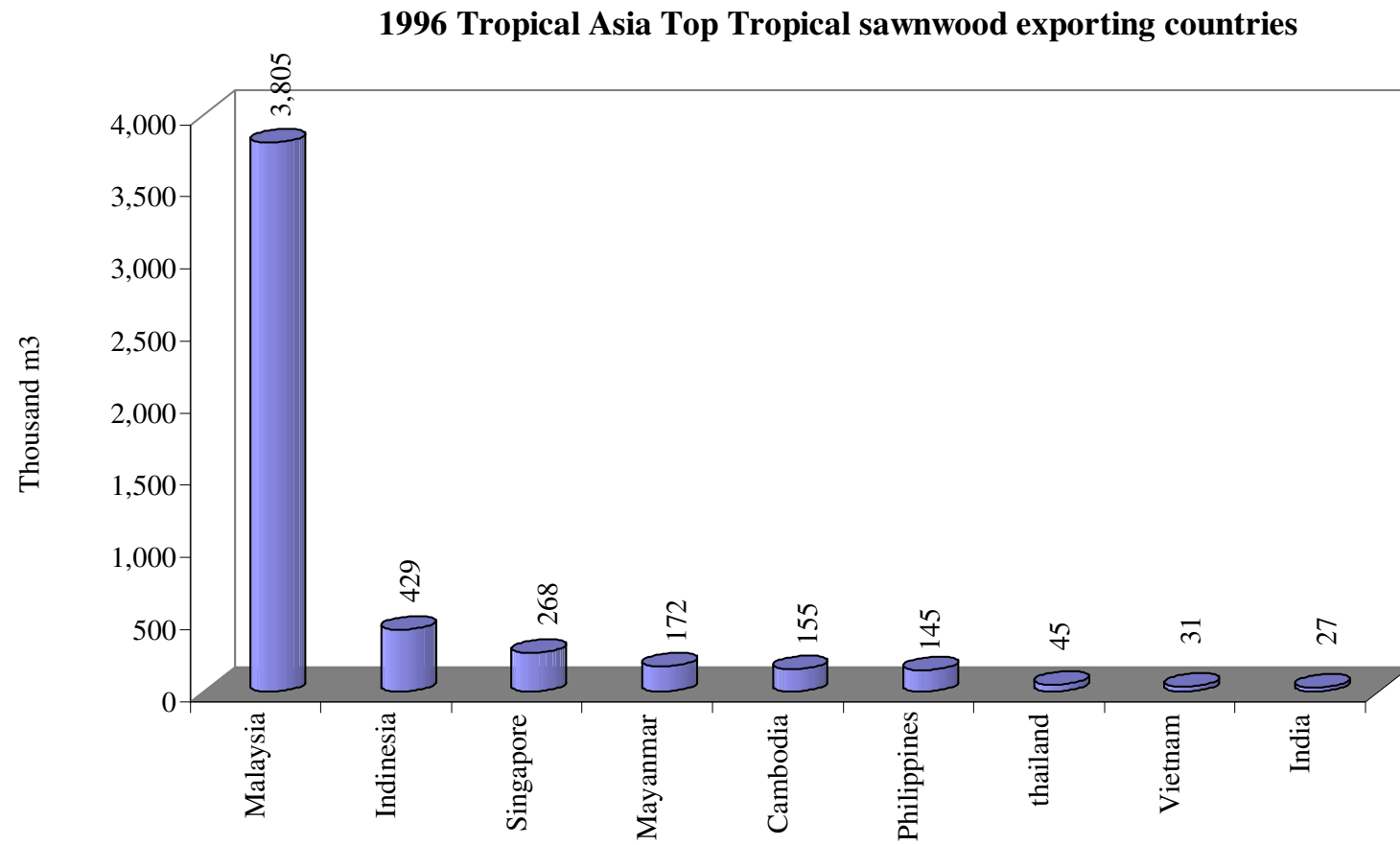
Annex-7

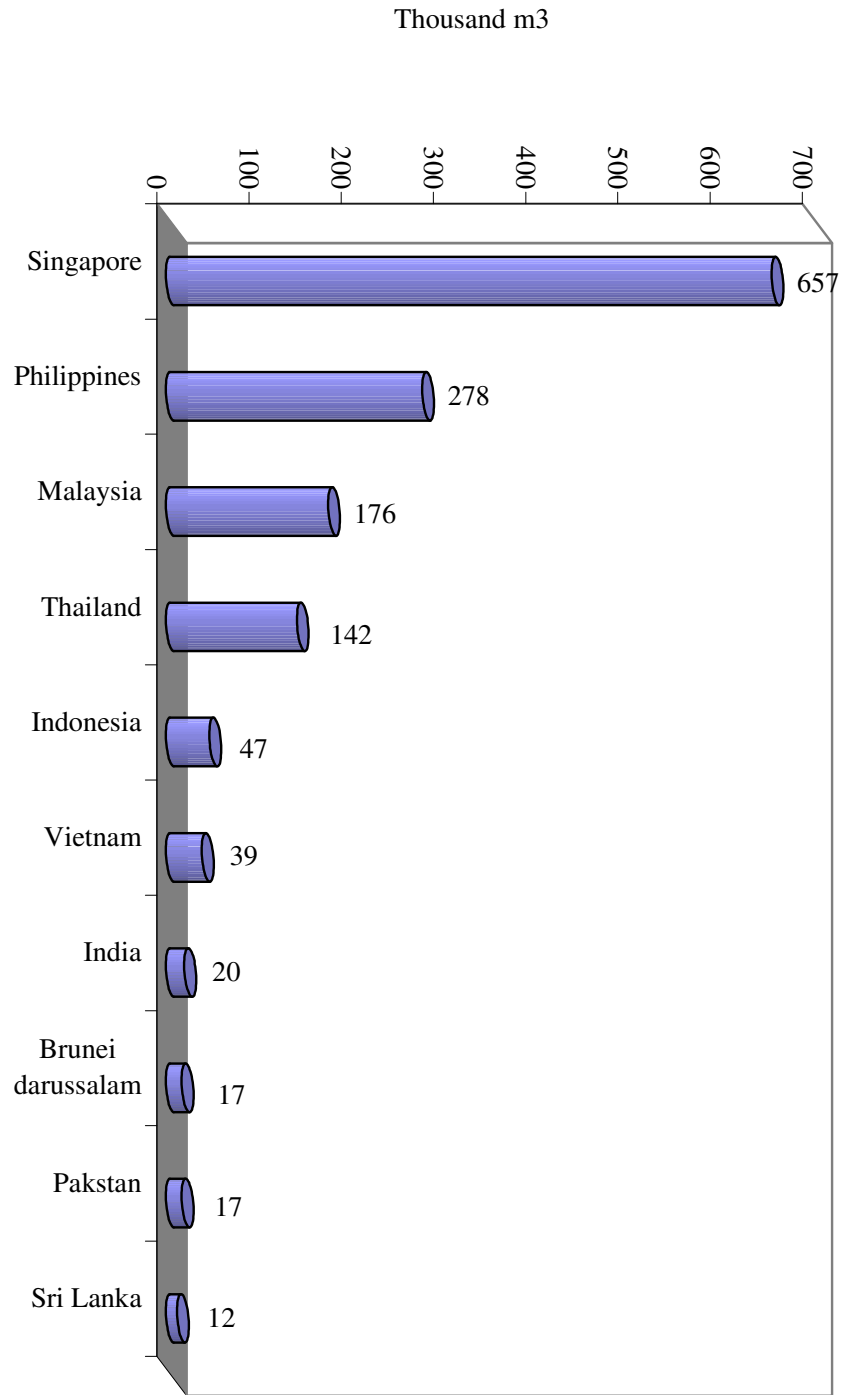


Annex-8

### 1996 Tropical Asia Top Ten Tropical sawnwood importing countries

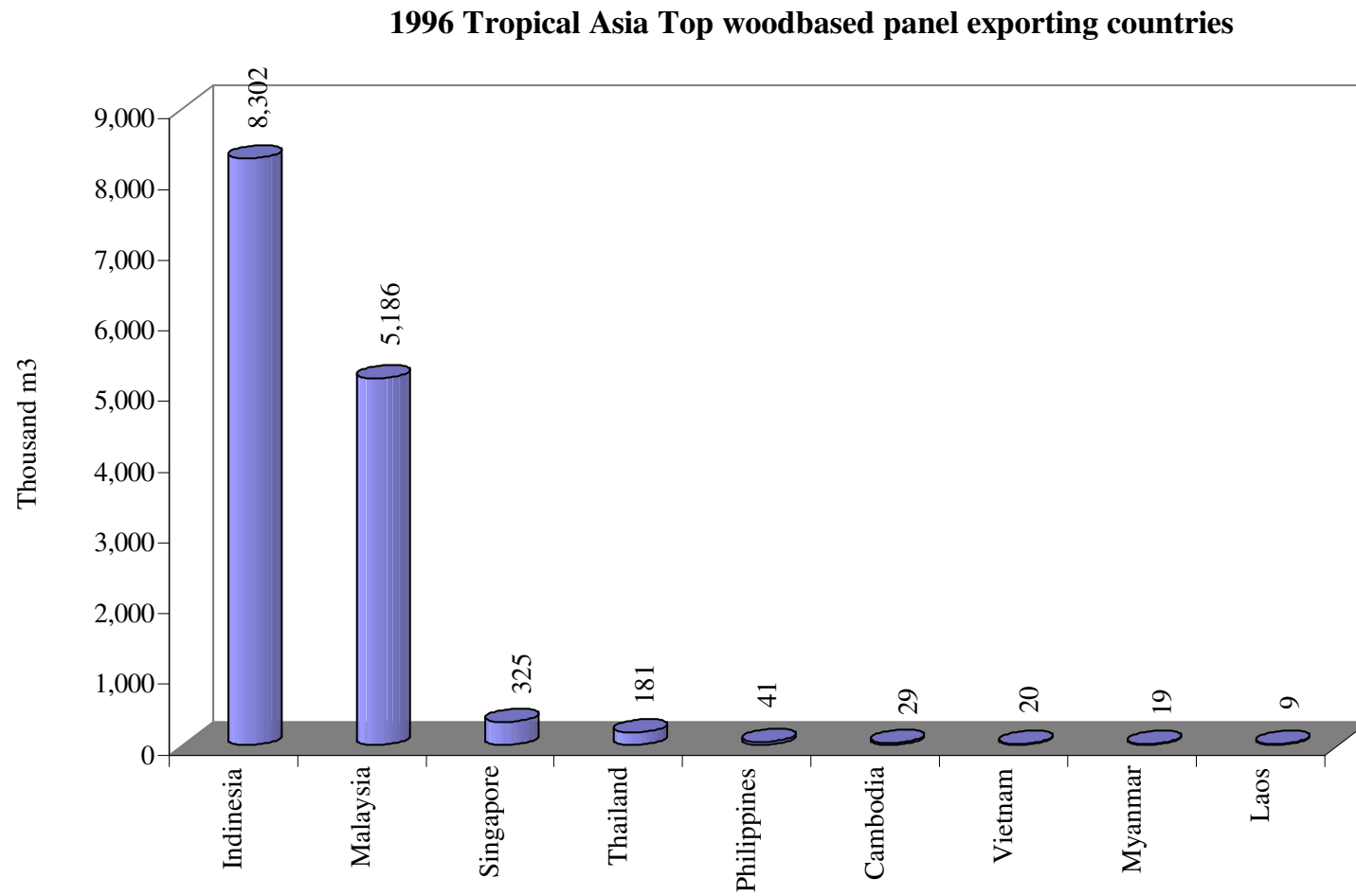






1996 Tropical Top Ten Woodbased panel importing countries





**List of the Most Abundant LUS in Myanmar**

<b>Sr. No.</b>	<b>Myanmar Names</b>	<b>Scientific Names</b>	<b>Number of Tree (X 1000 6 feet gbh &amp; above)</b>
1	Taukkyan	<i>Terminalia alata /;tomentosa</i>	2746
2	Taung-thayet	<i>Swintonia floribunda</i>	1450
3	Didu	<i>Salmaalina insignis</i>	1434
