FOREST SECTOR INFORMATION REPORT

Annual Review

2021

GUYANA FORESTRY COMMISSION

Contents

Abbreviations

CARICOM	Caribbean Community
CFO	Community Forestry Organisation
CITES	Convention on International Trade of Endangered Species
COCA	Community Owned Conservation Area
ECLAC	Economic Commission for Latin America and the Caribbean
EU	European Union
FAO	Food and Agriculture Organisation of the United Nations
FCMS	Forest Carbon Monitoring System
FCPF	Forest Carbon Partnership Facility
FDI	Foreign Direct Investment
FLEGT	(European Union) Forest Law Enforcement, Governance and Trade
FoB	Free on Board Price
FPA	Forest Products Association
FPDMC	Forest Products Development and Marketing Council Inc.
FTCI	Forestry Training Centre Inc.
GDP	Gross Domestic Product
GFC	Guyana Forestry Commission
IEMI	Brazilian Market Intelligence Institute
IMF	International Monetary Fund
ITTO	International Tropical Timber Organisation
LCDS	Low Carbon Development Strategy
LUS	Lesser Utilized Species
MNRE	Ministry of Natural Resources and the Environment
MRVS	Monitoring Reporting and Verification System for REDD+
NGO	Non-Governmental Organisation
NTWG	National Technical Working Group for EU FLEGT
OPEC	Organization of the Petroleum Exporting Countries
PES	Payment for Environmental Services
REDD+	Reducing Emissions from Deforestation and Forest Degradation Plus
RL	Reference Level
SDMS	Space Data Management System
SFEP	State Forest Exploratory Permit
SFM	Sustainable Forest Management
SFP	State Forest Permission
TSA	Timber Sales Agreement
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
VPA	Voluntary Partnership Agreement
WCL	Wood Cutting Lease
WEO	World Economic Outlook
WTO	World Trade Organisation

Glossary of Terms

GLOSSARY OF TERMS	
Dressed Lumber	Wood sawn lengthways from Logs, further processed by use of planes, etc.
Firewood	Includes parts of trees made up into bundles or loads, or cut 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.
Fuelwood	Wood in the rough, from trunks and branches of trees, to be used as fuel for purposes such as cooking, heating and power production. Categories of Fuelwood are converted to Charcoal.
Non-timber Forest Products	All biological material, other than timber products, 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 Products.
Piles	Long straight pieces usually destined to be driven into the ground by impact, or pressed with mechanical pressure.
Poles	Straight pieces of 5m or more in length taken from tree trunks. They are used principally to support telephone, telegraph and electrical transmission lines and for scaffolding.
Posts	Round, hewn, squared or split wood, usually less than 3m in length, but possibly up to 5m, used for fencing, guard rails and the like.
Primary Lumber	This includes Chainsawn Lumber and Lumber emanating from Portable Mills converted in the forest and declared at first point of declaration as Primary Lumber.
Round Logs	A bole or a large branch after felling. Under the ITTO definition it is referred to as Industrial Roundwood.
Roundwood	Wood in its natural state as felled or otherwise harvested, with or without bark, round, split, roughly squared or in other forms. Roundwood includes spars, posts, poles (Wallaba) and piles (Greenheart, Kakaralli and Mora).
Sawnwood	Dressed lumber, undressed lumber, sleepers and pallets.
Shingles	Squares of usually Wallaba (*Eperuafalcata*) wood used to construct roofs and for panelling purposes.
Spars	Saplings 15-25cm in diameter.
Splitwood	Comprises Paling and Vat Staves and Shingles.
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.
Undressed Lumber	Wood in the rough, sawn lengthways from Logs.
Wattles	Saplings less than 8cm in diameter.

1. Introduction

The Forest Sector Information report focuses on the performance of the Forestry Sector in Guyana for the year 2021 with a comparison done with the year 2020. Production and export of var ious forest products based on Guyana Forestry Commission (GFC) data are assessed in comparison with the previous year's performance. Additionally, the Report compares summary averages of domestic and export prices and sector employment levels.

Further, the report contains a summary of State Forest lands allocation across concession classes (with areas classified according to GFC designated use/size categories) for 2021 and the Forest Sector's contribution (as traditionally measured in official national statistics) to Guyana's real Gross Domestic Product (GDP) over the past four (4) years, using the new rebased and re-benchmarked series to year 2012.

Before addressing the Forest Sector performance, a qualitative background summary, covering changes/features and outlook in the local and international economies, is provided. This Section includes developments in the International Tropical Timber Market with emphasis on the Latin America/Caribbean region.

Within the core report, data on forest production is compared by product and species categories (where applicable), between 2021 and 2020, and across the Regions (as designated for GFC purposes, and corresponding to the three counties of Demerara, Berbic e and Essequibo), by their respective sub-divisions referred to as Forest Stations.
In addition, Export data is analyzed in terms of both volume and value for various product types. Detail analyses of destinational markets of Guyana forest products are outlined, along with international market prices.

In conclusions, the FSIR further provides an Annex, with various tables, which allows for further interpretation of information given in the production and export section of the report.

2. Executive Summary

The total forest production for 2021 was 324,787m3, of which 304,394m3 were produced from logs, 22,193 m3 from Roundwood, 38,810 m3 from Sawnwood, and 12,407m3 were produced from plywood. Other forest products harvested including Fuelwood (comprising of Charcoal and Firewood), Splitwood (Shingles and Paling Staves), Wattles, and Manicole Palm, were also produced in the year. Total production for 2022 increased by 16.33 % when compared to total production recorded for 2020 which was 324,787m3.

With comparison to 2020, the production of logs grew by 19.31% in 2021. All other categories of logs showed growth, with the exception of Purpleheart, which showed decline of 29.47%. However, Special Category Logs increase by 7.76% as a result increases in the production of Other Special Category logs.

When compared to the same period in 2020, primary lumber production increased by 2.38%. This rise is the result of increased production of Class 2 and Class 3 Lumber, with a combined production volume of 14,124m3.

When compared to the same period in 2020, primary lumber production increased by 2.38%. The increase in 2021 was caused by a high production of Class 2 and Class 3 lumber, which increased by 39% and 25%, respectively. Production of Special Category Lumber reduced as a result of the drop in Purpleheart lumber. However, the production of Greenheart lumber increased by 4%, while that of other special category species increased by 39.53%. A total of 12,407m3 of plywood was produced in 2021, an increase of 80.08% over the 6,889m3 produced in 2020.

In comparison to 2020, Roundwood production dropped by 10.54% in 2021. Lower output of all the products in this category was the primary factor in the decline. 22,193 m3 of Roundwood were produced overall in 2021. Within this category, piles, largely made of Greenheart and a minor amount of Kakaralli, were the most manufactured product. Following this, Wallaba Poles and Posts as well as Spars were produced under this category heading.

Forest Products' overall export value for 2021 was US$31.02M, a decrease of 0.64% from the same time in 2020 when the total export value was US$31.22M.

Comparing 2021 to 2020, log exports experienced a volume decline of 3.5% and a value decrease of 5.76%. The volume and value of exported Sawnwood decreased by 13.27% and 7.16%, respectively.

When compared to 2020, Roundwood exports increased in volume and value by 24.84% and 23.99%, respectively. In this category, Greenheart Piles was the product with the largest volume growth between 2021 and 2020.

When compared to 2020, plywood exports decreased in both volume and value by 4.49% and 7.13%, respectively. Beginning in 2021, North America, Asia Pacific, Latin America and the Caribbean, Europe, and Africa were the five primary markets for Guyana's forest products.

