

Forestry in Guyana Market Summary 1998



***Economics Section
Policy and Planning Division
Guyana Forestry Commission***

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1.0 INTRODUCTION

This market summary for 1998 presents the picture for Guyana's Forestry Sector in 1998 and its relation to previous years. 1998 was a difficult year for the timber industry in Guyana. The country was recovering from the effects of El Nino which were greatest in the first quarter of 1998. The turbulent international markets that were present in 1997 continued into the first half of 1998, stabilising as the year progressed. Guyana was not alone in its troubles as Brazil, the biggest tropical timber producer in the Latin American/Caribbean region, was forced to seek assistance from the International Monetary Fund (IMF). The Guyana dollar depreciated by approximately 15% which put pressure on producers with costs of inputs into the production process increasing. In August 1998, the timber producers publicly called for assistance from government, noting problems of credit availability and the need for a kiln drying facility.

Real growth in GDP declined from 6.2% in 1997 to minus 1.3% in 1998 due to adverse weather conditions, disruptions caused by political disturbances and falling international commodity prices arising from the Southeast Asian crisis. Forestry, along with sugar, rice, bauxite and diamonds had lower production than in 1997. Production¹ of sugar declined by 7.5%, rice by 0.3%, bauxite by 8.2% and diamonds by 6.0%. Gold production increased by 7.6%. The economy suffered from depressed labour markets, declining commodity prices and volume, and reduced profit margins and dividend payments in most industries. Inflation during 1998 was 4.8% compared with 4.2% in 1997.

2.0 SUMMARY

With respect to 1997, 1998 saw decreases in total log production to 386,673m³, chainsaw lumber production to 23,638m³, splitwood to 1,607m³ and firewood and charcoal to 2,888 cords and 460,864 kg respectively. There were increases in production of Greenheart piles to 11,358m³, manicole palm to 6.9 million stems and plywood to 76,059m³. Due to incomplete data on sawmill production it is impossible to give an accurate picture on sawmill production. However, a decline in log production would indicate that there has also been a decline in sawmill production.

1998 also saw export volume decreases for logs to 60,585m³ and sawnwood to 21,197m³. There were export volume increases for roundwood to 9,067m³, splitwood to 895m³ and plywood to 69,945m³. Total export value also decreased to US\$30.1 million from US\$38.0 million in 1997.

Despite the downturn in markets in 1997, which continued into the first half of 1998, the forest sector survived the worst of the storm and began to show signs of recovering in the latter half of 1998. International markets were also showing signs of recovery, in particular in Asia, with prices rising due to a recovery in the demand for forest products.

¹ Production data is taken from *Guyana Economic Highlights for 1998*, Bank of Guyana.

3.0 FORESTRY'S CONTRIBUTION TO GROSS DOMESTIC PRODUCT

Forestry's contribution to Gross Domestic Product (GDP) in 1998 declined to 3.8% from the high in 1997 of 4.9%. Table 3.1 depicts the trend in forestry's contribution to GDP over the past 11 years.

Table 3.1: Forestry as a Proportion of Gross Domestic Product 1988 - 1998 (G\$ million; 1988 prices)

Year	GDP at factor cost*	Forestry	Forestry as % GDP
1988	3,600	80	2.2%
1989	3,422	72	2.1%
1990	3,319	71	2.1%
1991	3,519	72	2.1%
1992	3,792	88	2.3%
1993	4,104	117	2.9%
1994	4,452	197	4.4%
1995	4,676	228	4.9%
1996	5,048	229	4.5%
1997	5,360	264	4.9%
1998	5,290	200	3.8%

* GDP measures domestic output exclusive of indirect taxes on goods and services.

Source: Bank of Guyana's Annual Report and Statement of Accounts and personal communications with Bank of Guyana.

The contribution of forestry to GDP is for primary production only, excluding the value added from further processing such as, sawmill and plywood production. Production of plywood and sawnwood is accounted for in GDP data under 'manufacturing'. The increase in forestry's contribution to GDP in 1993 is a result of Barama Company Ltd beginning production, as the increase in GDP is in line with the proportional increase in log production in the same period, the latter increase coming from species other than Greenheart (*Chlorocardium rodiei*).

4.0 RECENT DEVELOPMENTS IN THE FORESTRY SECTOR

This section outlines some of the more important developments in forest policy and forest markets that occurred in 1998.

4.1 Forest Policy and Management in 1998

The strengthening of the Guyana Forestry Commission, the development of legislation, forest management codes of conduct and other policy and management practices have an

important impact on the forest sector and the way the sector manages the forest resources. 1998 was a productive year in terms of the development of forest policy and management practices. The objective of the Forest Policy (October 1997) was the central motivation behind the development of new forest legislation and management techniques. The overall objective of Guyana's National Forest Policy is:

The conservation, protection, management and utilization of the nation's forest resources, while ensuring that the productive capacity of the forests for both goods and services is maintained or enhanced.

In 1998 drafts of the Forest Act and the Guyana Forestry Commission Act, were revised after consultation with the major stakeholders and submitted to the Board of Directors, Guyana Forestry Commission in November 1998. A discussion draft of the Forest Regulations was prepared in 1998.

Forest Management Plan (FMP) guidelines were finalised following discussions with the Forest Products Association (FPA), and released in 1999 to be implemented by the industry. Discussion, especially with the FPA, on the Code of Practice continued and was finalised in early 1999. The Code has now gone to the producers for a trial implementation phase.

Significant progress has been made during 1998 on the National Forest Plan and forest revenue system. The first draft of the National Forest Plan (NFP) was produced and stakeholder consultations begun. The proposed forest revenue system devised by the GFC/FPA Working Group on Forest Revenue System, was accepted by the Board of Directors of the Guyana Forestry Commission and the FPA. The proposed system has been built into the draft legislation.

The GFC continued its institutional strengthening, with the new structure implemented in August 1998. The new structure will allow the GFC to effectively implement the Forest Policy (October 1997). The DFID GFC Support Project entered its second phase, with a new memorandum signed in August 1998. The second phase is for three years and will focus more on forest management.

4.2 Market Developments

As with any product the market for forest products is influenced by factors of demand and supply. The demand for forest products is primarily a derived demand, (derived from the demand for end uses such as housing, construction and furniture). Traditionally the supply of timber from Guyana has been on a *produce to order* basis. However as the markets are changing and alternative products are being developed, marketing of forest products (which has been limited in the past) is becoming essential and with it the need for better management planning and practice, in order to meet the market demands.

4.2.1 Key Market Events affecting Guyana in 1998

In 1998 the depressed international timber markets (impact of the Southeast Asia crisis) had a major impact on the forestry sector in Guyana. Although the Guyana economy in general was affected by the crisis the forestry sector experienced some specific market events.

There was a shift in production to less value added products such as logs to be used for export to Asia, away from the production of value added products such as plywood which was experiencing depressed prices. Plywood prices were around US\$200-210, down from US\$360/m³. In February plywood production was only 60% of normal output at 6,000 m³. In October, Corentyne Forest Export and Import Company clinched a multi-million dollar timber supply contract with Barama's South Korean parent company SK Global. The first shipment of about 5,000 m³ of logs was valued at nearly US\$300,000. In August, in response to adverse flooding in the Yangtze river region, the Chinese government imposed logging bans in this region, establishing the National Natural Forest Protection Programme in September 1998. As a result demand for imports of logs into China increased and opened up a new market for Guyanese log exports.

4.2.2 *Certification and Substitute Timber Products*

Two important recent market developments that are affecting Guyana's timber producers and in particular exports, are certification and the development of alternative products to forest products, such as plastic lumber as well as traditional alternatives, concrete and bricks. The international markets are responding to increasing consumer demand for forest products from sustainably managed forests, who in some instances are turning their consumption to timber substitute products.

Certification

Forest management certification is a relatively new type of formal, voluntary procedure. A certifier – who is a third-party inspector – gives a written assurance that the quality of forest management practised by a defined manager or group, conforms to specified standards. This certification is often followed by verification of the *chain of custody* of products from the certified forests, and labelling of the products, so that they can be proven not to have been mixed with, or substituted by, products from other forests. In this way, certification attempts to link market demands for forest products produced to high environmental and social standards with producers who can meet such demands. Forest certification has evolved as a market instrument to give due recognition to, and provide for, sustainable forest management (S. Bass, 1998).

Currently there are two main certification schemes that are being enforced internationally: ISO 14001 and the Forest Stewardship Council (FSC) scheme. The ISO 14001 is based on forest/environmental management techniques, whereas the FSC scheme is directed at the forest operations level. The FSC has been set up as an international non-governmental umbrella organization to accredit nationally based forest certifying bodies.

The key driving force behind certification is the threat of losing market share, rather than being able to gain a price premium. In addition, to the costs that will be incurred from the loss of market share due to not being certified, there are costs of implementation that can affect the likelihood of certification being adopted. The costs involve both direct and indirect costs. Direct costs are the costs of certification itself (registration etc) and the indirect costs are the costs of adopting a level of sustainable forest management (SFM) required to achieve certification (of achieving quality forest management).

Certification is already making its mark in the market for Guyana's timber products. For example the USA are becoming more stringent in their buying practices and producers are finding it increasingly difficult to maintain markets without certification. In July 1998 Minister of Trade Shree Chan, lobbied the Economic and Social Council of the United Nations (ECOSOC) regarding the threat of a loss of market and costs of certification. Although the European market for certification is presently estimated at being less than 5% the trend in consumer preference is increasingly moving towards certification and labelling of forest products.

Substitute Timber Products

The development of substitute forest products such as plastic lumber, is having an important impact on the structure of the international market. Ever increasing pressure from consumers for timber products from sustainable forests, and the negative image of tropical forestry in general, has put impetus behind entrepreneurs to develop alternatives to forest products. One such alternative that is gathering momentum in the United States of America (if not elsewhere) is plastic lumber. Plastic lumber produced from recycled plastic, with similar properties in terms of strength, durability and end uses to tropical hardwood is appearing in the market more frequently. For example in some American cities the use of tropical hardwood has been banned unless it is certified, and in its place plastic lumber is being used. However, its use is still negligible compared to the volumes of timber used, and alternative products such as concrete and bricks remain the major competing products to timber.

5.0 LAND ALLOCATION WITHIN STATE FOREST

Table 4.0 provides a breakdown of land allocation within the State forest as of December 1998. State forest lands covers a total area of 13,678,616 hectares (33,799,860 acres) or approximately 64% of the total area of Guyana of 21.5 million hectares and approximately 83% of total forested area (16.45million hectares).

Table 5.0 Land Allocation within the State Forest (December 1998)

<i>Classification</i>	<i>Number</i>	<i>Acreage</i>	<i>Hectares</i>	<i>% of State Forest</i>	<i>% Total Land Allocated</i>
<i>Production Areas</i>					
State Forest Permissions (SFP)	331	1,465,803	593,202	4.3	9.2

Wood Cutting Leases (WCL)	7	1,207,884	488,824	3.6	7.6
Timber Sales Agreement (TSA)	19	9,151,263	3,703,465	27.1	57.6
SFP Conversion Areas ^a	59	2,509,140	1,015,435	7.4	15.8
Exploratory Permit (EP) ²	1 ^b	* 346,416	140,193	1.0	2.2
<i>Permanent Research Areas</i>					
Iwokrama Research Site	1	889,560	360,000	2.6	5.6
Moraballi Reserve	1	28,787	11,650	0.1	0.2
Other research sites	9	7,663	3,102	0.02	0.05
<i>Protection and Biodiversity Reserves</i>					
Kaitaur National Park ^c	1	277,548	112,322	0.8	1.7
TOTAL ALLOCATED LAND		15,884,064	6,428,193	47.0	100.0
<i>Total Unallocated Land^d</i>		<i>17,885,795.9</i>	<i>7,250,461</i>	<i>53.0</i>	
STATE FOREST LANDS		33,799,860	13,678,616	100.0	

Source: Kellman, M. 1999. *State Forest Allocations (Year Ending December 1998)*. Forest Resource Management Division – Engineering Department, Guyana Forestry Commission.

Notes:

^a Current SFPS that are being considered for conversion to TSAs and WCLs.

^b Officially there is one Exploratory Permit with an acreage of 346,416 acres. A second Exploratory Permit Lease of 228,783 acres has yet to be granted.

^c at the time of publication (June 1999) the area under the Kaitaur National Park was under clarification.

^d the area under the different uses within these classifications was not available at the time of production of the report.