4	Thabye	<i>Eugenia spp.</i>	1308
5	Thadi	<i>Protium serrata</i>	1201
6	Gyo	<i>Schleichera oleosa</i>	1079
7	Zinbyun	<i>Dillenia pentagyna</i>	968
8	Chinyok	<i>Garuga pinnata</i>	902
9	Yon	<i>Anogeissus acuminata</i>	846
10	Myauk-ngo	<i>Duabanga grandiflora</i>	805
11	Nabe	<i>Lennea grandis</i>	741
12	Thitpok	<i>Dalbergia kurzii</i>	681
13	Thinwin	<i>Millettia pendula</i>	665
14	Thitsein	<i>Terminalia belerica</i>	614
15	Pyinma	<i>Lagerstroemia speciosa</i>	586
16	Thande	<i>Stereospermum personatum</i>	559
17	Leza	<i>Lagerstroemia tomentosa</i>	503
18	Taw-thayet	<i>Mangifera caloneura</i>	486
19	Thayet	<i>Mangifera indica</i>	485
20	Nyaung	<i>Ficus spp.</i>	462
21	Hnaw	<i>Adina cordifolia</i>	423
22	Yemane	<i>Gmelina arborea</i>	423
23	Zaungbale (Ywet-gyi)	<i>Lagerstroemia venusta</i>	422
24	Baing	<i>Tetrameles nudiflora</i>	419
25	Shaw	<i>Sterculia spp.</i>	406
26	Letpan	<i>Salmaalina malabarica</i>	366
27	Myaukchaw	<i>Homalium Tomentosum</i>	364
28	Thitsi	<i>Melanorrhoea usitata</i>	345
29	Sagat	<i>Quercus spicata</i>	341
30	Than	<i>Terminalia oliveri</i>	329
31	Kyetyo	<i>Vitex pubescens</i>	322
32	Thit-e	<i>Castanopsis spp.</i>	307
33	Zaungbale	<i>Lagerstroemia villosa</i>	299