3. Economic Environment

The International Economy

Economic Growth

According to the World Bank, Global Economic Outlook Report 2021, global growth is projected at close to 6% for 2021 and 4.5% for 2022. The developed economies as a whole were anticipated to increase by 5.5% in 2021, with the United States growing by approximately 7%. The eurozone was projected to increase by 4.7%, Japan by almost 3%, and the UK by almost 7%. China and India was projected to lead the group of emerging economies, which are anticipated to increase by 6.2% this year, with growth rates of 8.4% and 9.2%, respectively. The Middle East and North Africa (4% growth) and sub-Saharan Africa (3.4%) are two developing sub-regions that were anticipated to perform less well.

The global economy is anticipated to expand by an average of 4.5% in 2022. Due to significant advancements in vaccination and increasing fiscal stimulus in the United States, developed economies are predicted to grow by 4.2%, while emerging economies are predicted to grow by 5.0%, once again headed by emerging and developing Asia (6.4%), which includes China and India.

According to the 2021 report, the COVID-19 pandemic crisis's impacts have likewise been very asymmetrical. Despite the fact that there were more than 140 million job losses worldwide in 2020, the world's wealth increased by 7.4% as a result of booming stock markets, soaring real estate values, low interest rates, and unintentional savings brought on by the lockdown times. Wealth climbed by 12.4% in Canada and the United States, 9.2% in Europe, and 4.4% in China, but declined by 4.4% in India and by 11.4% in Latin America and the Caribbean, indicating that the gain was not uniform. Access to vaccines also differs significantly between nations, with the more developed nations purchasing a disproportionate amount of vaccines (53.0% of the population in the United States and Canada and 55.6% in the UK, for example).

Uncertainties in the global economy could have a direct impact on the prosperity of Latin America and the Caribbean. The unknowns surrounding the pandemic's course, such as the slow roll-out of vaccine around the world, which might allow the virus to further mutate and become difficult to control, are further compounded by the possibility that expansionary policies in affluent nations will need to be adjusted.

If inflation expectations grow more quickly than anticipated, the outlook for monetary policy in advanced economies may need to be revised, which would tighten financial conditions. These elements would suggest more restraints on the economies of the region, reducing their capacity for recovery.

The first four months of 2021 saw double-digit year-on-year growth in global commerce, which was mostly due to the fact that the same period in 2020 serves as a relatively weak baseline for comparison. Because of this, these rates are anticipated to slow during the year, with trade volumes estimated to increase by an average of 8% in 2021.

The region's commodity export prices are rising in tandem with the improvement in trade, with prices expected to increase by an average of 38% in 2021. Prices for energy, particularly oil, are anticipated to increase by 58% in 2021 compared to their averages in 2020. Prices for metals, minerals, and food are also anticipated to increase by 38% and 20%, respectively.

The major developed economies' central banks continued their asset purchase programs and held interest rates at historically low levels, maintaining substantial levels of global liquidity while also growing their balance sheets, albeit more slowly recently. The equity and bond markets, which have solidified their position as the primary worldwide providers of cross-border liquidity (53% of the total in the fourth quarter of 2020), benefited as a result of the global liquidity trend continuing upward in 2021.

The forecasts for growth in 2021 have been upgraded for both other nations and the nations of Latin America and the Caribbean. After experiencing the worst performance of any developing region in 2020 (a contraction of 6.8%), Latin America and the Caribbean are expected to increase at a rate of 5.9% in 2021 and 2.9% in 2022. The region's growth pattern in 2021 mostly reflects the low basis for comparison as a result of the fall in 2020, despite the fact that it can also be linked to improved external conditions, the increasing opening of economies, and the relaxing of physical distance-creating measures.

4. Flows to Developing Countries

Foreign direct investment (FDI) flows reached $1.58 trillion in 2021, up 64% from 2020, and returned to pre-pandemic levels. However, according to UNCTAD's World Investment Report 2022, the outlook for this year is worse.

According to the paper, "International tax reforms and sustainable investment," developing nations need significant assistance from the global community to manage in a risk-averse and unpredictable climate. Investments in the Sustainable Development Goals (SDGs), productive capacity, and climate change adaptation and mitigation are urgently needed.

With impetus from growing merger and acquisition (M&A) activity and quick growth in foreign project finance due to permissive financing and significant infrastructure stimulus packages, global FDI increased in 2020 after starting out at a low base in 2020.

All areas benefited from the rebound, although over three-quarters of the gain was concentrated in developed economies, where FDI flows jumped 134%. The greatest level ever recorded of flows to emerging economies, $837 billion, was achieved in large part as a result of strong development in Asia, a partial recovery in Latin America and the Caribbean, and a rebound in Africa. Global flows' percentage of developing nations maintained just above 50%.

The majority of the FDI was made up of the reinvested earnings component, or profits that multinational corporations kept in their foreign affiliates.

Global FDI increased last year, coming off a low base in 2020, thanks to booming merger and acquisition (M&A) activity, quick expansion in foreign project finance due to lax financing, and significant infrastructure stimulus packages. Despite the fact that the recovery was beneficial to all regions, over three-quarters of the increase was concentrated in developed economies, where FDI flows jumped 134%.

As a result of strong development in Asia, a partial rebound in Latin America and the Caribbean, and an uptick in Africa, flows to emerging economies increased 30% to $837 billion, the highest amount ever recorded. Just over 50% of global flows continue to come from emerging nations.

Reinvested earnings, or profits that multinational corporations keep in their foreign affiliates, made up the majority of FDI.

5. International Forestry Environment

International Tropical Timber Market Summary

According to ITTO, the global health crisis of 2020 has resulted in a significant transformation of the global economy, notably in the forest sector. However, there is optimism that the forest industry may "pick up" as more nations implement recovery plans. The pandemic has impacted several economic sectors, but it has been most severe in nations with substantial export-oriented forest industries, such as many ITTO producing nations.

In the face of lockdowns, businesses have struggled to get workers back into the plants. Those that have managed, however, have found it nearly hard to get shipping capacity or containers to deliver their products to market. And freight charges have increased by up to ten times over pre-COVID rates for the fortunate few who have been able to accomplish that. A vicious cycle of declining demand has resulted from higher landed product prices in import markets due to higher shipping costs.

Reports out of Central and West Africa state that the forest authority in Cameroon has embarked on a Private/Public sector reforestation investment. The Ministry of Forests and Wildlife in Cameroon is working with stakeholders to help plant more trees in the country. This project is called 'Reforestation in Forest Management Units in Cameroon' or RUFAC for short. The goal of the project is to take care of the forests where trees are grown for wood by getting everyone, both private individuals and the government, to help plant new trees and take care of them. This will help make sure that there is always enough trees for things like making furniture and paper.

In Ivory Coast, the European Union (EU) will carry out a forest cover monitoring operation in Ivory Coast as part of the Global Monitoring for Environment and Security in Africa (GMES) initiative with the aim of encouraging more sustainable natural resource management.

In 2021, Gabon saw and increase in Sawnwood export prices. In the first nine months of 2021, Gabon's exports climbed by over 4% compared to the same period the previous year. This growth was mostly attributed to exports in the non-oil sector, notably rubber, fish products, and Sawnwood, where the value of exports increased by almost 14% as a result of rising FOB prices.

According to reports from Asia, Indonesia's forest industry performed well in 2021 despite the pandemic, according to the reports. Despite the COVID-19 epidemic, the performance of the forest industry in 2021 was quite favourable, according to the Ministry of Environment and Forestry (KHLK). The report stated that log output was estimated at 51.81 million cubic meters, or around 6% more than in 2020.