Land allocated to forest concession is approximately 43% (5,941,119 hectares) of the State forest land. Section 5.1 provides definitions of the different forestry concession types.

5.1 Forestry Concession Details

Forest concessions are allocated under three categories: State Forest Permissions (SFPs), Wood Cutting Leases (WCLs) and Timber Sales Agreements (TSAs). The concession definitions are based on area and duration of contract, and carry different obligations and rights. An SFP is a 1 year lease for areas up to 20,000 acres (8,094 hectares) of State forest. A WCL is a 3-10 year lease for areas of 20,000 – 60,000 acres (8,094 – 24,281 hectares) of State forest, and a

² An *Exploratory Permit (EP)* is a permit to undertake exploratory operations of the area covered by the permit. The Forests (Exploratory Permits) (Amendments) Act 1997, Section 2, defines *exploration of State forests*, as the exploration for the purposes of discovering and evaluating forest produce and requires forest inventories, social and environmental impact assessments and topographic surveys to be conducted. The EP does not permit the harvesting of any produce during this phase of activities. The holder of an EP does not have exclusive exploratory rights to the area. In 1998 one EP was granted.

TSA is a lease, normally valid for 20 years or more, for an area of 60,000 acres (24,281 hectares) or more of State forest.

In 1998, TSAs numbered 19, WCLs 7, and SFPs had declined in number to 331, from 369 in 1997. The decline in SFP numbers is because of two main factors: (1) the procedures for obtaining SFPs are now being strictly adhered to, including the rule limiting allocation to only 1 SFP to a logger and a maximum of 2 SFPs to a sawmiller; and (2) 59 SFPs that are under consideration for conversion to a TSA/WCL are no longer counted as SFPs.

Table 5.1: Forest Users Licensed by the Guyana Forestry Commission 1987 - 1997

Year	TSA	WCL	SFP
1987	9	0	322
1988	9	1	464
1989	10	1	296
1990	12	1	351
1991	17	1	371
1992	17	2	363
1993	17	8	439
1994	17	9	337
1995	17	9	445
1996	17	9	496
1997	17	9	369
1998	19	7	331

Source: Guyana Forestry Commission

In 1998, of the 331 SFPs, 189 are in the Demerara Division (covering a total of 749,466 acres), 61 in the Berbice Division (347,996 acres), 70 in the Essequibo Division (313,849 acres) and 11 in the NW District (54,492 acres). Of the 19 TSAs, 3 are in the Demerara Division (1,313,500 acres), 4 in the Berbice Division (849,157 acres) 10 in the Essequibo Division (2,709,368 acres) and 2 in the NW District (4,245,000 acres). The 7 WCLs are distributed with 1 in the Demerara Division (44,800 acres), none in the Berbice Division, 3 in the Essequibo Division (438,816 acres) and 3 in the NW District (724,268 acres) ³.

Conversion of SFPs to TSAs and WCLs began in 1985 when a small number of large SFPs were converted to TSAs/WCLs (the rationale behind the limited number of conversions remains unclear). In 1994 it was recommended that all SFPs with areas greater than 20,000 acres (8,094 hectares) be considered for conversion to TSA/WCL after evaluation by a designated committee. The conversion to a TSA/WCL with a life of 10 years or more, follows the standard arguments concerning the issues of property rights and sustainable forest management.

³ Kellman, M. 1999. *State Forest Allocations (Year Ending December 1998)*. Forest Resource Management Division – Engineering Department, Guyana Forestry Commission.

As of December 1998, 59 SFPs covering an area of 2,509,140 acres (1,015,435.05 hectares), were under consideration for conversion. All SFPs under consideration for conversion are required to produce and submit investment proposals, and other documents detailing factors such as logging history; size of each area; forest officers' personal knowledge of the permittee's respective operation; organisational structure; capability of the permittee to illustrate working areas on a map. For assessing SFPs, the committee developed criteria which included the ability of the permittee to manage a large concession over a long period of time, in a sustainable manner (GFC, State Forest Conversion Exercise, Final Report, May 1997).

6.0 INVESTMENT

Some investment into the forestry sector of Guyana occurred during 1998:

Amazon Caribbean Ltd opened a US\$ 1 million heart-of-palm factory at Blairmont, Berbice in August/September 1998. The plant uses raw materials extracted from manicole palms and focuses mainly on exports. However due to depressed markets the factory ceased production in December 1998 and has not resumed production at the time of writing this report.

The Precision Woodworking Establishment is planning to invest, in the near future, US\$2.5 million in modernisation and expansion. The new premises will double the present physical size and is expected to create employment for 80 more to add to the current workforce of 120.

In March 1998 Demerara Timbers Limited imported equipment valued at US\$7 million. Construction will be started in 1999 on a US\$20 million complex, which will include a brand new sawmill with the capacity to produce 2000 cubic feet per month (based on an eight hour shift). The Chairman of Prime Group Investments Ltd, Kenneth Chew said that the company was also exploring other long-term investment options in Guyana including oil palm cultivation.

In September, Case Timber Limited (CTL) Managing Director, Hamley Case said that the company intended to construct a plywood factory once granted a timber concession. Only part of the US \$ 65 million plywood factory has been taken to the concession; the remainder remains at the wharf.

In October, logger and sawmiller, Mr Ganesh Singh, opened a G\$40 million Eco-tourism resort along the Corentyne River.

7.0 TIMBER PRODUCTS DEFINITIONS AND FLOWS

In order to make the market reports more comprehensible, a definition and description of the terminology used to describe the forest products, was required. In an economy, the forestry sector is classified as the primary sector and to avoid any conflict in terminology, the use of primary and secondary products and levels of production within the forestry sector are to be defined by the level of processing involved for the individual products.

Figure 7.0, represents the flow of timber (non-timber forest products are not included) from the forest into the different categories of products (based on the statistical data collected by the GFC). The logs recorded by the GFC are used in the production of sawmill lumber, shingles, plywood and for export. The production of roundwood, splitwood, chainsaw lumber and fuelwood (firewood and charcoal) are recorded independently of log production. The total of logs used in their production is not monitored and recorded by the GFC.

Roundwood comprises piles, poles, posts and spars. Splitwood includes paling staves, vat staves and shingles and fuelwood includes charcoal and firewood.

7.1 Levels of Processing

The flow of timber from the forest to forest products passes through three main stages of processing. Forest products such as logs and firewood can be classified as raw materials as they are removed from the forest with limited processing⁴. Products such as roundwood, splitwood, chainsaw lumber and charcoal all require a degree of conversion from the raw material. This level of processing can be defined as primary conversion⁵. Primary conversion is often performed in the forest, as is the case in Guyana.

In Guyana there are three forest product types that are produced following *further processing*. These are plywood, sawmill lumber and shingles from the shingle mill. Shingles are produced in the forest and as such are classified as primary conversion products, however shingles that are produced from the mill are classified under further processing. Further processing includes the transformation of primary products into semi-finished and finished products made wholly or almost wholly of timber.⁶

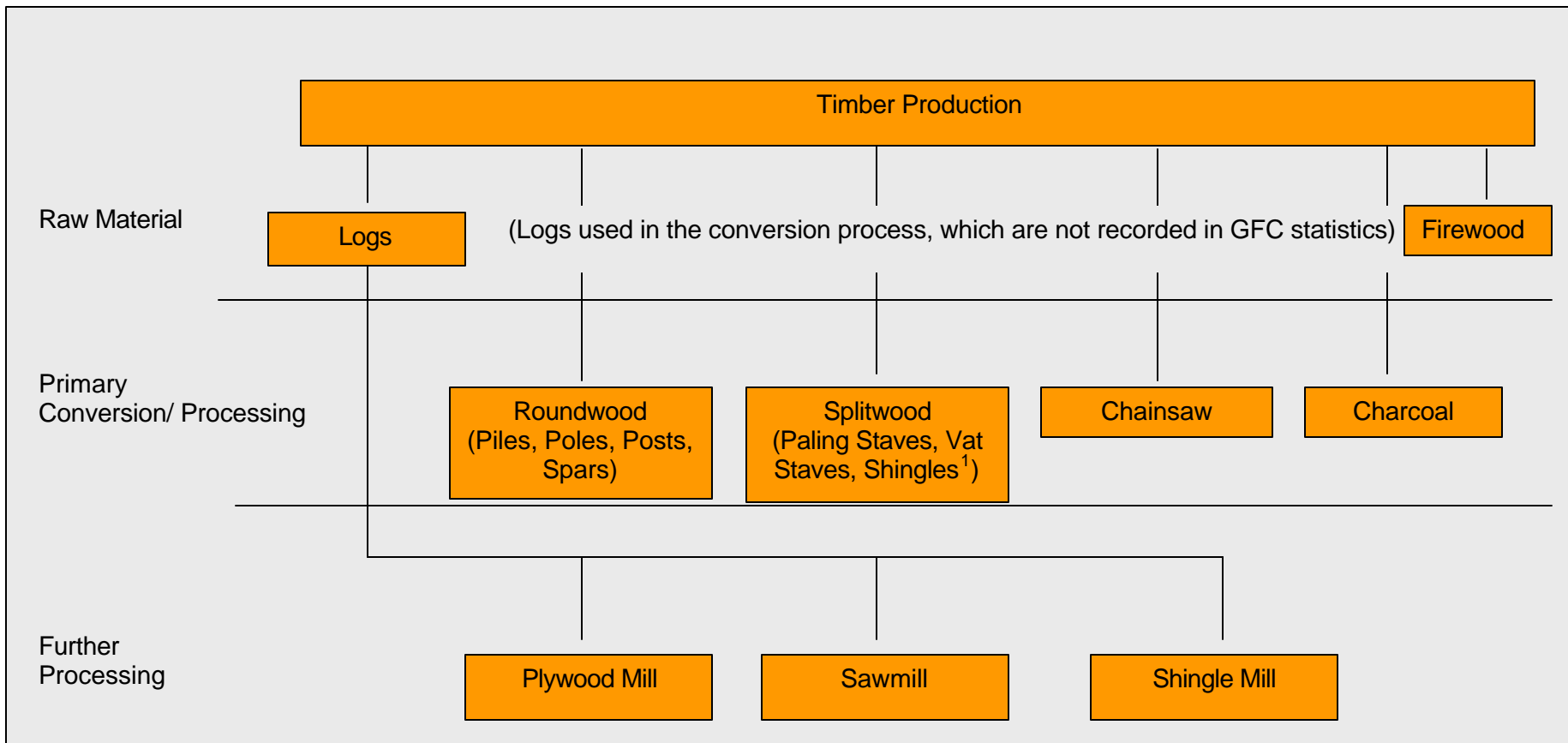
Forest products produced from *further processing* are not included in the calculation of forestry's contribution to Gross Domestic Product (GDP) for Guyana.

⁴ Processing can be defined as the conversion of harvested raw material into products that may be used in further manufacturing or for consumption.

⁵ The conversion of raw material into semi finished or finished products made wholly of timber.

⁶ International Tropical Timber Agreement (ITTA)

Figure 7.0: Domestic Flows of Timber Products from the Forest (i.e. excluding Non-Timber Forest Products)



Note:

Flows and definitions are based on statistical data available at the Guyana Forestry Commission

¹ Shingles are produced under primary conversion in the forest and some shingles are produced at the shingle mill which is then classified as further processing.

8.0 DOMESTIC PRODUCTION

This section provides an overview of the production of timber and non-timber forest products, for the five year period 1994 to 1998 (refer to Table 8.1).