Sr. No.	Myanmar Names	Scientific Names	Number of Tree (X 1000 6 feet gbh & above)
34	Panga	<i>Terminalia chebula</i>	296
35	Laukya	<i>Schima wallichii</i>	289
36	Thapan	<i>Ficus glomerata</i>	269
37	Thit-pagan	<i>Millettia brandisiana</i>	257
38	Yindaik	<i>Dalbergia cultrata</i>	257
39	Tauksha	<i>Vitex canescens/; glabrata</i>	246
40	Gwe	<i>Spondias pinnata</i>	245
41	Aukshinsa	<i>Diospyros ehretioides</i>	234
42	Kanyaung	<i>Shorea argentea</i>	228
43	Dahat	<i>Tectona hamiltoniana</i>	226
44	Taungthabye	<i>Tristania burmanica</i>	211
45	Thitpwe	<i>Elaeocarpus floribundus</i>	206
46	Binga	<i>Mitragyna rotundifolia</i>	199
47	Ma-u-lettan-she	<i>Anthocephalus cadamba</i>	191
48	Nagye	<i>Pterospermum semisagittum</i>	188
49	Kok-he	<i>Salmalia anceps</i>	184
50	Taung-peinne	<i>Artocarpus calophylla</i>	170
51	Pyaukseik	<i>Holoptelea integrifolia</i>	169
52	Lein	<i>Terminalia pyrifolia</i>	153
53	Taukkyan (Ywet-they)	<i>Terminalia crenulata</i>	149
54	Linyaw	<i>Dillenia parviflora</i>	146
55	Than-that	<i>Albizzia lucida</i>	138
56	Bommeza	<i>Albizzia chinensis</i>	131
57	Pok-thinma-myet-kauk	<i>Derris robusta</i>	131
58	Taukkyan (Ywet-gyi)	<i>Terminalia coriacea</i>	126
59	Petwun	<i>Berrya spp.</i>	125
60	Yinma	<i>Chukrasia tabularis</i>	124
61	Thingadu	<i>Parashorea stellata</i>	122
62	Kathit	<i>Erythrina suberosa</i>	119
63	Yinzat	<i>Dalbergia fusca</i>	119
64	Kalaw-pyu	<i>Hydnocarpus spp.</i>	109
65	Madama	<i>Dalbergia ovata</i>	107
66	Kyilan	<i>Shorea assamica</i>	104
67	Thit-magyi	<i>Albizzia odoratissima</i>	104
68	Taung-me-ok	<i>Alstonia scholaris</i>	99