The Director General of Sustainable Forest Management, Ministry of Environment and Forestry (KLHK), also from Indonesia, suggested 6 forest management practices that might increase resistance to climate change. The six management activities are: • reducing emissions from deforestation and peatland • increasing the capacity of natural forests in carbon sequestration (reducing degradation and increasing regeneration, • restoration and improvement of peat water systems • rotational/planned forest rehabilitation through intensive silviculture • Reduced Impact Logging techniques • optimising unproductive land for plantation forest development through multi-business forestry.

Brazil has started an operation called "Amazônia Viva" in South America to address environmental crimes in the Amazon. The State Secretariat of the Environment (SEMAS) has organized the "Amazônia Viva" operation as a weapon to combat environmental crimes in Pará State. The operation is a component of the Amazon State Plan's Command and Control Programme (Plano Estadual Amazônia Agora, or PEAA), one of its pillars.

Over 270,000 hectares of land where illegal deforestation was practiced were embargoed as a consequence of the operation's completion of 18 phases, and more than 12,000 cubic meters of unlawfully logged timber were confiscated. The process goes as follows: first, satellite monitoring is used to identify deforestation alarms, and then SEMAS inspectors confirm them on the ground. The forest land is embargoed and further activity is forbidden if verified. The embargo enables the restoration of damaged forests.

6. Guyana Forest Sector

In spite of the COVID-19 pandemic's negative effects, the forest industry in Guyana remain resilient. The expansion of global markets throughout 2021 made it possible for more forest products to be exported. More shipping companies restarting operations from Guyana to other international ports helped these exports.

Nearly all of the forest concessions have resumed operations. Employment in the forest sector, which was as low as 18,000 people in 2020, climbed to over 20,980 people in 2021.

The industry achieved a 377,000m3 output level for timber and plywood. For the year 2021, forest product exports were valued at US$31.02M. With revenue profits of $13.9M and $9.14M, respectively, Sawnwood and Logs were the top value earners for 2021. Earnings of US$4.1M from Splitwood came in second place.

MRVS

According to the MRVS 2021 report data, 10,232 acres of forest were lost between January 1st 2020 and December 31st, 2020. This is less change than what was recorded the year before (0.071%), translating to a yearly deforestation rate of 0.057%.

National Forest Inventory project

Phase II of the National Forest Inventory project, which was finished in 2021, was exclusively devoted to gathering field data in state forests above the 4th parallel by administrative regions, with the exception of Regions 4 and 5, where there aren't any state forests. This phase commenced in 2019 following a field testing in 2018; where approximately 83% of Region Ten (R10) sampling units were inventoried.

The creation and deployment of the NFI Data Management Platform in OpenForis, where data entry was 100% complete for Regions 2 and 3, and 80% complete for Region 10 as of December 31, 2021, were also Phase III accomplishments for the year 2021. A data entry setup for Region 6 was also created. Datasets are now being cleaned and checked for quality, and early studies, such as an analysis and reporting pilot for Region 3, have also been performed.

Vacant Area Advertisement

Three hundred and twenty-two (322) applications for State Forest Authorizations were filed in response to the announcement of vacant areas in 2021 from a total of one hundred and ninety-seven (197) applicants. Applications were received for 87% of the locations in total. Sixty-six (66) areas in total, some of which are planned to be shared, were recommended for distribution to sixty-nine (69) applications; some applicants got several areas.

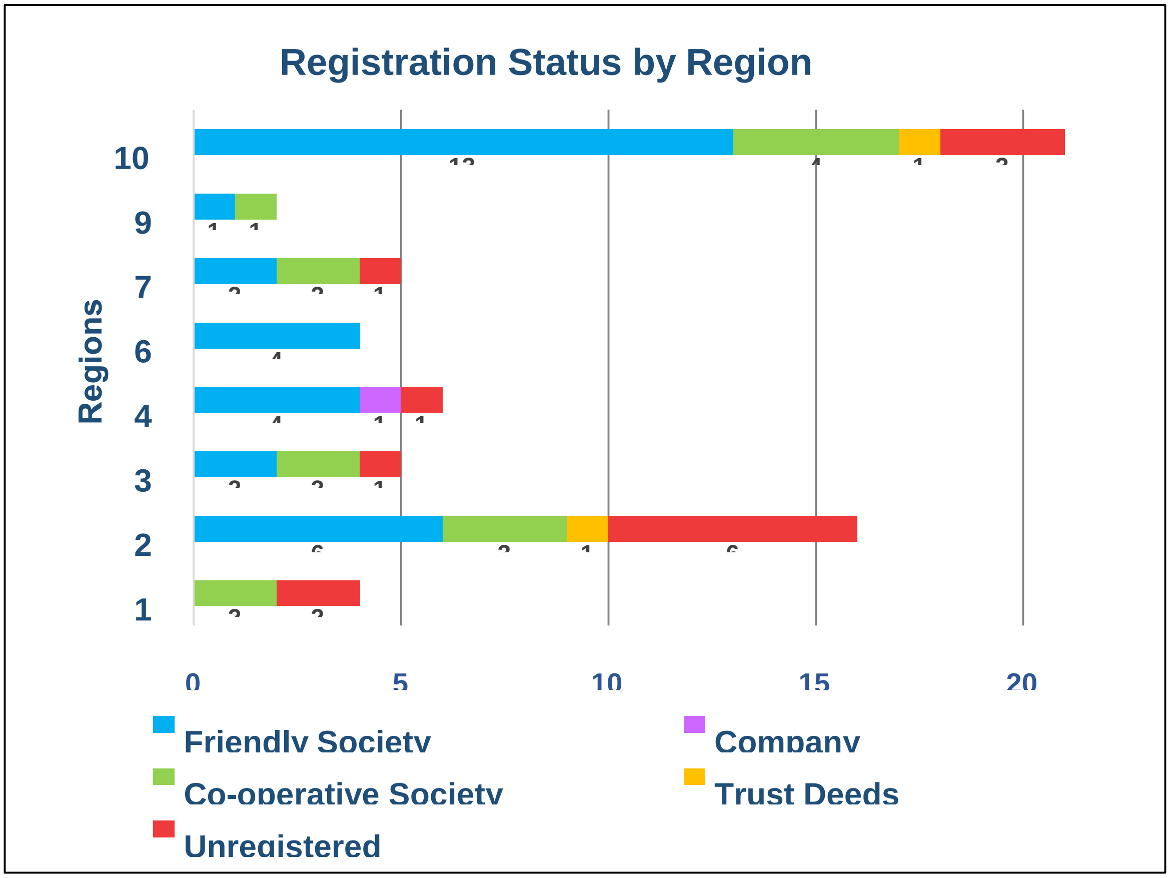
Community Forestry

At the level of the Community Forestry Association, 4,500 people were employed in 2021. The year 2021 was a highly productive year for the Community Development Unit. One hundred percent (100%) of the target was achieved, despite the many challenges posed. The Unit was able to strengthen SFM implementation in CFOs and Amerindian villages by implementing initiatives geared at fostering good practices. Towards this end emphasis was placed on compliance with the rule of law, community mobilization, and community participation. Projects were made possible through close collaboration and support from sister agencies, NGOs and the cooperation of the communities.

A notable achievement for the Unit, was the fostering of new relationships with other interest bodies which support the vision of the GFC in advancing the forest sector. Some outcomes of these engagements included sector-based research, community outreaches, and development of stakeholder engagement guidelines.

Capacity Building at the Community Level

At the beginning of the year, CFOs and indigenous communities involved in logging are encouraged to indicate in writing their interest in training for the current year. This information is used to determine what training the Community Development Unit and FTCI would offer to CFOs and Amerindian Villages. Availability of funding is critical for the implementation of any training activity, as such, majority of funding is sourced externally. Only critical cases such as new groups being formed or communities new to the forestry sector are offered training funded by GFC.