Table 8.1: Production of Forest Products in Guyana 1994-1998

PRODUCTS	Unit	1994	1995	1996	1997	1998
TIMBER PRODUCTION						
Logs						
Greenheart	m ³	70,101	62,596	70,217	79,030	78,617
Other Species	m ³	319,540	362,894	346,117	442,449	308,056
Total Logs	m³	389,641	425,490	416,334	521,529	386,673
Roundwood						
Greenheart Piles	m ³	6,623	9,210	11,908	6,223	11,358
Kakaralli Piles	m ³	683	888	568	843	759
Wallaba Poles	m ³	2,154	2,317	3,398	4,694	3,856
Posts	m ³	4,959	5,817	6,065	5,403	3,437
Spars	m ³	55	94	77	57	44
Total Roundwood	m³	14,474	18,326	22,016	17,220	19,454
Chainsaw Lumber *	m³	29,832	41,823	38,255	32,378	23,638
Splitwood						
Paling Staves	m ³	2,708	2,794	2,434	2,128	1,475
Vat Staves	m ³	2	2	8	0	10
Shingles	m ³	83	164	10	28	122
Total Splitwood	m³	2,793	2,960	2,452	2,156	1,607
Fuelwood						
Charcoal	kg	1,717,687	1,516,092	1,098,242	596,483	460,864
Firewood	CORDS	8,278	6,450	6,323	2,685	2,888
Sawmill Production	m ³	47,170	58,962	58,962	56,604	N/A
Plywood	m ³	57,200	96,258	98,055	67,223	76,059
NON-TIMBER FOREST PRODUCTS						
Wattles	pieces	7,977	10,513	2,845	9,884	5,251
Mangrove Bark	kg	22,730	25,002	10,864	0	35,762
Manicole Palm	stem	5,946,633	6,190,456	6,699,479	6,625,749	6,936,983

N/A data not available

* Legal/declared chainsaw lumber production

Source: Guyana Forestry Commission

The El Nino weather phenomenon and the Southeast Asia crises significantly affected production throughout 1998. The El Nino dry season sparked forest fires and hindered production due to the lack of water in the forest camps, and the use of river transport due to low river levels.

Guyana has been hard hit by the depression in the international forestry markets. Following the economic recession that started in mid 1997, countries in Southeast Asia have created intense competition for timber producing countries in the rest of the world, including Guyana, by flooding markets with stocks of timber products, causing prices to fall. This meant that consumers of timber products could have purchased better quality products (for example Meranti plywood from Asia) than they would otherwise been able to afford. For some Guyanese exporters it was more financially viable to export logs than to produce value added products.

Domestically the market for forest products has been weakened by the general lack in demand of the depressed economy.

8.1 Timber Production

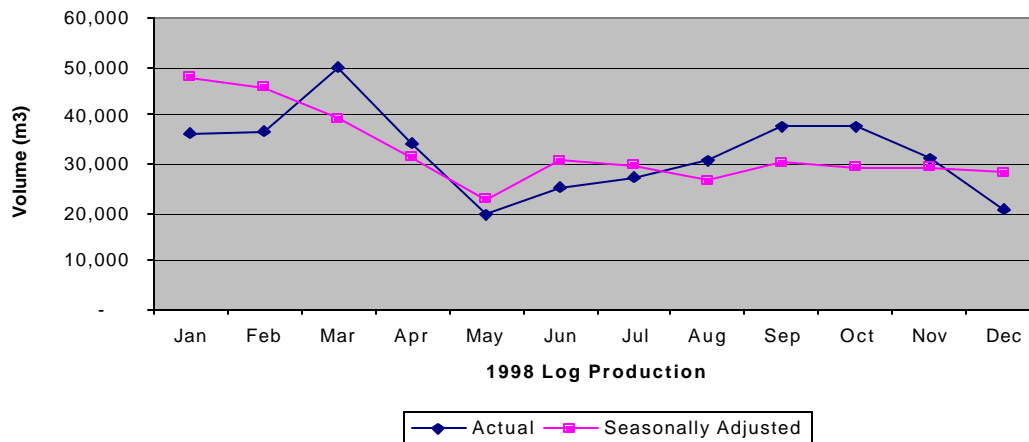
Timber production incorporates all produce made from timber. In this report it includes the production of logs, roundwood, chainsaw lumber, splitwood, fuelwood, sawmill lumber and plywood.

8.1.1 Seasonal Production Patterns

Production of timber products is seasonally affected by weather, availability of labour (low over the Christmas period), holiday periods in June, seasonality in demand and so on. Seasonal adjustment allows us to isolate those changes in log production that are 'real' in the sense of having occurred for reasons other than seasonality.

A seasonal index was computed for log production using monthly data for 1994-1998. The seasonal index can be used to compute seasonally adjusted production (refer to Graph 8.1.1).

Graph 8.1.1 Seasonally Adjusted Monthly Log Production



Graph 8.1.1 shows actual production compared with seasonally adjusted production. The difference between the actual production and the seasonally adjusted production is the real increase or decrease in production once seasonal variation has been accounted for.

Using data on actual monthly production, seasonal indices also allows us to 'forecast' log production for the remainder of the year. Based on data for January and February 1999, production forecasts for March – December 1999 were computed and are given in Table 8.1.1.

Table 8.1.1 Forecasts of Log Production for March – December 1999

Month	Log Production (m³)
March	49,305
April	42,532
May	33,532
June	31,349
July	35,555
August	45,090
September	48,362
October	49,757
November	41,021
December	28,287

8.1.2 Log Production

Total log production in 1998 was 386,673m³ with 78,617m³ as Greenheart (*Chlorocardium rodiei*) production and the remainder as other log species. Other species include Baromalli (*Catostemma spp.*), Ulu (*Trattinickia spp.*), Purpleheart (*Peltogyne spp.*), Kabukalli (*Goupia glabra*), Mora (*Mora excelsa*) etc. Together with Greenheart these five species accounted for 80% of the total log production in 1997⁷. However Baromalli is by far the most predominant, accounting for 48% of total log production in 1997. Baromalli is the major peeler species used in the production of plywood. Total log production fell by 27% from the 1997 level of 521,529m³. The 1998 log production was approximately equal to the level produced in 1994.

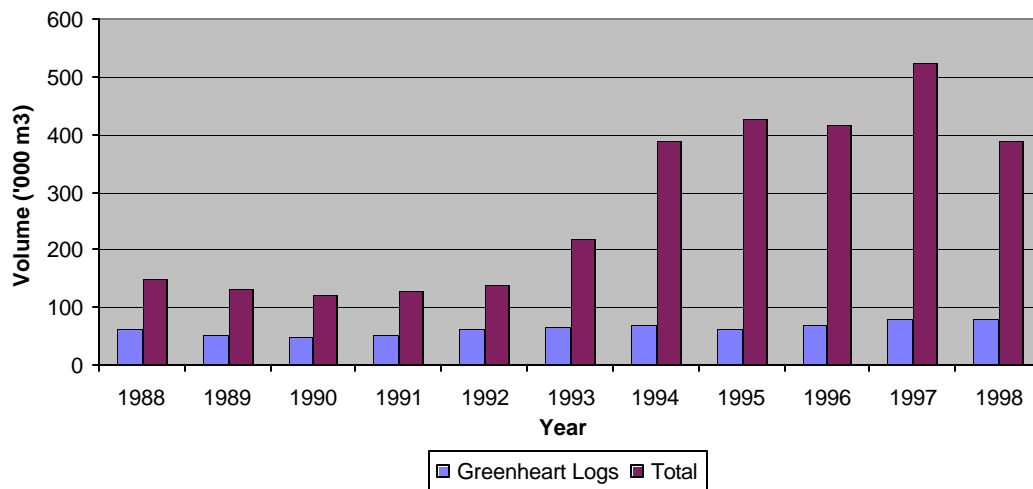
Table 8.1 shows that the fall in log production is primarily due to a fall in the production of species other than Greenheart. This would suggest that during this year the market for Greenheart products (marine construction etc) remained stable whereas the end uses of the other species was depressed by the international and domestic factors mentioned above. In other words the demand for Greenheart is relatively inelastic, with few substitute species. Whereas other species are more price responsive and have more substitutes. The production of other species includes those species used in sawmilling and in the production of plywood, i.e. the demand for (Baromalli) plywood is more price elastic than the demand for greenheart 'products'.

⁷ Data for production by species for 1998 was not available at time of publication.

Graph 8.1.2 shows log production from 1988 to 1998. The increase in log production from 1992 is caused by the introduction of production of logs by Barama to supply its plywood mill. The major log species used in the production of plywood are Baromalli and Ulu.

The last quarter of 1998 saw an increase in the production of logs, especially in peeler species when the newly formed Corentyne Forest Export and Import Company clinched a multi-million dollar timber supply contract with Barama's South Korean parent company, S K Global. S K Global is buying Iteballi (*Vochysia schomburgkii.*), Dalli (*Virola spp.*), Wadara (*Couratari spp.*), Maho (*Stericulia rugosa*), Wild Cocoa (*Theobroma sp.*), Hipanai (*Parkia pendula*), Kurokai (*Protium decandrum*) and Ubudi (*Anarcadium giganteum*). However the increase in production of these logs was not enough to offset the decline in production from the first three-quarters of the year.

Graph 8.1.2 Log Production 1988-1998



8.1.3 Roundwood Production

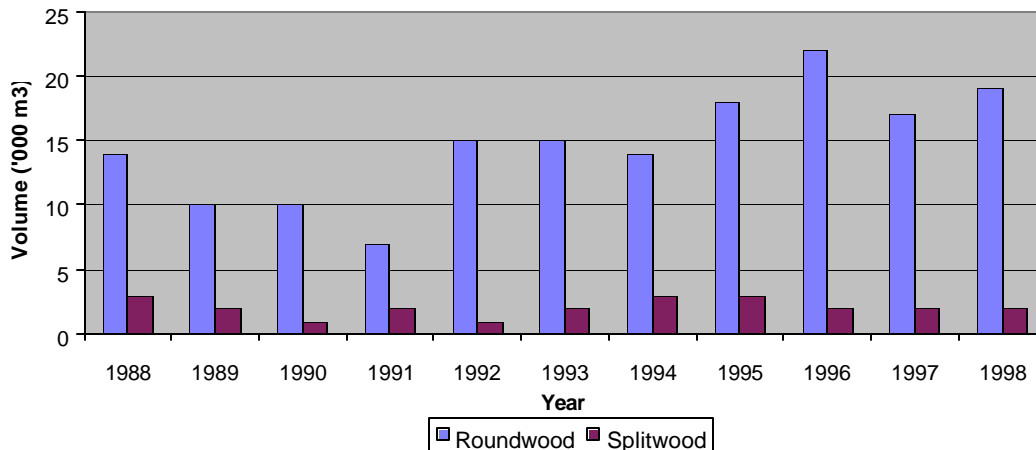
Roundwood production (refer to Table 8.1 and Graph 8.1.3) totalled 19,454m³ in 1998 compared with 17,220m³ in 1997. The increase was due solely to an increase in Greenheart piles, with all other roundwood products declining in 1998. Greenheart piles increased from 6,223m³ in 1997 to 11,358m³ in 1998 (accounting for 48% of total roundwood production in 1998). Over the five year period 1994 to 1998 there was no trend in production of Greenheart piles as the annual total fluctuates quite substantially between lows of 6,223 m³ and highs of 11,908 m³. Greenheart piles are used both domestically and internationally primarily for marine construction: the end of 1998 saw an increase in production to meet increased demand from New York State for use in marine construction.

Kakaralli piles, Wallaba poles, posts and spars all declined in production in 1998 from 1997. Over the five year period 1994 – 1998 (Table 8.1) Kakaralli piles production ranged from a

low of 568 m³ in 1996 to 888 m³ in 1995, with 1998 having a production of 759 m³. Production of Wallaba poles totalled 3,856 m³ in 1998 which is in line with the five year (1994-1998) average of 3,284m³. Wallaba poles are used both domestically and internationally as utility poles. 1998 saw the decline in production of posts to 3,437 m³ from an average of 5,561 m³ for the four previous years (1994 – 1997). Spars, which are used domestically, amounted to 44m³ following a steady decline in production from 94 m³ in 1995.

Graph 8.1.3 depicts an eleven year trend in the production of roundwood and splitwood. Roundwood production has shown a slight increase over the period 1988-1998 but has remained around the 20,000m³ level for the past four years.

Graph 8.1.3 Production of Roundwood and Splitwood, 1988-1998 ('000 m³)



8.1.4 Splitwood Production

Total splitwood production decreased to 1,607m³ in 1998 from 2,156m³ in 1997, continuing a decline in production from a high of 2,960 m³ in 1995 (refer to Table 8.1). Paling staves declined from 2,128m³ to 1,475m³ and shingles increased from 28m³ to 122m³ between 1997 and 1998 respectively. Production of shingles has also fluctuated over the period 1994 – 1998 with a high production in 1995 or 164m³ and a low of 10m³ in 1996. The decline in the demand for paling staves, which constituted 92% of total splitwood production, is due to a recent change in consumer preferences. Consumers have been demanding more durable fencing materials such as chain link and concrete fencing, which are slowly replacing the old picket fence.

The demand for shingles, however, especially on the export market, increased, resulting in a significant increase in production. Note that shingles production volume is less than its export volume as the GFC statistics only represents declared shingles production from the State forest. Production from the shingles mill is not recorded by the GFC.