Sr. No.	Myanmar Names	Scientific Names	Number of Tree (X 1000 6 feet gbh & above)
69	Te	<i>Diospyros burmanica</i>	97
70	Thit-pyauk	<i>Sapium insigne</i>	94
71	Thitni	<i>Amoora rohituka</i>	93
72	Sha	<i>Acacia catechu</i>	88
73	Thakut	<i>Dolichandrone serrulata</i>	86
74	Kokko	<i>Albizzia lebbek</i>	85
75	Tinyu	<i>Pinus insularis</i>	83
76	Kuthan	<i>Hymenodictyon excelsum</i>	82
77	Pan-ma	<i>Anneslea fragrans</i>	78
78	Bambwe	<i>Careya arborea</i>	77
79	Tayaw	<i>Grewia tiliaefolia</i>	77
80	Kywe-danyin	<i>Millettia atropurpurea</i>	76
81	Ma-u-kadon	<i>Nauclea orientalis</i>	76
82	Thitsanwin	<i>Dalbergia paniculata</i>	75
83	Sagawa	<i>Michelia champaca</i>	74
84	Taung-Kanyin	<i>Phoebe paniculata</i>	72
85	Thakut-po	<i>Stereospermum fimbriatum</i>	72
86	Yingu-akyi	<i>Quercus helferiana</i>	69
87	Myauk-lok	<i>Artocarpus lakoocha</i>	65
88	Leza-byu	<i>Lagerstroemia calyculata</i>	64
89	Thit-payaung	<i>Neonauclea excelsa</i>	60
90	Wunthabok	<i>Quercus kingiana</i>	59
91	Sawbya	<i>Pterocymbium tinctorium</i>	58
92	Thitkya	<i>Juglans regia</i>	58
93	Peinne-bo	<i>Palaquim polyanthum</i>	56
94	Thit-linda	<i>Heterophragma sulfuerum</i>	55
95	Gyok	<i>Diospyros montana</i>	52
96	Myat-ya	<i>Microcos paniculata</i>	52
97	Seikchi	<i>Bridelia retusa</i>	50
98	Hingut	<i>Dolichandrone spathacea</i>	48
99	Pet-shat	<i>Grewia scabrophylla</i>	48
100	Thitka	<i>Pentace burmanica</i>	47

HARDWOOD LOGS EXPORTED BY MYANMA TIMBER ENTERPRISE (MTE)  
SPECIES - WISE

$$1 \text{ Ton} = 1.8 \text{ m}^3$$

SR No.	SPECIES COUNTRY	YEAR WISE TON AND VALUE (K.000)																						
		1988-89		1989-90		1990-91		1991-92		1992-93		1993-94		1994-95		1995-96		1996-97		1997-98		Total		
		Ton	Value	Ton	Value	Ton	Value	Ton	Value	Ton	Value	Ton	Value	Ton	Value	Ton	Value	Ton	Value	Ton	Value	Ton	Value	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	BINGA											48	59									48	59.000	
	1India											48	59									48	59.000	
2	CHINYOK															885						885	0.000	
	1India															885						885	0.000	
3	HNAW	661	434.681											249	316	230	262	293	321	1632	884	3065	2217.681	
3	HNAW	40														35						75	0.000	
	1India	58	94.416											249	316			197	252	1632	884	2136	1546.416	
	1India															35						35	0.000	
	2Singapore	40																				40	0.000	
	3Thailand	603	340.265														230	262					833	602.265
	4Tuticorin																	96	69			96	69.000	
4	IN-KANYIN	47657	40972.082	9745	10984	13138	15336.3	3599	4389.9	21918	23454	29100	33775	18773	22510	20363	15004	21759	13744	74001	40321	260053	220490.004	
4	IN-KANYIN	10778						3304		8146		4799		2100		4106		4307				37540	0.000	
	1Bangaladish											259	298									259	298.000	
	2HongKong											6784	7720			157	638	674	568	3000	1632	10615	10558.000	
	3India	35057	33287.583	2211	2438.8	200	326.13	1000	1010.96	13144	14019	11979	13771	14924	19260	8541	8792	13192	9677	66499	36241	166747	138823.491	
	3India							3304		2398				1086		510		2809				10107	0.000	
	4Japan					6031	6466.771											1303	711			7334	7177.771	
	4Japan	3004										3156										6160	0.000	
	5Korea											471	960	14	15	141	1026					626	2001.000	
	5Korea											1643										1643	0.000	
	6Singapore	1010	1021.99			3539	4394.888					2799	2592									7348	8008.878	
	7Pakistan			914	1021.7					517	423	6808	8434	3561	2963	11395	4346	4394	2008	3608	1962	31197	21157.716	
	7Pakistan													1014		2756						3770	0.000	
	8Thailand	11590	6662.509	6620	7523.1	3368	4148.533	2599	3378.96	8257	9012			274	272	129	202	2232	780	894	486	35963	32465.148	
	8Thailand	7774								5748						840		1498				15860	0.000	
5	KAUNGHMU	63	88.055																			63	88.055	
	1Inida	63	88.055																			63	88.055	
6	PADAUK	1345	4579.639	5110	10769	1397	4027.46	228	569.41	6073	6888	1963	3718	5045	7851	18648	24871	9271	18039	9901	5317	58981	86629.594	
6	PADAUK	5394						116				2865		2492		4480		401				15748	0.000	
	1China									2215	2311			2228	2967			61	85			4504	5363.000	
	2Denmark																	10	67			10	67.000	
	3WGermany			8	131.55																	8	131.549	
6	PADAUK																					0	0.000	
	4HongKong	675	2537.506	871	2848.5	1397	4027.46	228	569.413	834	1160	1931	3644	1801	1823	8745	16680	8212	16407	6557	3567	31251	53263.908	
	4HongKong	3927										57		1196		3407		401				8988	0.000	
	5India	30	126.204	208	325.53					1316	1402											1554	1853.732	