Registration Status by Region
Regions
10
9
7
6
4
3
2
1
0
5
10
15
20
Friendly Society
Company
Co-operative Society
Trust Deeds
Unregistered

7. Contribution to GDP

In 2010, the Bureau of Statistics introduced a new series of Gross Domestic Product rebased and re-benchmarked to year 2006, replacing the series based in 1988. The table below shows the trend of GDP over the past 9 years. This statistic is taken as a measure of primary production of Logs, Sawnwood, Roundwood and Splitwood. As such, total forest sector contribution that included added value forest products, (including plywood, furniture, and building components, etc.) tally to a higher percentage contribution. This additional aspect of forest sector contribution is recorded under the Manufacturing sector.

Year	GDP	Agriculture Sector	Forestry Sub Sector	GDP	Agriculture Sector
2011	788,711	203,938	18,835	2.33%	9.00%
2012	830,326	211,234	17,554	2.11%	8.31%
2013	860,661	219,803	18,517	2.15%	8.42%
2014	875,176	236,671	21,473	2.45%	9.70%
2015	881,192	244,364	19,060	2.16%	7.80%
2016	914,743	217,221	14,040	1.53%	6.46%
2017	948,904	244,734	15,224	1.60%	6.22%
2018	991,044	260,963	15,430	1.56%	5.91%
2019	1,044,093	259,670	14,821	1.42%	5.71%
2020	1,498,061	270,445	13,614	0.90%	5.03%
2021	1,797,786	245,915	15,149	0.84%	6.16%

8. Forestry Sector Structure

Land Allocation Breakdown

Small Concessions commonly referred to as State Forest Permissions (SFPs) operations were extended from 2 years to 3 years for an area no more than 8,097 ha; Large Concessions (usually referred to as Timber Sales Agreements (TSAs) are granted for a period up to 30 years for an area in excess of 8,097 ha. All leases are renewable subject to compliance with the terms of the agreement. State Forest Exploratory Permits (SFEPs) are granted for 3 years and is the precursor to a TSA and WCL

CLASSIFICATIONS	COUNT	Area (Hectares)	Total Allowable Cut (m3)	% Total Allocation
PRODUCTION LANDS ending December 2021				
Small concessions	549	2,319,408.00	1,254,618.57	44.6%
AL and ML	10	11,384.00		0.2%
State Exploratory Permits (SFEP)	5	728,727.31	143,869.00	14.0%
Large Concessions	17	2,125,975.91	448,193.25	40.9%
Total Production Area Allocated	**581**	**5,185,495.22**	**1,846,680.82**	**100.0**
PERMANENT RESEARCH AND RESERVES				
GFC Forest Reserves	12	17,924.92		
Total Forest Allocated		5,203,420.140		
Unallocated State Forest		7,362,579.86		
Total State Forest		**12,566,000**		
Iwokrama	1	371,681.00		
Kaieteur National Park	1	61,091.34		
Other (Shell Beach, Kanuku)	2	730,300		
Total area size of Protected Area		**1,163,072.34**		

9. Other Forest Sector License

Sector activity licences are valid for one (1) calendar year only; continued activity at these operations requires annual renewals.

❖ License Type	Comparison of Year 2020 & 2021 License						Total
	Year	Division					
		Demerara	Berbice	Essequibo	North West		
Timber Dealer Export	2021	35	19	5	0		**59**
	2020	50	23	6	1		**80**
Import	2021	15	2	0	0		**17**
	2020	11	0	0	0		**11**
Consolidated Log Export	2021	14	1	1	0		**16**
	2020	1	0	0	0		**1**
Lumber Yard	2021	84	34	24	3		**145**
	2020	89	30	22	2		**143**
Timber Dealer No Storage	2021	4	4	6	1		**15**
	2020	3	3	5	1		**12**
Sawpit License	2021	54	45	101	20		**220**
	2020	59	62	102	21		**244**
Sawmill License	2021	98	35	71	2		**206**
	2020	85	30	61	2		**178**
Firewood License	2021	4	4	5	0		**13**
	2020	4	10	6	0		**20**
Charcoal License	2021	38	3	1	3		**45**
	2020	31	2	0	1		**34**
Timber Depot	2021	24	27	6	0		**57**
	2020	21	19	6	1		**47**
Timber Path	2021	0	3	2	0		**5**
	2020	0	3	1	0		**4**
Permit to Erect	2021	22	4	9	0		**35**
	2020	9	4	9	0		**22**
Total	**2021**	**392**	**181**	**231**	**29**		**833**
	2020	**363**	**186**	**218**	**29**		**796**

10. Production

The Production Table below compares the production levels of several forest products for the 2021 review period to their levels in 2020. An overview of the volume of timber product production is given in this section. A total of 377,383m3 of timber (including plywood) were produced in 2021, an increase of 16% over the 324,787m3 reported for that year of 2020.

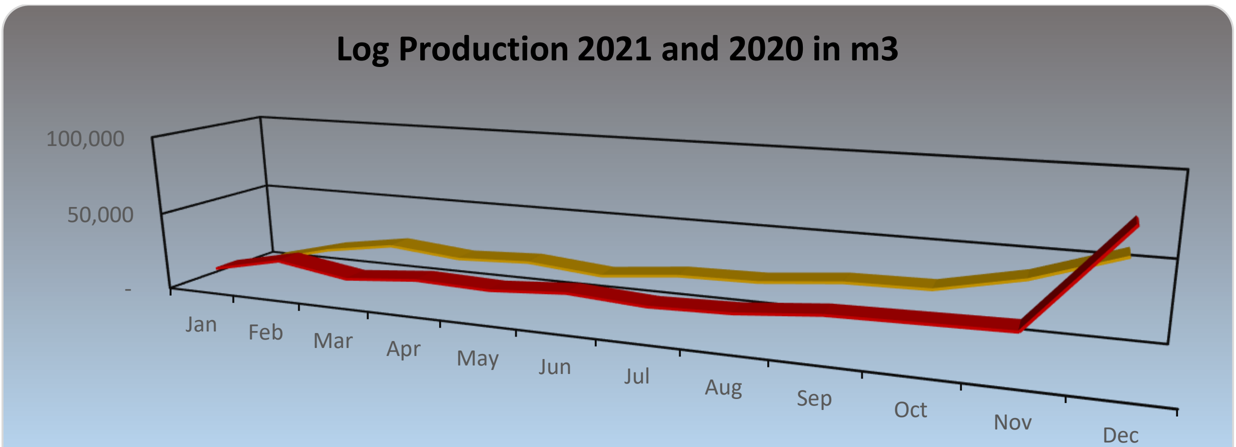
GUYANA FORESTRY COMMISSION						
Total Production for December 2021 Compared to December 2020						
				Jan-Dec 2021	**Jan-Dec 2020**	[1] **% Change**
PRODUCTS			Unit	**Total**	**Total**	*over* **Jan-Dec '20**
TIMBER PRODUCTS						
Logs			m^3			
Special Category						
	Greenheart			48,910.49	41,549.25	17.72
	Purpleheart			12,112.38	17,172.97	(29.47)
	Others			6,080.31	3,546.24	71.46
	Total Special Category Logs			**67,103.18**	**62,268.46**	**7.76**
Class 1				129,671.59	114,719.73	13.03
Class 2				68,178.08	54,011.79	26.23
Class 3				39,441.35	24,138.83	63.39
	Total Other Class Logs			**237,291.02**	**192,870.35**	**23.03**
Total Logs				**304,394.21**	**255,138.81**	**19.31**
Roundwood			m^3		-	
Greenheart Piles				14,240.36	17,528.58	(18.76)
Kakaralli Piles				1,441.63	779.06	85.05
Wallaba Poles				4,078.31	4,599.30	(11.33)
Posts				2,303.53	1,757.22	31.09
Spars				129.91	144.52	(10.11)
Total Roundwood				**22,193.75**	**24,808.68**	**(10.54)**
Primary (Chainsaw) Lumber			m^3		-	
Special Category					-	
	Greenheart			3,227.93	3,102.12	4.06
	Purpleheart			1,089.51	2,774.56	(60.73)
	Others			3,201.34	2,294.44	39.53
	Total Special Cat. Lumber			**7,518.78**	**8,171.12**	**(7.98)**
Class 1				17,167.15	19,178.38	(10.49)
Class 2				8,712.35	6,253.20	39.33
Class 3				5,412.17	4,306.71	25.67
	Total Other Class Lumber			**31,291.67**	**29,738.29**	**5.22**
Total Primary Lumber				**38,810.45**	**37,909.41**	**2.38**
Splitwood			m^3		-	
	Paling Staves			33.01	40.96	(19.41)
	Vat Staves			-	-	-
	Shingles			-	-	-
Total Splitwood				**33.01**	**40.96**	**(19.41)**
Fuelwood	Charcoal		m^3	7,831.82	6,116.45	28.05
	Firewood		m^3	9,925.66	20,164.26	(50.78)
Total Fuelwood			m^3	**17,757.48**	**26,280.72**	**(32.43)**
Plywood			m^3	**12,407.12**	**6,889.74**	**80.08**
NON - TIMBER FOREST PRODUCTS						
Wattles			pieces	**440,711.00**	**357,418.00**	23.30
Manicole Palm			pieces	**2,899,118.00**	**3,855,139.00**	(24.80)