Graph 8.1.3 depicts the trend in splitwood production over the eleven year period. Over the eleven year period splitwood production has remained around the 3,000 m³ level with little fluctuation.

8.1.5 *Fuelwood Production*

Fuelwood consists of firewood and charcoal. Firewood is classified as a raw material, as no processing is involved, whereas charcoal undergoes primary conversion from log to charcoal. The difference in classification implies that although the products are grouped together under fuelwood, the amounts produced cannot be summed. The products are also measured in different units, cords and kilograms for fuelwood and charcoal respectively.

The majority of firewood produced is consumed in steam boilers used in sugar estates and in bakeries throughout the country. Sugar production has two seasons with the first ending in May and the second in December. The remainder is consumed in rural homes as fuel for cooking.

Charcoal production declined to 460,864 kg in 1998 from 596,483 kg in 1997, a fall of 22.7%, and one reason for this was the exceptionally hot weather in the third quarter of 1998 which made it difficult for charcoal pits to cool off in the usual length of time. Over the period 1994 to 1998 charcoal production has been declining steeply. In 1994, 1,717,687 kg of charcoal were produced and this has fallen to the 1998 level of 460,864 kg.

Firewood production experienced a marginal increase of 7.4%, in 1998 to 2,888 cords from 2,685 cords in 1997, in response to an increase in the consumption of firewood on the domestic market. As with charcoal the decline in production over the past five years is evident in Table 8.1 (page 10) which shows production of firewood was 8,278 cords in 1994.

8.1.6 *Chainsaw Lumber Production*

Chainsaw lumber represented here is the production from registered chainsaw operators. Mostly small concessionaires (SFPs) and sawpit licence dealers engage in chainsaw operations. In 1998, there were 390 SFP operations (including those SFPs under consideration for conversion to TSA/WCL) in Guyana mostly concentrated in the Demerara region.

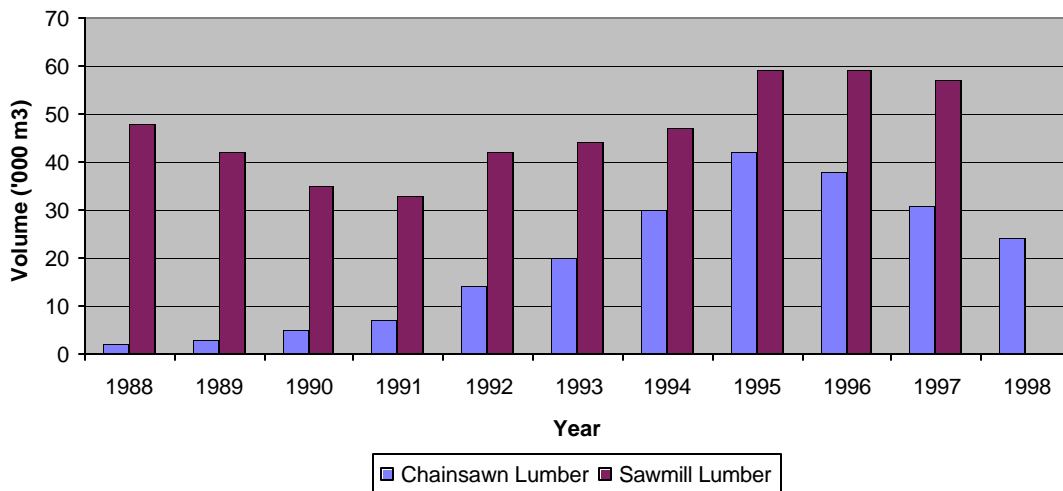
Chainsaw lumber suffered a large decline in production from 32,378m³ in 1997 to 23,638m³ in 1998. This 27% decrease in production is representative of the depressed domestic market reflected in an overall decline in construction activities and increased competition from better

quality sawmill lumber and timber substitute products (concrete, brick, Medium Density Fibreboard (MDF) etc). Chainsaw lumber has declined steadily from 41,823 m³ in 1995 which was the peak year in production over the period 1988 to 1998.

Graph 8.1.6 shows the relationship over time between chainsaw and sawmill lumber. Chainsaw lumber provides a cheaper, lower quality, lumber to sawmill lumber. The depressed international markets caused sawmills to sell lumber on the domestic market at competitive prices and thus increasing competition for chainsaw lumber. As time progresses the accessibility of available timber to chainsaw operators, with limited equipment and resources, becomes scarce. The available timber, once on the edge of the main transport routes (rivers and roads) is believed to have been removed and chainsaw operators are being forced to move further into the forest. This is likely to be a key factor behind the decline in chainsaw production.

In addition, the domestic market for sawn lumber has a high degree of illegal chainsaw lumber which is being provided to the market at prices which can undercut the legal chainsaw operators and the sawmillers. Illegal operators are able to undercut prices as they avoid the payment of forest charges, government taxes, have very low overhead costs etc. Illegal operators are displacing legal chainsaw operators and sawmillers from the domestic market. In some cases it has been noted that it is more cost effective for sawmillers and exporters to buy chainsaw lumber (legal and illegal) and dress it for export, rather than fell logs from their own concessions.

Graph 8.1.6 Chainsaw and Sawmill Lumber Production, 1988 – 1998 ('000 m³)



8.1.7 Sawmill Production

Due to a lack of data for 1998, the production of sawmill lumber is unavailable. However given the market situation, and the resulting decline in the production of logs, it would be appropriate to assume that sawmill lumber declined in 1998. Exports of sawnwood also declined in 1998.

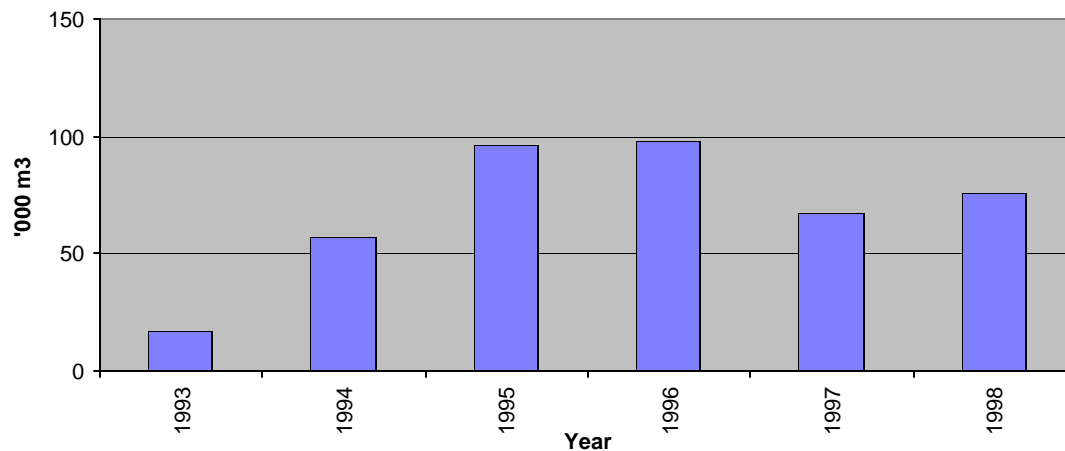
The trend in sawmill production is shown in Graph 8.1.6 from 1988 to 1997. As with chainsaw lumber there has been a decline in production from the peak of 58,962m³ in 1995, although the decline in sawmill lumber is not as steep as the decline for chainsaw lumber.

8.1.8 Plywood Production

Barama Company Limited, Guyana's sole plywood producer has faced both international and domestic market constraints over the year. Domestic labour and log supply problems coupled with international market pressures forced Barama to streamline its operations. Later in the year as log production resumed normality, with plywood prices still depressed, Barama exported logs to the Asian markets in order to reduce the stockpiles of logs that were accumulating.

Barama was granted a Timber Sales Agreement in 1991 and started production in 1993. By 1996 plywood production had reached a high of 98,055 m³ from 17,200 m³ in 1993. However the Southeast Asian crisis, which took effect in the middle of 1997 triggered by the devaluation of the Thai baht in July 1997, resulted in plywood production falling back to 67,223 m³ in 1997. The downward market pressure of the international financial crisis continued into the first half of 1998. However by the end of the year the market showed signs of recovery. Overall plywood production recovered (from the low in 1997) to 76,059 m³ in 1998. The history of plywood production over the period 1993 to 1998 is shown in Graph 8.1.8.

Graph 8.1.8 Plywood Production (m³), 1993 - 1998



8.2 *Non-Timber Forest Products*

There are a number of resources other than timber in the forests of Guyana. These resources are called Non-Timber Forest Products (NTFPs) and include latex, lianas, palms, herbs, wildlife and recreation. The Guyana Forestry Commission monitors the production of NTFPs from the State forest, including Amerindian reserves and villages. However the production statistics presented here do not include production from Amerindian reserves and villages. The NTFPs that are monitored by GFC are wattles, manicole palm, mangrove bark and balata production. GFC maintains a key interest in other NTFPs such as wildlife and eco-tourism as they play an integral part in forest management. Below, production trends are given for wattles, mangrove bark and manicole palm. The declared production of balata from within the State forest has been nil since 1988, although it is still produced from areas outside of the State forest boundary.

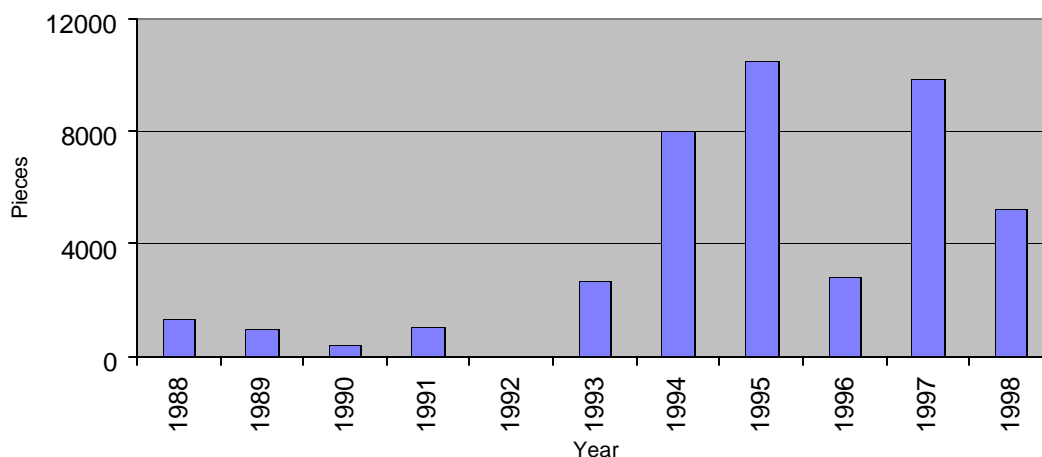
8.2.1 *Wattles*

Wattles are mainly used in agricultural/farming activities as props for supporting young plants. Wattles are saplings less than 3 inches (approximately 8cm) in diameter and are measured in pieces.

Wattle production totalled 5,251 pieces for 1998, representing a decline of 47% relative to 1997. Wattle production from 1988 to 1998 is shown in Graph 8.2.1.

Production of wattles has fluctuated quite markedly over the period 1994 to 1998 with a peak production of 10,513 pieces in 1995 and a low of 2,845 pieces in 1996. However during the period 1988 to 1992, production was less than 2,000 pieces annually. From 1993 there was a marked increase in the production of wattles to the peak in 1995.

Graph 8.2.1 Wattle Production (pieces), 1988 - 1998

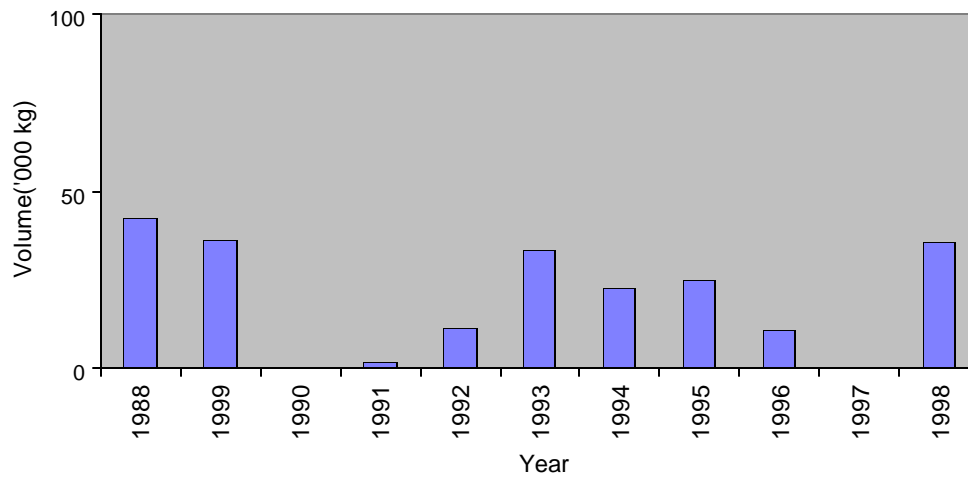


8.2.2 Mangrove Bark

Mangrove bark is used in the leather craft industry for the tanning of leather. Mangrove bark which is produced outside of the State forest boundaries is not monitored by the Guyana Forestry Commission.