HARDWOOD LOGS EXPORTED BY MYANMA TIMBER ENTERPRISE (MTE)  
SPECIES - WISE

1 Ton = 1.8 m<sup>3</sup>

SR No	SPECIES COUNTRY	YEAR WISE TON AND VALUE (K.000)																					
		1988-89		1989-90		1990-91		1991-92		1992-93		1993-94		1994-95		1995-96		1996-97		1997-98		Total	
		Ton	Value	Ton	Value	Ton	Value	Ton	Value	Ton	Value	Ton	Value	Ton	Value	Ton	Value	Ton	Value	Ton	Value	Ton	Value
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
5	India													256								256	0.000
6	Japan	214	694.243	3860	7128.8									711	1366	7299	1835	536	1101	942	446	13562	12571.076
6	Japan	219												49								268	0.000
7	Korea	27	144.839											70	170	15	105			95	49	207	468.839
7	Korea	27												87								114	0.000
8	Malaysia																			733	399	733	399.000
9	S.Korea			28	120.57																	28	120.571
9	Singapore	399	1076.347	135	214.07					80	240	32	74	235	1525	159	313	31	99			1071	3541.419
9	Singapore	1221						116				3808		15		276						5436	0.000
10	Thailand									1628	1775					2430	5938	121	280	1574	856	5753	8849.000
10	Thailand													859		797						1656	0.000
7	PYINKADO					11	63.237					11364	11129	6219	6405	32205	38951	50913	46617	29586	16172	130298	119337.237
7	PYINKADO											930		781								#VALUE!	0.000
1	China											6131	6454	1824	2091			723	1301			8678	9846.000
2	HongKong											1252	1429	4395	4314	12525	17651	2793	1918			20965	25312.000
2	HongKong													4								4	0.000
3	India															942	882	1422	1167	11064	6030	13428	8079.000
3	India																	31				31	0.000
4	Japan					11	63.237					16	31					98	120	98	120	223	334.237
5	Pakistan															1217	314	4010	2889	3117	1696	8344	4899.000
6	Singapore																	139	148	234	127	373	275.000
7	Thailand											3965	3215			17022	19451	41182	38643	14029	7633	76198	68942.000
7	Thailand											930		777								1707	0.000
8	Tuticorin															499	653	546	431	1044	566	2089	1650.000
8	PYINMA	238	330.712									33	44						19	11		282	393.712
1	India	238	330.712									33	44						19	11		282	393.712
9	SAGAWA																	232	660			232	660.000
1	Thailand																	232	660			232	660.000
10	TAMALAN			10	72.7									43	50			17	26			70	148.703
10	TAMALAN	293																				293	0.000
1	HongKong													43	50							43	50.000
1	HongKong	293																				293	0.000
2	Japan			10	72.703													17	26			27	98.703
11	TAUKKYAN											1194	1339	1424	1983	845	564	4601	2503	13131	7156	21195	13545.000
11	TAUKKYAN	87																3006				3093	0.000