11. Production Volumes

Table 4 presents production volumes for various primary Timber and Non-Timber forest products, together with Plywood, for the Year 2021 compared to 2020.

Log Production

The production of monthly logs for the years 2021 and 2020 is depicted in the graph below. When compared to the same period in 2020, when output was 304,394m3, there was an increase of 19.31% in the amount of logs produced, coming in at 255,138m3. Similar monthly changes could be seen on the graph for both 2020 and 2021.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2020	11,715	21,425	14,282	18,449	17,023	20,425	17,491	18,932	23,585	24,607	25,649	85,922
2021	4,906	16,427	23,695	19,486	21,732	17,569	22,446	23,399	28,223	29,111	39,990	57,411

Production within Special Category increased noticeably by 7.76% (from 62,268m3 in 2020 to 67,103m3 in 2021). The production of Class 1, 2, and 3 Logs saw the biggest percentage growth, with increases of 13.03, 26.23%, and 63.39%, respectively. The total amount of other Class logs rises from 192,870m3 in 2020 to 237,291m3, a 23.03% increase.

Log production by GFC Reporting Division and Forest Station

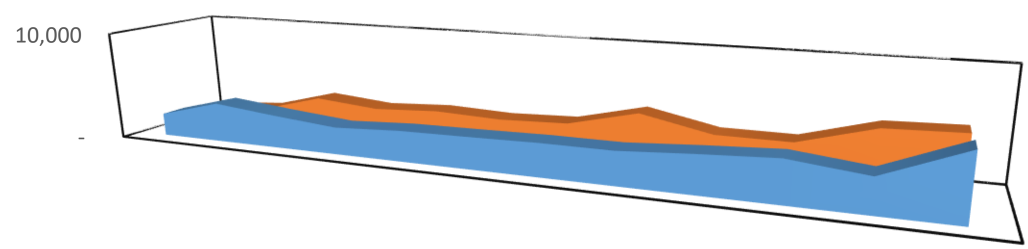
The highest log production was recorded in Demerara County, 107,394 m3. The highest producing stations in Demerara were Linden (46,714 m3), Soesdyke (40,710 m3), and Georgetown (11,103 m3). Essequibo, which owns most of the forested and isolated production areas of the state reflected the second largest production area (59,941 m3), with the largest production stations being

Parika (27,071 m3), Buckhall (11,200), and Winiperu (10,794 m3). The county of Berbice followed, with the highest producing stations being Kwakwani (16,621 m3), Canje (9,927 m3) and Springlands (8,194 m3).

Lumber Production

Primary lumber production was 38,810m3 in 2021, i.e. 2% more than last year (37,909m3). This was mainly due to high production at the last quarter of the year (October to December). The general trend of lumber production in the observation period showed a stable production with small increases, but compared to the previous year, the results were lower at the beginning of the year, but increase at the end of 2021. The main species used in wood production in 2021 were Kabukalli, Wallaba, Tauroniro, Greenheart, Bulletwood, Simarupa, Silverballi, Mora and Shibadan.

Primary Lumber Production 2021 and 2020



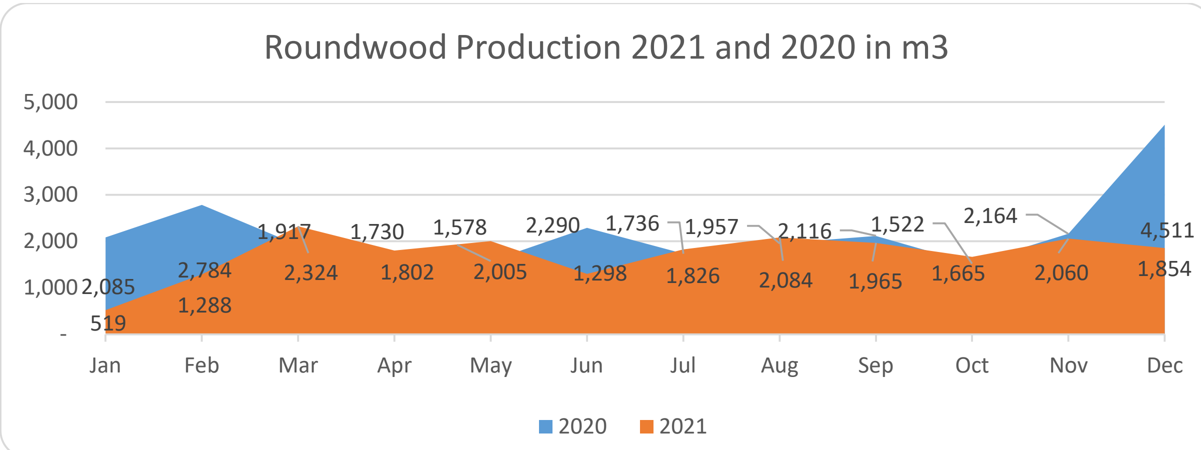
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2020	2,095	3,638	3,036	2,506	2,813	2,892	2,998	2,987	3,392	3,726	3,038	5,743
2021	1,229	1,664	3,241	2,720	3,040	2,812	3,033	4,527	3,225	3,210	5,003	5,208