Production of mangrove bark totalled 35,762 kgs for 1998. There was no declared production of mangrove bark in 1997. However production in 1998 was substantially higher than the 10,864 kgs produced in 1996 and the 25,002 kgs in 1995. The increase of declared mangrove bark production is due to an increase in the demand for mangrove bark used in the manufacturing of leather accessories.

Graph 8.2.2 Mangrove Bark (kg), 1988 - 1998

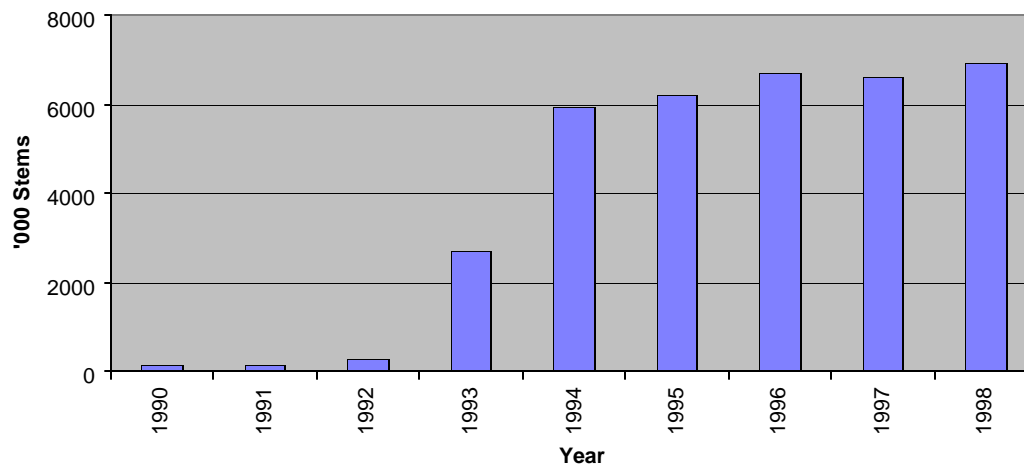


8.2.3 Manicole Palm

Manicole palm (*Euterpe oleracea*) is processed, tinned and largely exported as a delicacy to markets in Europe. The sole producer in Guyana is Amazon Caribbean Ltd which began production in 1990. A very small percentage of the end product is sold on the local market.

Production of manicole palm, despite slow markets in the latter part of the year, increased to 6,936,983 stems in 1998, from 6,625,749 stems in 1997. Production has been steadily increasing over the past eleven years, as represented in Graph 8.2.3.

Graph 8.2.3 Production of Manicole Palm by Amazon Caribbean Ltd, 1990 – 1998, (Stems)



Note: the definition of what constitutes a stem was changed in 1993/4 and this is the major cause for the apparent increase in production during this period.

8.3 Royalty and Acreage Fees

8.3.1 Royalty on Production

Royalty is levied on primary forest products that are harvested from State forests by concessionaires. The royalty as stated here is the amount payable to the Guyana Forestry Commission and is not the cash royalty collected during the period, given debt collection from the previous periods and unpaid royalties from the current period.

Table 8.3.1 Production Royalty 1993 – 1998 (G\$ millions)

Year	1993	1994	1995	1996	1997	1998
Production Royalty	29.2	45.1	51.7	110.2	170.2	144.2

Production royalty totalled G\$ 144.2 million for 1998, representing an overall decrease of 15% relative to the 1997 amount of G\$170.2 million.

The increase in royalty in 1996/97 is a result of the increase in royalty charges introduced in 1996 and from an improvement in the monitoring and collection of forest charges by the Guyana Forestry Commission.

8.3.2 Acreage Fees

Table 8.3.2 Acreage Fees due for 1996, 1997 and 1998 (G\$ million)

	Acreage (million)	1996	1997	1998
TSA	9.2	67.2	90.8	90.8
WCL	1.2	15.1	12.7	12.0
SFP ^a	4.0	6.9	28.9	79.9
Total	14.4	89.2	132.4	182.7

^a SFP including those under consideration for conversion

Table 8.3.2 gives acreage fees due to the GFC for 1996, 1997 and 1998. In 1998 G\$182.7 million was due in payment to the GFC. 49.7% of the total was accounted for by TSAs, 43.7% by SFPs and only 6.6% was due from WCLs. The most obvious change in the composition of acreage fees due, is the increase in proportion of the total that is accounted for by SFPs over the three year period.

9.0 EXPORTS

The depressed international markets have been felt by Guyana, which despite increases in exports by volume for some products, export prices and the total export value for the year declined.

9.1 **Export: Volume and Value**

Relative to 1997, exports of logs and sawnwood declined in 1998, whilst plywood, splitwood and roundwood all increased in export volume. The major percentage increase in exports of logs in the first quarter of 1998, as a result of the shift away from the export of plywood, was offset by declines in the latter half of the year. In terms of value roundwood and splitwood exports increased, but there were declines in logs, sawnwood and plywood. The total export (average US\$) value for 1998 declined to US\$30.1 million from US\$38.0 million in 1997.

Table 9.1.1 provides a breakdown of the export volume for different forest products, over a five year period, 1994 to 1998. Guyana also exports charcoal, but data availability is limited and thus no statistics are presented here.

Although log exports declined in 1998 to 60,580m³ from 74,740m³ in 1997, 1998 exports were still high compared with the previous eleven years, as can be seen in Graph 9.1.1. The high level of log exports was due to increases in demand and associated higher prices in the first half of 1998, from Japan and China, which sought new log supplies to offset decreases from traditional suppliers such as Malaysia and, decreases in Chinese domestic log supply. Chinese log production declined due to a ban on logging along the Jinshajiang, a tributary of the Yangtse River. The ban was a decision taken by the Chinese Yunnan Province's Forestry Department after extreme flooding along the Yangtse River and became effective on 1 September 1998 under the National Natural Forest Protection Programme. In addition, the contract between the Corentyne Forest Export and Import Company and SK Global (refer to section 8.1.2, log production), resulted in an increase in the export of peeler species in the last quarter of 1998.

Table 9.1.1 Export Volume of Forest Products from Guyana, 1994 – 1998, ('000 m³)

PRODUCTS	1994	1995	1996	1997	1998
Logs	21.88	13.82	15.01	74.74	60.58
Sawnwood	12.70	15.57	18.93	22.07	21.20
Roundwood	3.86	5.06	7.49	5.59	9.07
Splitwood	0.70	0.67	0.71	0.53	0.89
Plywood	32.25	87.05	96.11	61.28	69.95

Source: Guyana Forestry Commission, 1998

Note: Sawnwood includes Sawn and Dressed Lumber

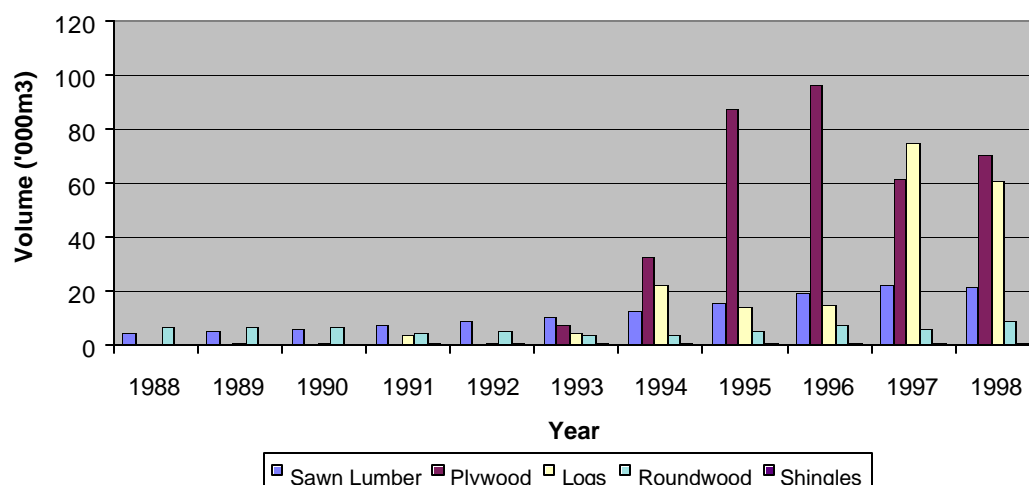
Roundwood includes hewn, piles, poles and posts

Splitwood comprises shingles only

Since 1993 exports of all forest products have increased, although only marginally for shingles (the only exported splitwood product). 1998 saw a slight fall in exports of sawnwood, down to 21,200 m³ from 22,070 m³ in 1997. Exports of shingles recovered from the decline in 1997 and totalled 890 m³ in 1998, the highest level for the period 1994 - 1998. Exports of plywood recovered from 1997 but were still below the export levels of 1995 and 1996.

Roundwood exports increased to the highest level in past five years in 1998. The reason for the increase was an increase in the demand for Greenheart piles from the state of New York, U.S.A, in the latter period of 1998. Restrictions on imports of tropical timbers are applied to the State purchase of tropical hardwoods and not as extensively for other consumers in New York.

Graph 9.1.1 Exports of Timber from 1988 to 1998 ('000 m³)



Graph 9.1.1 indicates the significance in terms of volume, of plywood and since 1997 of log exports.

Table 9.1.2 Export Value of Forest Products from Guyana, 1994 – 1998, (US\$ million)

PRODUCTS	1994	1995	1996	1997	1998
Logs	2.5	1.2	1.3	7.2	3.9
Sawnwood	4.2	5.7	7.3	8.5	8.1
Roundwood	0.7	0.9	1.5	1.0	1.7
Splitwood	0.1	0.2	0.2	0.1	0.3
Plywood	11.7	31.6	33.6	21.0	16.3
TOTAL	19.2	39.6	43.9	38.0	30.1

Source: Guyana Forestry Commission, 1998

Note: Sawnwood includes Sawn and Dressed Lumber

Roundwood includes hewn, piles, poles and posts

Splitwood comprises shingles only

The value of log exports dropped significantly (by 46%) in 1998 from 1997, whereas in volume terms log exports decreased by only 19%: lower export prices were being received, a reflection of the depressed international markets. In addition the composition of log exports

changed in 1998, with a greater proportion of lower valued peeler species such as those used in plywood production having been exported. However compared to the years prior to 1997 the value is significantly higher.

The average value of sawnwood exports (dressed and rough) declined slightly from the 1997 level of US\$8.5 million to US\$8.1 million in 1998. However this is still an improvement on the value of exports in the four years previous.

Roundwood exports experienced an increase in the average value to US\$1.7 million in 1998, which corresponds to the increase in volume of roundwood exported in 1998. This continues the upward trend of the past five years from US\$0.7 million in 1994.

Similarly, the average export value of splitwood increased in 1998 to US\$0.3 million from US\$0.1 million in 1997, in line with the increase in export volume of splitwood. As with splitwood export volume, the value has not experienced much fluctuation over the period 1994 – 1998, as compared with other export products.