HARDWOOD LOGS EXPORTED BY MYANMA TIMBER ENTERPRISE (MTE)  
SPECIES - WISE

1 Ton = 1.8 m<sup>3</sup>

SR No	SPECIES COUNTRY	YEAR WISE TON AND VALUE (K.000)																					
		1988-89		1989-90		1990-91		1991-92		1992-93		1993-94		1994-95		1995-96		1996-97		1997-98		Total	
		Ton	Value	Ton	Value	Ton	Value	Ton	Value	Ton	Value	Ton	Value	Ton	Value	Ton	Value	Ton	Value	Ton	Value	Ton	Value
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	HongKong															230	364					230	364.000
2	India											1194	1339	1006	1131			4601	2503	13131	7156	19932	12129.000
3	Japan															679	449					679	449.000
3	Japan	87																3006				3093	0.000
4	Singapore													120	375							120	375.000
5	Thailand													68	113	166	115					234	228.000
12	TAUNGPEINNE	117	138.773																			117	138.773
1	India	117	138.773																			117	138.773
13	TAUNGthayet	3019	2784.876	5665	6791	2893	2955.4	6684	7329.7			203	235							3949	2148	22413	22243.593
13	TAUNGthayet	6097						2419		9170		9083		5855				2949				22413	22243.593
1	Bangaladish											156	181									35573	0.000
2	India											47	54									47	54.000
3	Japan	3009	2775.848	5665	6790.7	2893	2955.401	6684	7329.65													18251	19851.565
3	Japan	6097						2419		9170		9083		5855								32624	0.000
4	Singapore	10	9.028																			10	9.028
5	Pakistan																			3949	2148	3949	2148.000
5	Pakistan																	2949				2949	0.000
14	THINGADU	1160	1244.839																			1160	1244.839
14	THINGADU	2499																				2499	0.000
1	India	1150	1235.826																			1150	1235.826
2	Korea	2499																				2499	0.000
3	Singapore	10	9.013																			10	9.013
15	THINGAN	149	204.901															186	152			335	356.901
1	India	149	204.901																			149	204.901
2	Thailand																	186	152			186	152.000
16	THINWIN			100	156.4							6	12					9	32			115	200.427
16	THINWIN	120																				120	0.000
1	HongKong											6	12					9	32			15	44.000
1	HongKong	120																				120	0.000
2	India			100	156.43																	100	156.427
17	THITKADO											3	4									3	4.000
1	India											3	4									3	4.000
18	THITKA	169	198.141	60	78.81			80	98.655									50	30			359	405.602
18	THITKA																	23				23	0.000
1	India	169	198.141	60	78.806			80	98.655									50				359	375.602

HARDWOOD LOGS EXPORTED BY MYANMA TIMBER ENTERPRISE (MTE)

1 Ton = 1.8 m<sup>3</sup>

SPECIES - WISE

SR No	SPECIES COUNTRY	YEAR WISE TON AND VALUE (K.000)																							
		1988-89		1989-90		1990-91		1991-92		1992-93		1993-94		1994-95		1995-96		1996-97		1997-98		Total			
		Ton	Value	Ton	Value	Ton	Value	Ton	Value	Ton	Value	Ton	Value	Ton	Value	Ton	Value	Ton	Value	Ton	Value	Ton	Value		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	Inda																	23				23	0.000		
19	YEMANE	42	68.364									28	64									70	132.364		
1	India	31	51.713																			31	51.713		
2	Japan											28	64									28	64.000		
3	Singapore	11	16.651																			11	16.651		
20	SubTotal 1	54620	51045.063	20690	28851	17439	22382.42	10591	12387.6	27991	30342	43942	50379	31753	39115	72291	79652	87386	82135	132200	71998	498903	468287.485		
20	SubTotal 2	25308						5839		17316		17677		11228		9506		10717				97591	0.000		
21	Grand Total	79928		20690	28851	17439	22382.42	16430		45307		61619		42981		81797		98103		132200	71998	596494			



**Annex 14**

Export of hardwood roundlogs and sawn timbers by private sector during the period 1989-90.

<b>Sr. No.</b>	<b>Particular</b>	<b>Volume (Ton)</b>	<b>Value (US\$ x 1000)</b>	<b>Average Price per ton (US \$)</b>
<b>1</b>	<b>Round logs</b>	<b>4312.71</b>	<b>1189.07</b>	<b>275.71</b>
1	Pyinkado	120.00	23.00	191.67
2	Padauk	1138.29	650.59	571.55
3	Tamalan	17.42	8.75	501.95
4	Taukkyan	27.00	8.58	317.78
5	In- kanyin	3011.00	498.15	165.50
<b>2</b>	<b>Sawn timber</b>	<b>665.00</b>	<b>363.73</b>	<b>546.95</b>
1	Group(1)	100.00	50.00	500.00
2	Pyinkado	150.00	60.00	400.00
3	Padauk	360.00	233.25	647.92
4	Thinwin	25.00	13.88	555.00
5	In-kanyin	30.00	6.60	220.00
<b>Total</b>		4977.71	1552.79	-

Note: 1 ton roundlog=1.8 m<sup>3</sup>  
1 ton sawn timber = 1.4 m<sup>3</sup>

Export of hardwood roundlogs and sawn timbers by private sector during the period 1990-91.