Primary Lumber Production by GFC Reporting Division and Forest Station

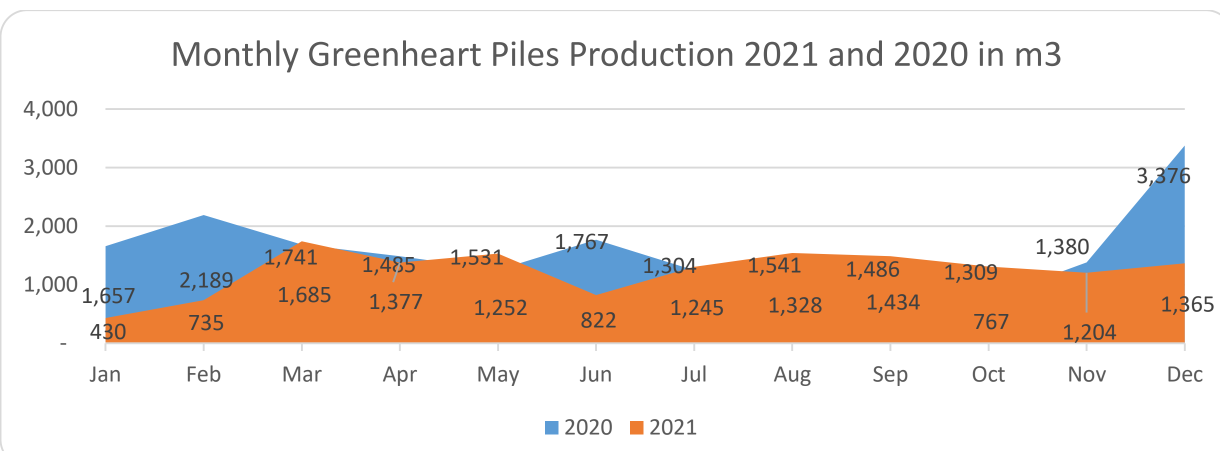
In 2021, GFC Demerara stations reported the most Sawnwood at 17,904 m3, representing (46%) of the country's primary timber volume; Essequibo followed with 14,057 m3 and Berbice with 5,068 m3. The largest reported GFC stations in 2021 were: Soesdyke 8,813 m3, Georgetown 4,826 m3 and Ituni 2,453 m3 in Demerara; Essequibo was Supenaam 3,650 m3, Charity 2,829 m3); and St Monica 1,250 m3, Berbice stations were Springlands 4,010 m3 and Canje 802 m3.

Roundwood Production

Production of Piles, Poles, Posts, and Spars constitute the product category of Roundwood. Piles produced were mainly of the Greenheart species with few being Kakaralli, While Poles, Posts, and Spars produced were derived from the Wallaba species.



The diagram above shows the production of Roundwood in 2021 and 2020. The positive development of the total production of Roundwood during the observation period showed both the high demand of the dominant domestic residential market as well as the competitive export market and the general price level. Production of Roundwood was 20,690 m3 in 2021, which is 22 percent less than the 26,389 m3 produced in 2020. The decrease in the total production of round wood was divided by different products but mainly resulted from the decline in the production of Greenheart Piles (from 19,565 m3 to 14,845 m3). Wallaba Post was the only product to record an increase.



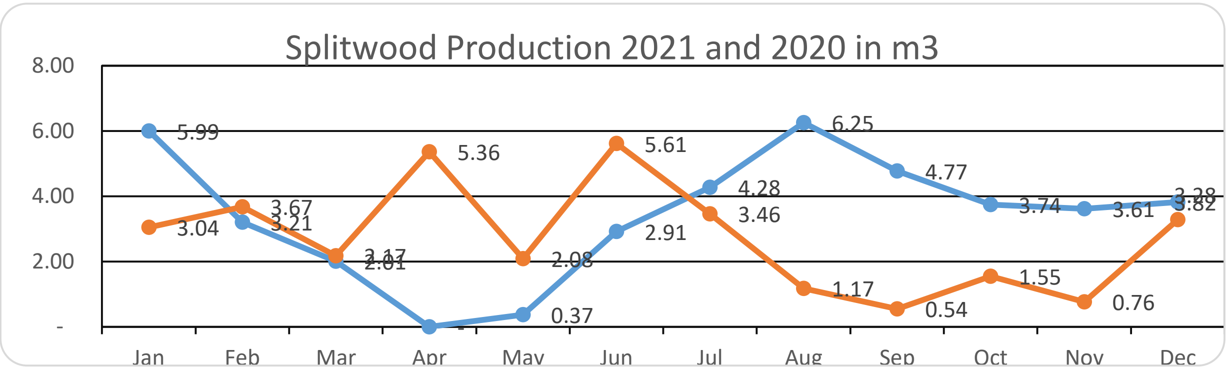
The graph above provides a visual overview of the trends in Greenheart Piles. During the 2021 review period, Greenheart's Piles production remained relatively stable despite low production at the beginning of the year. These piles were produced at an average rate of 1,237 m3. Greenheart

Piles represent the majority in the Roundwood category. In 2021, these piles accounted for approximately 71% of all Roundwood produced, so this product had a great impact on production trend lines.

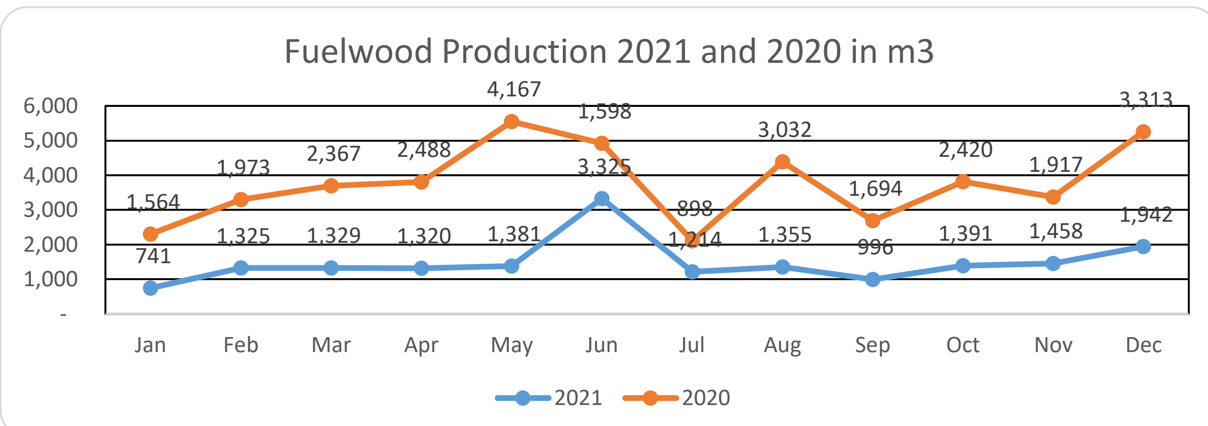
Splitwood Production

Splitwood refers to Staves (both Paling Staves and Vat Staves), and Shingles (non-machine made), all of which are usually produced from the Wallaba species.

In 2021, the primary production of Splitwood was 32.71m3 compared to 40.96m3 in 2020, representing a 20% decrease in production in 2021. Paling Staves were the only recorded product in this category.

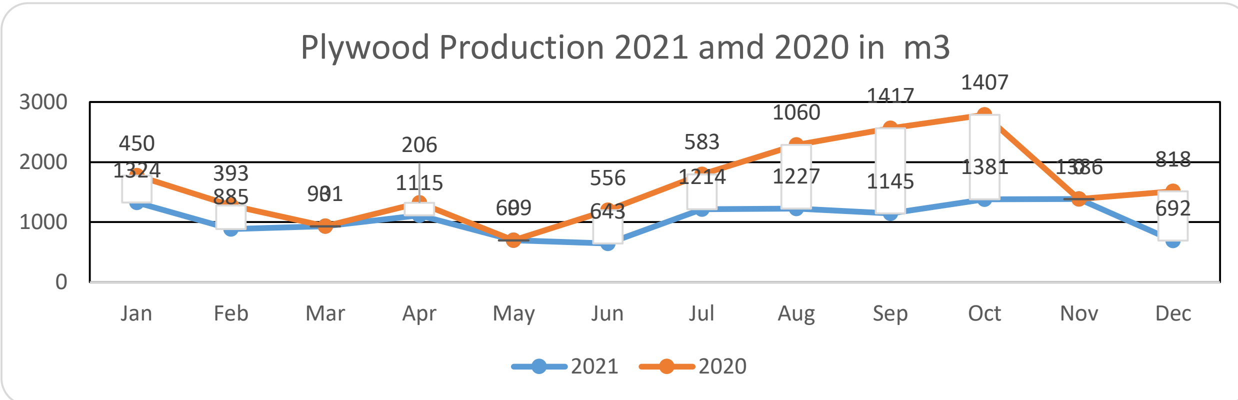


Fuelwood Production



Firewood production decreased by 35.19% in the review period compared to the production volume of 2020. This is mainly due to the decrease in demand for firewood. As can be seen from the graph above, total firewood production in 2021 was 50.78% below the 2020 volume.