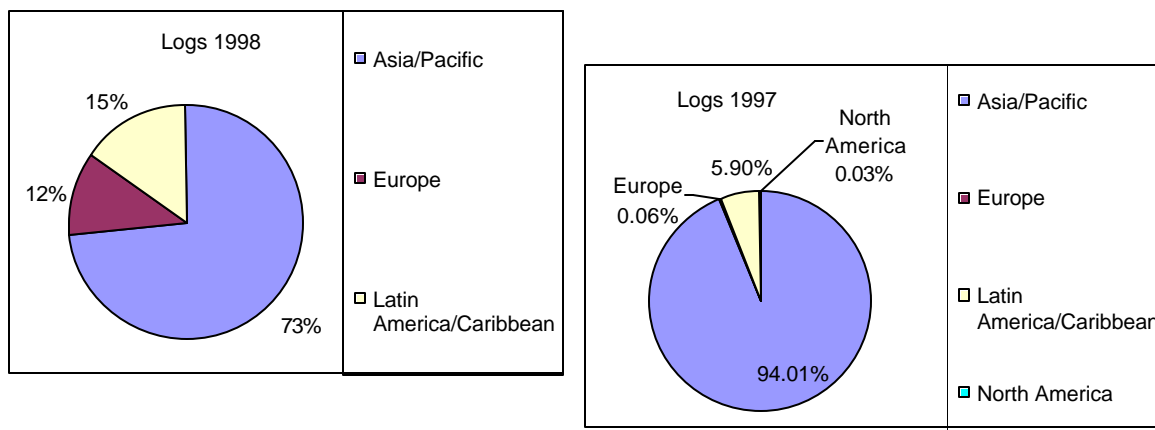
The average export value of plywood continued falling from US\$21.0 million in 1997, US\$33.6 million in 1996 to US\$16.3 million in 1998. The increase in volume of plywood exported was not sufficient to offset the fall in export plywood prices. International markets in late 1998 showed signs of improvement.

9.2 Exports by Destination

The export market shares for timber products presented in sections 9.2.1 to 9.2.5 are derived from volumes of exports to the different regions.

9.2.1 Log Exports

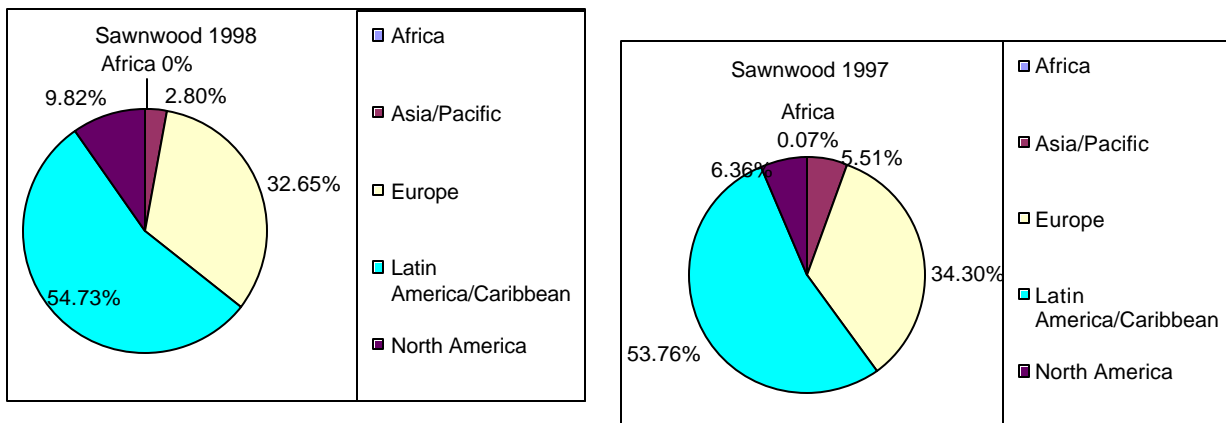
Graph 9.2.1 Log Exports by Destination



As illustrated in the figures above Asia continued to dominate the log export market in 1998 though there was a shift away from that region in 1998. Asia accounted for only 73% of exports in 1998 from a high of 94% in 1997. The shift away from Asia reflected a decline in export volumes to that region by 36% in 1998 relative to 1997. This was a definite indication that the Southeast Asian crisis had direct impact on Guyana's log exports with reduced demand from that region (particularly from Japan, a major log importer). However, log export volumes to Europe increased significantly and log export volumes to Latin American/Caribbean doubled in 1998 over 1997 levels. There was no export of logs to North America in 1998, whilst in 1997 only 22 m³ was exported, which shows that the region is not a big consumer of Guyana's logs.

9.2.2 Sawnwood Exports

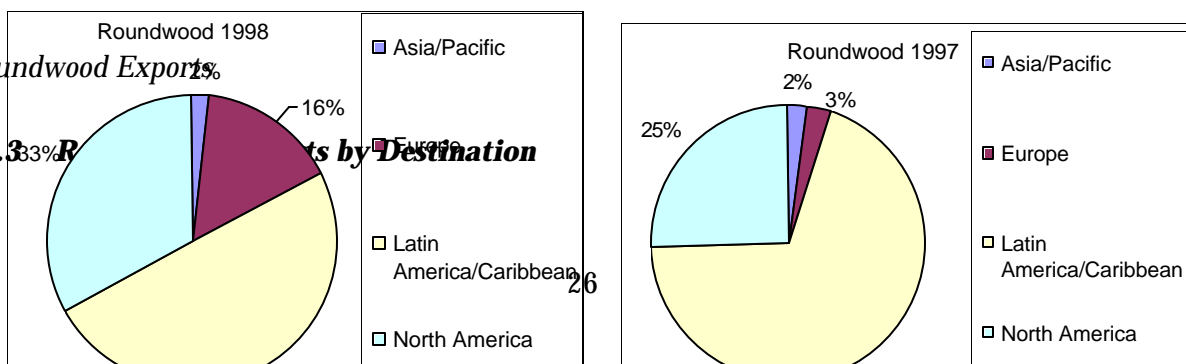
Graph 9.2.2 Sawnwood Exports by Destination



Export market shares of sawnwood from Guyana remained somewhat stable in 1998, relative to 1997. Latin America/Caribbean and Europe which together accounted for greater than 85% of sawnwood exports, continued to receive the majority of sawnwood from Guyana. The volume of exports to these regions, however, decreased relative to 1997. North America increased its share of sawnwood from Guyana to 10%, with export volume increasing by 47%. Sawnwood export volumes to Asia, however, declined by 50% bringing its market share down to 3% in 1998 from almost 6% in 1997. The decline in exports to Asia was related to decline in demand caused by economic turmoil in that region. In the tropical timber market, Malaysia is the dominant sawnwood exporter, but in 1998 exported less in order to supply domestic plywood and other secondary processing operations, as well as suffering from a depressed domestic market. This resulted in a decline in the demand for imports of sawnwood from other producing regions, for example Guyana.

9.2.3 Roundwood Exports

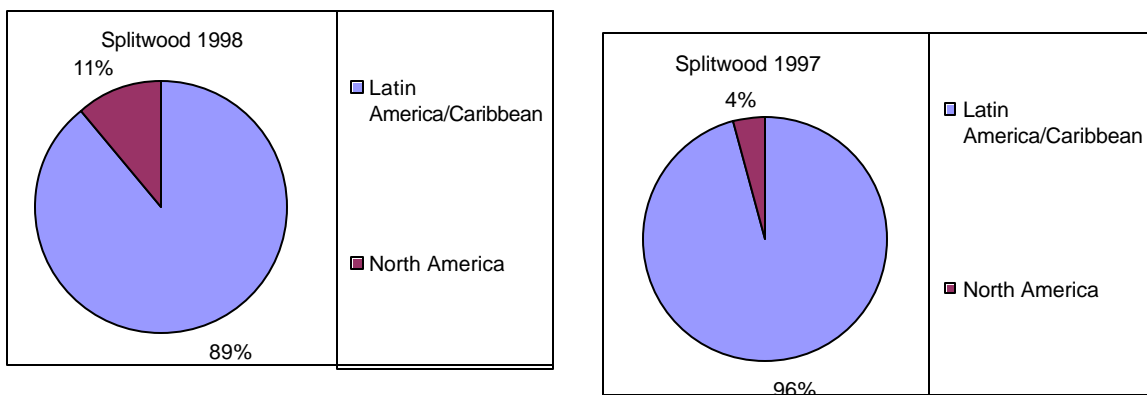
Graph 9.2.3 Roundwood Exports by Destination



Volume of roundwood exports has increased to all destinations, however there was a shift in the market share for roundwood exports away from Latin America/Caribbean toward Europe and North America. Latin America/Caribbean, however, still dominated the roundwood market with 49% of the products total exports. Roundwood export volume to Asia increased by 58%, to Europe by 762%, to Latin America/Caribbean by 14% and to North America by 113%. The increases were brought about due to increases in export of piles in all regions. There were also increases in export of Hewn squares to Europe and poles to Latin America/Caribbean.

9.2.4 Splitwood Exports

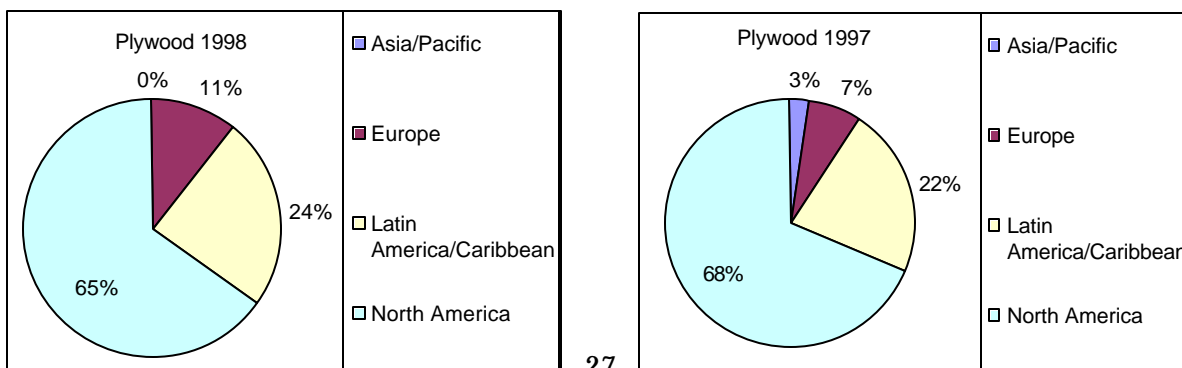
Graph 9.2.4 Splitwood Exports by Destination



1998 has also been good year for shingle exports, increasing in volumes to North America and Latin America/Caribbean (refer to Table 9.1.1, page 20, for total export volume of shingles). Latin America/Caribbean continued to be the major market, however North America gained some share of the market. The demand for shingles is seasonal and is affected by fashion. For example, demand for shingles in the Caribbean region increased after the hurricane in 1998 which destroyed thousands of homes.

9.2.5 Plywood Exports

Graph 9.2.5 Plywood Exports by Destination



Export volumes of plywood in 1998 increased to all regions except Asia/Pacific to which there were no exports for the year. Market shares for all destinations remained somewhat stable, with approximately two-thirds of all exports going to North America, 20-25% to Latin America/Caribbean, roughly 10% to Europe and the remainder to Asia/Pacific. Section 10.3 shows what a minor player Guyana is in the international market for plywood. Indonesia and Malaysia are the biggest plywood producers in the market. The main plywood importer in the Asia/Pacific region is Japan whose demand was depressed, which is likely the cause in the decline of exports of plywood to the region from Guyana.

10.0 DOMESTIC AND EXPORT PRICES

10.1 Domestic Prices⁸

Table 10.1 is extracted from the 4th Quarter Market Report, Policy and Planning Division, GFC and gives details of yearly average prices for 1997 and 1998.

Domestic prices remained fairly stable in the Demerara and Berbice regions. Prices in Essequibo however, increased for almost all products.

⁸ The data gap in domestic prices is being addressed in the Policy and Planning Division work plan for 1999, through the implementation of domestic price surveys.