<b>Sr. No.</b>	<b>Particular</b>	<b>Volume (Ton)</b>	<b>Value (US\$ x 1000)</b>	<b>Average Price per ton (US \$)</b>
<b>1</b>	<b>Roundlogs</b>	<b>35398.38</b>	<b>16121.04</b>	<b>455.42</b>
1	Pyinkado	4050.71	907.40	223.95
2	Padauk	22100.06	12878.68	582.53
3	Tamalan	422.38	230.66	546.11
4	Taukkyan	343.60	115.06	334.88
5	In-kanyin	8450.00	1983.49	234.73
6	Thinwin	7.14	2.50	350.00
7	Hnaw	11.00	2.15	195.00
8	Taungthayet	4.49	1.10	245.00
<b>2</b>	<b>Sawn timbers</b>	<b>4133.21</b>	<b>1747.45</b>	<b>422.78</b>
1	Group(1)	100.00	53.00	530.00
2	Pyinkado	820.00	334.75	408.23
3	Padauk	1243.21	795.25	639.67
4	Thinwin	30.00	20.25	678.00
5	In-kanyin	915.00	221.95	242.57
6	Yindaik	15.00	8.25	550.00
7	Hnaw	10.00	4.00	400.00
8	Ingyin	1000.00	310.00	310.00
<b>Total</b>		39531.59	17868.49	-

Export of hardwood roundlogs and sawn timbers by private sector during the period 1991-92.

Sr. No.	Particular	Volume (Ton)	Value (US\$ x 1000)	Average Price per ton (US \$)
<b>1</b>	<b>Roundlogs</b>	<b>89915.73</b>	<b>32008.72</b>	<b>358.21</b>
1	Pyinkado	6289.11	1556.34	247.47
2	Padauk	45060.52	23700.70	512.97
3	Tamalan	1747.12	670.10	383.55
4	Taukkyan	2060.41	434.30	210.78
5	In-kanyin	33218.28	5485.90	165.15
6	Thinwin	166.69	72.94	437.58
7	Hnaw	1153.61	238.43	206.69
8	Other	220.00	50.00	227.27
<b>2</b>	<b>Sawn timbers</b>	<b>3586.85</b>	<b>1822.75</b>	<b>508.17</b>
1	Group(1)	362.90	164.03	452.00
2	Pyinkado	1336.71	578.20	432.55
3	Padauk	1137.31	773.57	680.18
4	In-kanyin	406.50	111.03	237.12
5	Hnaw	5.78	2.75	475.00
6	Tamalan	129.65	67.49	520.57
7	Ingyin	40.00	152.00	380.00
8	Kokko	3.00	3.48	1160.00
9	Binga	5.00	12.50	2500.00
10	Taukkyan	10.00	4.50	450.00
11	Others	150.00	90.00	600.00
<b>Total</b>		<b>93502.58</b>	<b>34031.47</b>	<b>-</b>

Export of hardwood roundlogs and sawn timbers by private sector during the period 1992.93.

<b>Sr. No.</b>	<b>Particular</b>	<b>Volume (Ton)</b>	<b>Value (US\$ x 1000)</b>	<b>Average Price per ton (US \$)</b>
<b>1</b>	<b>Roundlogs</b>	<b>85475.58</b>	<b>27071.87</b>	<b>316.72</b>
1	Pyinkado	17131.65	3730.30	217.74
2	Padauk	32853.77	16963.49	516.33
3	Tamalan	1099.92	347.76	316.17
4	Ingyin	10.00	3.20	320.00
5	In-kanyin	31122.63	5344.13	171.70
6	Thinwin	22.51	7.11	315.90
7	Hnaw	1540.00	340.50	221.10
8	Taungthayet	650.00	106.25	163.46
9	Kokko	52.03	11.52	221.48
10	Thitya	228.94	53.38	233.17
11	Taukkyan	684.13	146.63	214.33
12	Others	80.00	17.60	220.00
<b>2</b>	<b>Sawn timbers</b>	<b>38840.90</b>	<b>11860.41</b>	<b>305.36</b>
1	Pyinkado	6966.39	2694.27	386.75
2	Padauk	14303.64	4492.92	314.00
3	Thinwin	8.00	4.40	550.00
4	In-kanyin	16403.11	4066.19	247.89
5	Hnaw	55.00	22.00	400.00
6	Tamalan	910.76	516.14	566.72
7	Taungthayet	45.00	11.70	260.00
8	Thitya	110.00	35.50	322.73
9	Ingyin	30.00	9.90	330.00
10	Kokko	4.00	4.64	1160.00
11	Group(1)	5.00	2.75	550.00
<b>Total</b>		<b>124316.48</b>	<b>38932.28</b>	<b>-</b>

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