Plywood Production



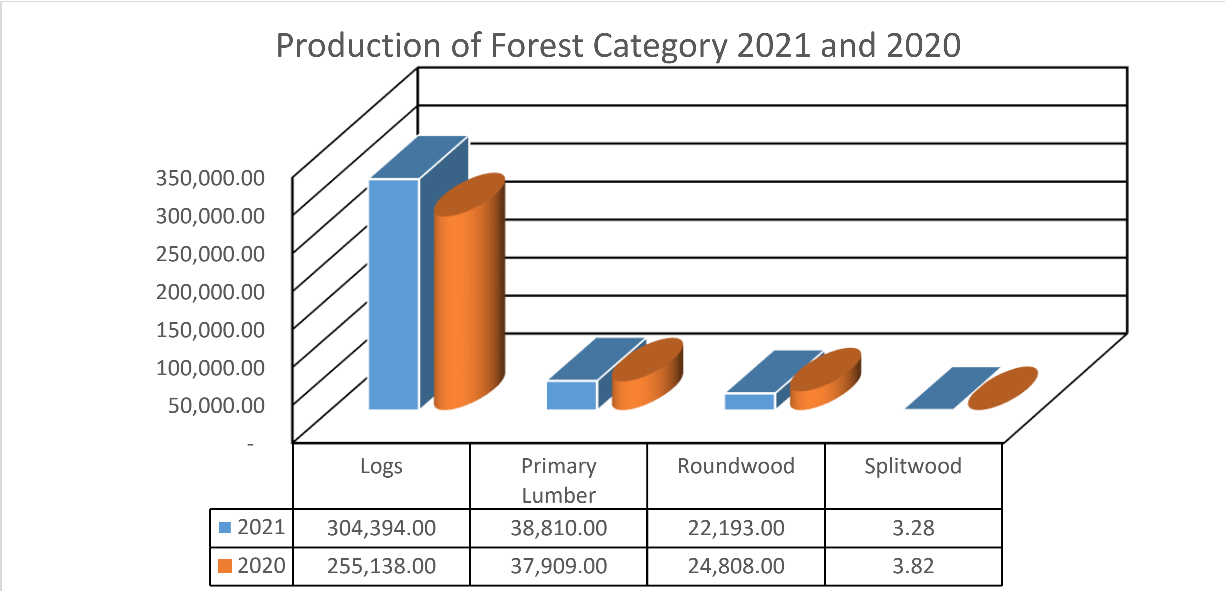
Plywood production in 2021 increased by 80.08% compared to the corresponding period of 2020. During the observed period, the development of plywood production showed an increase in production trend, although low production in a few months.

Non-Timber Forest Product

Non-timber forest products (NTFPs) refer to a range of products other than primary and secondary wood products derived from forest resources. These include Wattles, Manicole Palm, Mangrove Bark, Palms and Latex (Balata). In 2021, Manicole Palma (Heart of the Palm) totalled 250,296 pieces, more than 8.90% over 2020's production of 229,831 pieces. In 2021, 52,917 pieces Wattles were produced.

Comparative Production Volume Analysis

The diagram on the overleaf illustrates the general development of forest production by product category. In the period under review, with the exception of Roundwood and Splitwood, which decreased in volume, all other products increased compared to 2020.



12. Employment and Domestic Prices

Employment

Activity	2020	2021	% Change
Logs	10,769	10,913	1.34
Sawmilling	4,210	4,286	1.81
Timber Dealership (Lumberyards)	1,390	1,448	4.17
Plywood	237	250	5.49
Manicole Palm	583	238	(59.18)
Others*	2,811	2,784	(0.96)
Total	**20,000**	**19,919**	**(0.41)**

In the considered period January-December 2021, employment in the forestry sector decreased by 0.41% despite changes in pandemic requirements. Employment in the forest sector was 19,919 in 2021, which is a decrease from the 20,000 recorded in 2020. Of the six industries in the forest sector, a decrease in employment was recorded in the Manicole and Others category.

13. Domestic Prices

Products	Year									
	2017		*2018*		*2019*		*2020*		*2021*	
	GY$	US$	GY$	US$	GY$	US$	GY$	US$	GY$	US$
Logs	36,400	175	35,910	171	35,280	168	37,590	179	35,070	167
Sawnwood*	143,520	690	135,030	643	149,520	712	207,900	990	230,077	967
Dressed	161,200	775	156,660	746	164,640	784	220,080	1048	240,464	1145
Undressed	117,520	565	110,040	524	114,870	547	169,050	805	165,690	789
Roundwood	91,520	440	96,600	460	101,220	482	111,930	533	109,200	520
Splitwood	54,080	260	57,750	275	60,060	286	78,120	372	78,750	375
Fuelwood	8,320	40	8,820	42	7,560	36	10,080	48	8,820	42
Sawnwood * is the combined average for Dressed and Undressed Sawnwood										
2021 Exchange Rate GY$210 =1US$										

Domestic prices have recovered to normal post-pandemic prices. Log prices have returned to the upper 160s and are expected to remain at that level through 2022. Lumber prices are still high compared to late 2020 prices.

The demand for Roundwood caused a general increase in the prices of all Roundwood products. Average Sawnwood prices increase above late 2020 prices, while Fuelwood prices remain relatively normal.

14. Cost of Production Analysis

The timber and forest products industry value chain in Guyana begins with standing timber in forests and extends to a variety of manufactured forest products. Infrastructural investment coupled small scale request for wood supply is intense, and it is expected to increase more in the future in order to meet the growing demand for local wood products. Currently extraction cost of production for main forest products ranges between US$100 to US$120 per cubic, while processing and other coast ranges between US$70 to US$80 per cubic. Contract and independent timber harvesting and transport firms comprise the key link in the supply chain to move timber products from the forest to the mill.

Within the forest sector in Guyana, logging costs averaged 35% of the total wood costs delivered to sawmill, with trucking adding another 18%, Royalty and Acreage fees 39%, and Other costs 8%. Both large and small scale timber logging entities have often been characterized as having high capital requirements, with modest profits per cubic of timber harvested. This necessitates both efficiency and high volumes of output to offset high equipment fixed costs.

15. Export

Export Summary

This section examines the various categories of forest products exported and presents an analysis of their impact on the forest sector in 2021. Table 7 compares export performances in 2021 against their relative 2020 levels, categorized by product and category, where applicable.

The highest revenue earner of all forest products was Sawn Lumber, which earned US$13.9 million in 2021. The total export value for 2020 was US$31.02 million, which is 0.64% lower than the export level for forest products in 2020 when the total export value for forest products was US$31.22 million. Log Exported followed with earnings of US$9.14M. The most improved export product has been Splitwood, with an export volume of 4,217m3 and earnings of US$4.06M.