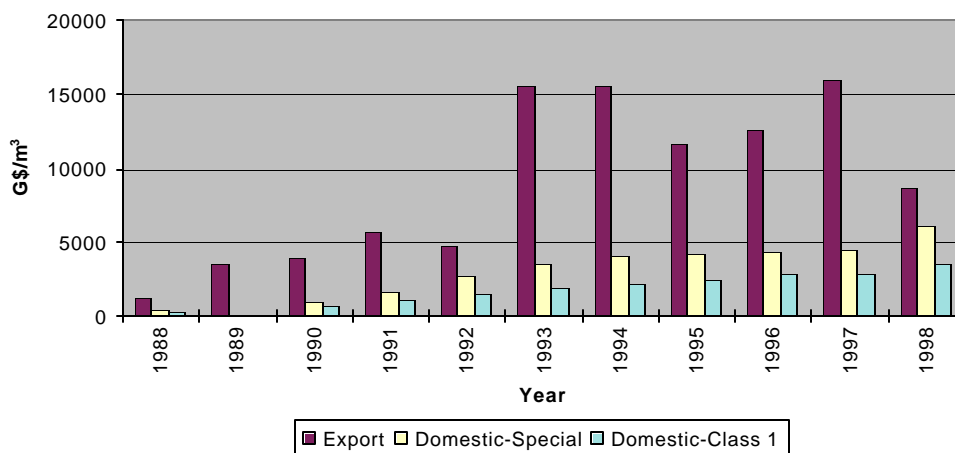
Table 10.1: Domestic Average Price Range for Selected Products (G\$/Unit) by Region

PRODUCT	1997						1998					
	Demerara		Berbice		Essequibo		Demerara		Berbice		Essequibo	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
Logs: Major Species (G\$/m³)												
Greenheart	9,722	11,111	3,042	3,250	4,166	6,944	9,722	12,500	3,000	3,222	5,555	8,472
Purpleheart	9,722	11,111	3,042	3,250	3,333	5,556	9,722	12,500	3,000	3,222	5,347	8,194
Mora	6,990	7,500	1,722	1,986	2,222	3,611	6,990	7,500	1,861	2,083	2,778	4,305
Crabwood	6,990	7,500	1,409	1,674	2,222	3,611	6,990	7,500	1,694	1,933	2,778	4,305
Shibadan	6,990	7,500	1,722	2,069	2,222	3,611	6,990	7,500	1,656	1,938	2,778	4,305
Baromalli	6,990	7,500	N.A.	N.A.	1,389	2,750	6,990	7,500	4,889	5,444	2,430	3,819
Chainsawn Lumber: Major Species (G\$/m³)												
Greenheart	34,626	37,453	32,628	38,478	29,680	63,600	34,626	37,453	31,630	39,686	35,510	59,890
Purpleheart	34,626	37,453	32,628	38,478	29,680	59,360	34,626	37,453	31,630	37,142	27,878	59,360
Mora	23,320	25,440	24,592	28,090	29,680	50,880	23,320	25,440	24,422	25,694	25,440	48,760
Crabwood	23,320	25,440	23,108	24,062	29,680	50,880	23,320	25,440	23,065	24,676	25,440	48,760
Shibadan	23,320	25,440	24,698	27,348	29,680	50,880	23,320	25,440	23,574	24,846	25,440	48,760
Baromalli	23,320	25,440	N.A.	N.A.	21,200	29,680	23,320	25,440	N.A.	N.A.	24,380	39,750
Roundwood: (G\$)												
Greenheart Piles (over 55' in length)	18,333	23,333	N.A.	N.A.	10,000	22,500	18,333	23,333	N.A.	N.A.	8,500	15,000
Wallaba Poles (G\$/m ³)	20,696	26,119	N.A.	N.A.	14,179	25,373	20,696	26,119	N.A.	N.A.	22,388	32,090
Spars (G\$/m ³)	17,667	21,201	N.A.	N.A.	7,067	17,667	17,667	21,201	N.A.	N.A.	N.A.	N.A.
Splitwood: (G\$/m³)												
Paling Staves	13,418	46,610	9,180	11,299	N.A.	N.A.	13,418	46,610	10,876	13,288	13,771	23,940
Shingles	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	17,669	44,170
Fuelwood: (G\$/m³)												
Charcoal	1,960	2,267	1,654	1,899	1,470	2,941	1,960	2,267	1,777	2,059	1,838	3,217
Firewood	353	389	377	471	N.A.	N.A.	353	389	707	883	1,060	1,766
NTFP:												
Wattle (G\$/piece)	40	50	N.A.	N.A.	N.A.	N.A.	40	50	N.A.	N.A.	N.A.	N.A.
Manicole Palm (G\$/stem)	N.A.	N.A.	N.A.	N.A.	6	10	N.A.	N.A.	N.A.	N.A.	6	10
Plywood (G\$/8'x4')												
15mm	N.A.	3,100	N.A.	N.A.	N.A.	N.A.	N.A.	3,100	N.A.	N.A.	N.A.	N.A.
12mm	N.A.	2,673	N.A.	N.A.	N.A.	N.A.	N.A.	2,673	N.A.	N.A.	N.A.	N.A.
9mm	N.A.	2,125	N.A.	N.A.	N.A.	N.A.	N.A.	2,125	N.A.	N.A.	N.A.	N.A.
5.2mm	N.A.	1,272	N.A.	N.A.	N.A.	N.A.	N.A.	1,272	N.A.	N.A.	N.A.	N.A.

Source: GFC, Merchants, and Concessionaires
N.A. – Not Available

The variations of regional prices imply embedded elements of transport costs at the point of sale, and the demand and supply conditions on the domestic local market. For example, the prices of logs are consistently higher in the Demerara region, which is accounted for in differences in transport costs, and higher market prices in general, in Georgetown.

Graph 10.1 Export versus Domestic Prices for Logs, 1988 – 1998, (G\$/m³)



Note: The prices are average prices, not real..

There is no available domestic price data for 1989.

Domestic -Special and Domestic - Class 1 are classifications of logs based on species. Examples of Domestic - Special are Greenheart and Purpleheart, and Mora and Crabwood are examples of Domestic - Class 1.

Graph 10.1 shows the relationship between domestic and export log prices. Both domestic special class and class 1 log prices have been steadily increasing over the period 1990 to 1998. For example in 1993, Special Class prices averaged at G\$3,538 per m³, increasing to G\$4,311 per m³ in 1996 and reaching G\$6,112 per m³ in 1998. Domestic Class 1 follows a similar increasing trend, reaching G\$3,546 per m³ in 1998.

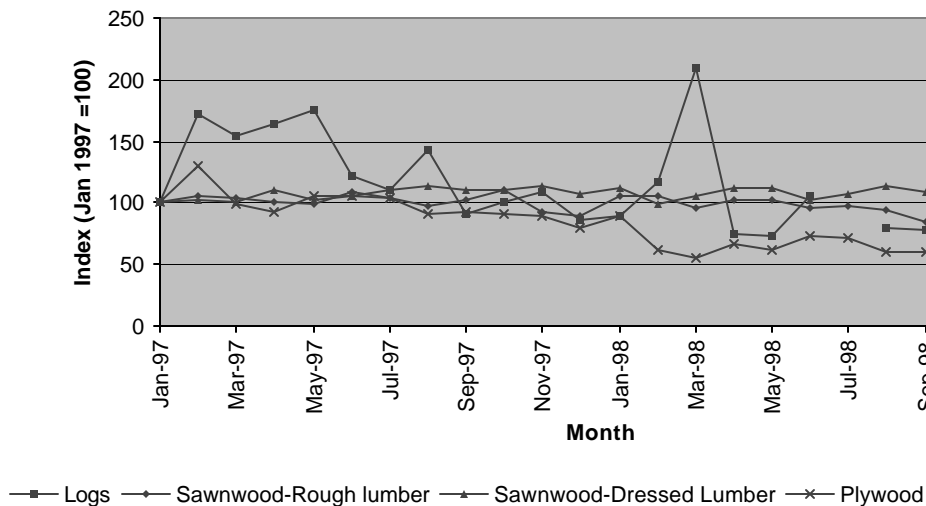
Conflicting with the general consensus of the domestic producers, nominal domestic prices for logs have been increasing over the eleven years. The reason behind this is firstly that inflation rate is not included in nominal prices, the real prices of domestic timber products would present a different picture. Inflation in 1998 was 4.8 per cent, up from 4.2 per cent in 1997. Along with inflation the economy experienced a devaluation of the Guyana dollar by 15% in 1998, causing costs of production to increase where imports such as fuel and spare machinery parts are a key element in the cost of production. Nominal domestic prices would increase to cover increases in the cost of production. A complete picture of the rationale behind the steady increase in nominal price of logs would require a detailed study of the domestic market. As the GFC's domestic price survey proceeds the rationale should become more apparent.

10.2 Export Prices

Graph 10.1 shows that traditionally log export prices have far exceeded prices realised on the domestic market. 1998 saw a severe downturn in the export prices, which fell by approximately 50%, from an average of G\$15,942 m³ in 1997 to G\$8,661 m³ in 1998. The decline in export prices for logs is a result of the depressed international timber markets, in particular depressed demand from Japan and from a shift to exporting lower valued peeler logs.

From 1989 there has been a gradual fading out of the informal enforcement of minimum export prices, until 1996 when export prices were no longer being monitored.

Graph 10.2 Average F.O.B. Prices for Selected Products 1997-1998



Graph 10.2 shows the price index of selected products from January 1997 to December 1998 (with January 1997 as the base year, 100). Gaps in the log export price trend are due to no exports during the months of July, November and December and therefore there is no recorded export price.

The log price index exceeded 100 in the first three quarters of 1997 and then began a steady downward trend, the exception being a peak in log prices in the first quarter of 1998. The average log export price was US\$62 per m³ for 1998, 42% lower than it was in 1997. The price for a cubic metre of Mora (*Mora excelsa*) logs on the export market averaged US\$66-124 per m³ in 1998 compared to an average of US\$67 in 1997. Mixed Hardwood logs averaged US\$55-85 per m³ during 1998. Note that Mixed Hardwood made up the majority of logs exported in this period, thereby forcing the average log price down. Greenheart logs exported during 1998 were combined with other species and exported as mixed hardwood.

Export prices of sawnwood, both rough and dressed, remained stable with minimal fluctuation around the base level (100), throughout the two year period. During 1998 sawnwood export prices averaged US\$336 per m³ for rough sawn lumber and US\$394 per m³ for dressed lumber. Table 10.2 presents price ranges for a selection of sawnwood export species.

Table 10.2 Export Sawnwood Price Ranges in 1998, US\$ / m³

	Rough Sawnwood	Dressed Sawnwood
Greenheart (<i>Chlorocardium rodiei</i>)	332-438	424-911
Purpleheart (<i>Peltogyne venosa</i>)	323-384	381-530
Mora (<i>Mora excelsa</i>)	318-369	360
Mixed Hardwood	208-275	212
Kabukalli (<i>Goupia glabra</i>)		344-416

Roundwood prices varied by product. During 1998 Greenheart pile prices ranged between US\$65-184 per m³ (US\$1.60-3.69/linear feet), pole prices ranged between US\$ 50-US\$120 per linear feet, post prices ranged between US\$4.37-10.50 per post and hewn Greenheart averaged US\$394 per m³. The price per linear feet of pole, post and pile increases as the total length of the pile, pole or post increases.

Shingles price averaged US\$90 for squares of 520-526 bundles. A bundle is estimated to contain 50 pieces of shingles.

Plywood prices showed signs of recovery after a continuous decline over the two year period, 1997-1998 as shown in Graph 10.2, averaging US\$243 per m³ during 1998, 4% higher than the average for 1997. This figure still represents a 35% decline from January 1997 levels. Plywood export prices ranged between US\$218 to US\$329 per m³ during 1998.

11.0 EMPLOYMENT IN FORESTRY

Table 11.1 provides a breakdown of employment in the forest industries from 1992 to 1997. Unfortunately data for 1998 are unavailable⁹. Total employment in the forest industries fell to 13,979 in 1997 from 15,275 in 1996. Declines were seen in the logging, sawmill/pits and the plywood industries, corresponding to the declines in production in 1997. Employment in charcoal increased to 180 in 1997 from 165 in 1996, however employment in charcoal has been declining from a high in 1994 of 245. Production of charcoal has been falling over this period.

Table 11.1: Employment in the Forest Industries 1992 - 1997

	Logging	Sawmil l/pits	Plywood	Charcoal	Mangrove Bark	Manicole Palm	Others *	Total
1992	6,848	4,208	80	186	10	-	80	11,412
1993	8,103	4,941	938	234	10	200	90	14,516
1994	6,690	4,983	1,725	245	10	700	75	14,428
1995	7,344	5,004	1,900	225	10	725	-	15,208

⁹ The Guyana Forestry Commission aims to find a reliable mechanism for obtaining this information on a timely manner.

1996	7,450	5,100	1,750	165	10	800	-	15,275
1997	7,144	4,855	1,000	180	0	800	-	13,979

* includes employment in the match factory

Source: Guyana Forestry Commission, 1999

Employment statistics are useful for many reasons. They can be used as an indicator for the level of investment in the sector, productivity and efficiency (output per man day) by the different stages of the production process – from standing timber to the finished product. Productivity per industry is difficult to compute at the present time, due to the nature of the data collected. Employment in sawmill/pits is lumped together and it is not clear what it actually comprises.

The impact of the market can also be indicated through employment statistics. For example the number employed in the plywood industry in 1997 declined to 1,000 which reflects the fall in production of plywood in 1997 caused by the depressed international markets. In the first quarter of 1998 Barama was forced to streamline its production process and introduced a 3-4 working day week, as the depressed markets took their toll, but managed to avoid retrenching local staff.

Employment in manicole palm has remained at 800 in 1996 and 1997 reflecting the steady level of production.

12.0 INTERNATIONAL TROPICAL TIMBER MARKET SUMMARY FOR 1998¹⁰

The international market for tropical timber in 1998 was in a state of turmoil. Signals from the market were confused with United States labour productivity and growth up and as were the foreign reserves in the Republic of Korea. Whilst, consumer spending in Brazil plummeted and Brazil resorted to obtaining assistance from the International Monetary Fund (IMF), and in Russia the international banks were under pressure. The picture in Japan remained gloomy. Signs of economic recovery mixed with signs of depression, meant that it was not surprising to find the tropical timber markets in an unstable state throughout the year.

Overall 1998 has been a hard year for timber trade. The major importers of tropical forest products are Japan, China and Korea, with both Japan and Korea dramatically decreasing their timber imports, which has especially hit imports from African producers. Imports to Japan of tropical plywood and logs have been harder hit than temperate imports, whereas imports of sawnwood from tropical and temperate have fallen almost equally.

12.1 Tropical Logs

¹⁰ Reference: Adams. M. 1998 Tropical Timber Trade in Summary. Tropical Forest Update, ITTO. Vol 8, No. 4, 1998/4. ISSN 1022-5439.

Log production in all regions of the ITTO producer countries fell by approximately 5% to 137.9 million m³ in 1998. In comparison, 386,673 m³ of logs was produced from Guyana in 1998, which is approximately 0.28% of the total produced by ITTO producers. The declines were due to weak demand associated with recession in many domestic and export markets.

The economic turmoil in many importing countries (notably Japan and the Republic of Korea) resulted in the steep decline in log exports by 26% to 11.7 million m³ in 1998, (0.52% from Guyana). Malaysia still dominated the trade, though in 1998 there was a decrease in export of tropical logs to 6.0 million m³ in 1998 from almost 6.6 million m³ in 1997. The Asian economic crisis created severely falling demand which had a serious impact on Papua New Guinea with its exports decreased by half.

Tropical log prices continued to fall between January 1997 to October 1998 (data available on log prices at the time of publication, Adams M 1998). Log prices declined faster in the Asia Pacific region than in African regions. Log prices in Sarawak and Papua New Guinea fell between 30 and 35 % during this period. Between January 1997 and January 1998 the price of Meranti SQ fell from around US\$205 per m³ FOB to US\$ 140. Prices continued to decline in 1998 but the rate of decline was slower and concentrated in the first six months of the year. Prices bottomed out by the end of the year, with aggressive buying from China and interest from Korea.

12.2 Tropical Sawnwood

Production, from ITTO producer countries, of tropical sawnwood was down from the 1997 level of 46.4 million m³ to just over 45 million m³ in 1998.

Exports from ITTO producer countries were set to reach almost 6.2 million m³ (valued at almost US\$2.2 billion) accounting for about 75 % of all sawnwood export by tropical countries and 5% of global exports. The dominant exporter continues to be Malaysia with 2.5 million m³ exported in 1998 (approximately 50% of ITTO producer exports), in comparison Guyana exported 21,200m³ in 1998. However the weak export markets, and with more logs directed towards the production of plywood and secondary processing, Malaysia's sawnwood trade fell 17% in 1998.

The collapse of demand, first in Thailand and then in the Republic of Korea and then later Japan, resulted in the prices of sawnwood falling sharply during 1997. Meranti prices fell by about 35 % in a year. The first quarter of 1998 saw price dip further and then stabilise, with small fluctuations throughout the year, caused by changes in the strength of the dollar against other currencies rather than due to demand.

12.3 Plywood

Plywood production in 1998 fell by 4% to 13.1 million m³ and by almost 18% in 1997, from the 1996 level. The top tropical producer, Indonesia, saw production fall by 37% in 1997 to 6.1 million m³ and then stabilising at 6 million m³ in 1998. Malaysia's plywood production continued to rise in 1997 to over 4.4 million m³ in 1997, before falling to 4.2 million m³ (over 5 %) in 1998. In comparison, Guyana produced 76,059 m³ of plywood in 1998, which accounted for approximately 0.58% of the total tropical plywood produced.

Exports of tropical plywood by ITTO member countries, fell by 17% in 1997 and further by 4% in 1998 to just less than 9.7 million m³ (of which 0.72% was from Guyana). The decrease was primarily caused by decreased imports into Japan. Trade in tropical plywood continues to be dominated by Indonesia with estimated 5.4 million m³ exported in 1998, representing over 50% of ITTO producer exports. 1998 saw a 15% drop in plywood exports caused by economic problems in Brazil and a slowing US market.

Asia plywood prices continued to fall in the first half of 1998. Price falls of 30% in 1997 and a further 25-30% for thin board in Asia occurred. The low prices have had severe consequences in Japan and the Republic of Korea where mill closures are running at record highs, unable to compete because of higher production costs.

12.4 Latin America and the Caribbean Region¹¹

The Latin America and Caribbean (LAC) region as a whole had a traumatic time. The major timber producer in the region, Brazil, sought assistance from the International Monetary Fund (IMF) following a decline in capital inflows and commodity prices, in addition to domestic economic problems. However, on the whole though, the drastic decline in timber prices has not hit the LAC region as hard as elsewhere, as they have a lower share of timber in their timber export earnings.

Plywood exports from the region totalled 671,000 m³, worth US\$330 million in 1997 (82% from Brazil). Exports of plywood decreased by 14% in 1998 which was a result of the international financial crisis, but simultaneously continues a downward trend observed over the past five years. When put into perspective of the whole of the international tropical timber producers, the LAC region produces just 7% of the total plywood. In 1997 this amounted to 1.9 million m³, of which Guyana produced 67,223 m³ (3.5%).

Tropical sawnwood from LAC region was 14.6 million m³ in 1997, declining slightly to 14.1 million m³ in 1998. Guyana produced 56,604 m³ sawmill lumber and exported 22,070m³ in 1997. Export of tropical sawnwood was approximately 1.3 million m³ in 1997 and was worth US\$ 416 million.

¹¹ ITTO's membership in the LAC region consists of Bolivia, Brazil, Colombia, Ecuador, Guyana, Honduras, Panama, Peru, Suriname and Venezuela.

In 1997, log production from the region amounted to just over 37 million m³ with Guyana producing approximately 1.4% of this. Log production has increased from 34.4 million m³ in 1994 and is expected to continue to increase as production in several countries is considered to be below the sustainable capacity of their forests. Log exports were approximately 236,000 m³ with approximately 34% (80,250 m³) coming from Guyana. Log exports are banned in some countries in LAC such as Brazil, Bolivia, Colombia, Panama and Venezuela. The banning of log exports is typically enforced to encourage producers to add value to timber before exporting and thus the exporting country maintains a higher share of the timber's value. However the relatively high share of Guyana's log exports given the total logs produced indicates the lesser extent of value adding that occurs in Guyana as compared to other LAC producers.

13.0 MARKET PROSPECTS FOR 1999

With the increase in pressure on the domestic markets from chainsaw operators, as well as pressure from international markets in terms of certification, competition from other timber producers and substitute products, etc, 1999 will be another hard year for the forestry sector. In addition the Public Sector strikes in May and June, will further hinder production and exports. However, signs of recovery are prevalent on the international market, for example, plywood prices continue to recover only slowing in the middle of 1999 as producers re-enter the market, having previously been forced out by the slump in international plywood prices.

Certification is primarily relevant for certain products and markets, eg Greenheart piles in N. America and sleepers in the UK. 1999 will see work towards the establishment of a national certifying body and the development of national certification standards.

An important consideration for the forest producers is the implications that may result from the phased reduction of the export tariff on logs from Indonesia, from 30% in April 1998 to 10% in December 2000. With 73% (44,223m³) of logs exported from Guyana going to the Asia/Pacific region in 1998, the removal of the export tariff in Indonesia will increase competition in this regional market for logs used in the production of plywood (eg, Baromalli). This may result in a loss of market share for Guyana.

As the management and policy regulations currently being developed in the Guyana Forestry Commission and other international requirements on forest management are implemented, the implications for the industry in terms of marginal changes in the cost and benefits need to be monitored. The regulations are likely to add constraints on production and costs to the industry. Likewise the costs and benefits of such regulations for the Guyana Forestry Commission and the economy as a whole need to be assessed and monitored.

14.0 POTENTIAL AREAS FOR DEVELOPMENT FOR THE FORESTRY SECTOR

In addition to presenting the factors influencing the forest product markets in 1999, it is appropriate to conclude the market report for 1998 with a look brief at potential areas for development for the forestry sector.

Marketing still remains a major issue for the forestry sector. With the increasing pressure for certification and increased competition internationally, producers need to be actively marketing their products. As well as marketing, education, training and research are a continued necessity in the development of the industry: from harvesting and inventory techniques, through processing to the marketing of the product. The development of kiln drying facilities and other value-added products, along with the development of more efficient processing techniques, must be considered. The utilisation of alternative forest products should continue to be researched and promoted; however the immediate future requires research and promotion of forest management and marketing techniques, and the development of greater value adding of the forest products within Guyana

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Note:

Guyana Forestry Commission is responsible for the provision of the domestic statistical data on forestry.

ANNEXES

Glossary of terms

Firewood	include parts of trees made up into bundles or loads, or cut up in a manner in which it is usual to cut wood for burning, and all refuse wood generally, but does not include straight logs or poles of any kind.
Forests	an ecosystem dominated by woody plants, consisting either of closed forest formations, where trees of various stories and undergrowth cover a high portion of the ground, or of open forest with a continuous vegetation cover in which tree crown cover exceeds 10%, and includes mangrove forests and any wetlands or open lands within a forest which form an integral part of the ecosystem.
Non-timber forest product	All biological material, other than industrial roundwood, that may be extracted from natural ecosystems, either for commercial purposes, for use within the household or for social, cultural or religious purposes. Also known as non-wood forest product.
SFP	State Forest Permission: A lease, valid for 1 year, for an areas up to 20,000 acres (8,094 hectares) of State Forests.
Spars	sapling 6” to 10” (15- 25 cm) in diameter.
Timber	includes a tree or any ligneous part of a tree whether standing, fallen or felled, and all wood, whether or not sawn, split, hewn or otherwise cut up or fashioned.
TSA	Timber Sales Agreement: A lease, normally valid for 20 years or more, for an area of 60,000 acres (24,282 hectares) or more of State Forest.
Wattles	saplings less than 3” (7.62cm) in diameter
WCL	Wood Cutting Lease: A lease, valid for 3 - 10 years, for areas of 20,000 acres (8,094 hectares) to 60,000 acres (24,282 hectares)

Abbreviations

AMCAR	Amazon Caribbean Limited
Barama	Barama Company Limited
BM	Board Measure
G\$	Guyana dollars
G\$M	Guyana dollars (million)
GDP	Gross Domestic Product
GFC	Guyana Forestry Commission
IMF	International Monetary Fund
ITTO	International Tropical Timber Organization
Kgs	Kilograms
lbs	pounds
m ³	cubic metre
SFP	State Forest Permission
TSA	Timber Sales Agreement
WCL	Wood Cutting Lease

Average Annual Exchange Rate to the United States (US) dollar

1994	G\$138.25 = US\$1
1995	G\$141.90 = US\$1
1996	G\$140.38 = US\$1
1997	G\$142.42 = US\$1
1998	G\$150.40 = US\$1

Source: Guyana Economic Highlights for 1998, Bank of Guyana, Guyana

Metric Conversion Table

To convert	From	Into m³ multiply by
Logs	Hoppus cft	0.036
	Cft	0.0283
Mill sawn lumber	Board ft / Board Measure	0.002358
Chainsawn lumber	Board ft / Board Measure	0.002358
Piles	Linear ft	0.02
Poles	Linear ft	0.0067
Posts	Linear ft	0.0057
Paling Staves	Pieces	0.00236
Vat Staves	Pieces	0.001132
Shingles	Pieces	0.000566
Spars	Linear ft	0.000283
Charcoal	Lbs	0.0034
Firewood	Cords	2.83

Source: GFC Annual Reports/ FAO