The volume and value of log exports decreased from 55,899 m3 in 2020 to 53,929 m3 in 2021. This results in a decrease of 3.52 percent and 5.76 percent, respectively, in volume and value.

Sawnwood declined in both volume and value in 2021. A total volume of 13,172m3 at a value of US$13.95M was exported. Within the review period, both Dressed and Undressed Sawnwood recorded a decline, which resulted in the overall decline of this product.

However, Roundwood export increased in volume by 28.84% and in value by 23.99%. During 2021 an amount of 6,044m3 of Roundwood was exported, as against 4,841m3 sent out in 2020. Compared to the value of US$2.15M recorded in 2020, this resulted in a total value earning of US$2.67M in 2021.

Paling Staves and Shingles make up Splitwood. Shingles were the only items in this category that were exported during the review period. During the year 2021, their export volume increased by 31.42 percent and their value increased by 31.06 percent.

Plywood export decreased by 4.49% in volume and 7.13 % in value, respectively, during the review period when compared to 2020 totals.

Fuelwood exported declined in volume by 13.64% but increased in value by 7.48%. When compared to the levels in 2021, the value of Other Non-Timber Forest Products decreased by 89.36%, while the value of Other Value-added Products increased by 15.98%.

GUYANA FORESTRY COMMISSION

Table 2: **Export Volumes and Values** *by* **Product for the period December 2021**

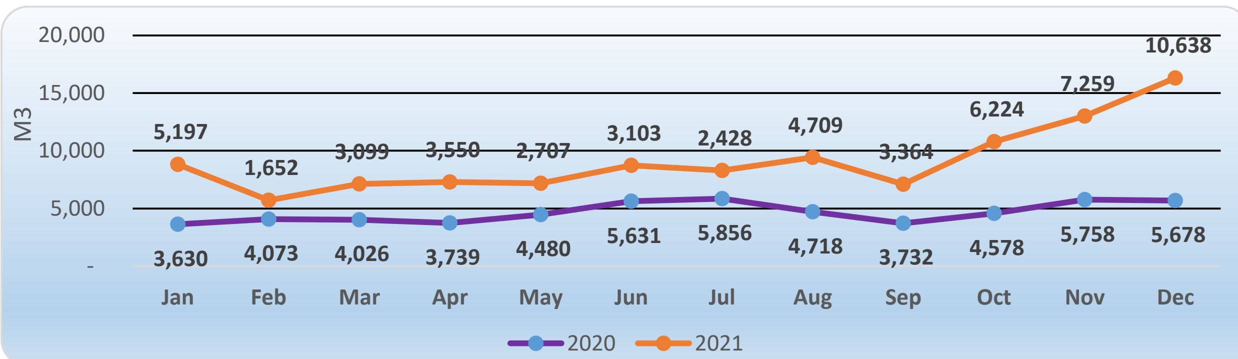
PRODUCT	Jan-Dec 2021 Volume	Jan-Dec 2021 Value	Jan-Dec 2020 Volume	Jan-Dec 2020 Value	% Change *Over* Jan-Dec 2020	
	m^3	US$	m^3	US$	% Vol	% Val
Logs	**53,929.48**	**9,147,981.80**	**55,899.21**	**9,707,503.87**	**(3.52)**	**(5.76)**
Sawnwood	**13,172.99**	**13,958,310.15**	**15,189.28**	**15,035,243.86**	**(13.27)**	**(7.16)**
Dressed	*5,071.09*	*6,723,310.66*	*6,279.05*	*7,573,102.21*	(19.24)	(11.22)
Undressed	*8,101.90*	*7,234,999.49*	*8,910.24*	*7,462,141.65*	(9.07)	(3.04)
Roundwood	**6,044.15**	**2,675,847.01**	**4,841.59**	**2,158,125.10**	**24.84**	**23.99**
Greenheart Piles	*5,635.24*	*2,401,729.03*	*4,649.49*	*2,004,048.38*	21.20	19.84
Kakaralli Piles	-	-	-	-		
Other Piles	-	-	*1.05*	*1,359.82*	-	-
Poles	*282.47*	*216,737.00*	*87.88*	*64,070.00*	221.43	238.28
Posts	*126.44*	*57,380.98*	*103.17*	*88,646.90*	22.56	(35.27)
Spars	-	-	-	-	-	-
Splitwood	**4,217.94**	**4,066,017.81**	**3,209.40**	**3,102,330.99**	**31.42**	**31.06**
Paling Staves	-	-	1.18	480.00		
Shingles	4,217.94	4,066,017.81	3,208.22	3,101,850.99	31.47	31.08
Plywood	**1,339.97**	**699,165.45**	**1,402.95**	**752,807.33**	**(4.49)**	**(7.13)**
TOTAL TIMBER & PLYWOOD	**78,704.54**	**30,547,322.22**	**80,542.42**	**30,756,011.15**	**(2.28)**	**(0.68)**
Furniture (pcs)	-	**117,865.58**	-	**1,220.00**		
Indoor Furniture	608.00	103,060.58	21.00	1,220.00	2,795.24	8,347.59
Outdoor/Garden Furniture	661.00	14,805.00	-	-		
Building Componentry (pcs)	-	**61,362.28**	-	**145,302.09**	-	(57.77)
Doors	200.00	34,930.06	484.00	97,861.34	(58.68)	(64.31)
Door Components	1.00	75.00	111.00	687.00	(99.10)	(89.08)
Windows	28.00	22,398.22	528.00	31,417.81	(94.70)	(28.71)
Other Builder's Joinery (pcs)	51.00	3,515.00	162.00	10,438.75	(68.52)	(66.33)
(m^3)	-	-	-	-	-	-
Rails (pcs)	4.00	300.00	32.00	2,232.11	(87.50)	(86.56)
Wattles	-	-	19.00	19.00	-	-
Spindles (pcs)	9.00	144.00	561.00	2,646.08	(98.40)	(94.56)
Mouldings (m)	**3,534.77**	**9,907.88**	**7,064.04**	**20,435.73**	(49.96)	(51.52)
Pre-Fabricated Houses (pcs)	1.00	4,500.00	-	-		
OTHER *(than Plywood)* ***VALUE ADDED***	-	**193,635.74**	-	**166,957.82**		**15.98**
Fuelwood (m^3)	**6,886.71**	**281,502.94**	**7,974.58**	**261,908.92**	**(13.64)**	**7.48**
Charcoal	7,803.37	281,214.94	8,221.21	261,188.00	(5.08)	7.67
Firewood	21.74	288.00	25.37	720.92	(14.31)	(60.05)
Other (pcs)	-	**2,600.00**	**9,289.00**	**1,363.66**	-	**90.66**
Wooden Ornaments & Utensils	204.00	700.00	531.00	1,050.00	(61.58)	(33.33)
Craft	15.00	1,900.00	9,474.00	313.66	**(24.55)**	**(39.41)**
Non - Timber Forest Products (pcs)	**48.00**	**4,610.00**	**1,097.00**	**43,340.04**	**(95.62)**	**(89.36)**
OTHER PRODUCTS	-	**288,712.94**	-	**306,612.62**	-	**(5.84)**
TOTAL EXPORT VALUE	**0**	**31,029,670.90**		**31,229,581.59**		**(0.64)**

Log Export

The various aspects of forest product exports in 2021 are described in detail in this section.

The log export volume from January to December 2021 was 53,929 m3, with a value of US$9.14M. This is a decrease of 3.52 percent in value and 5.76 percent in volume when compared to the 2020 total of 55,899 m3 and US$9.70M.

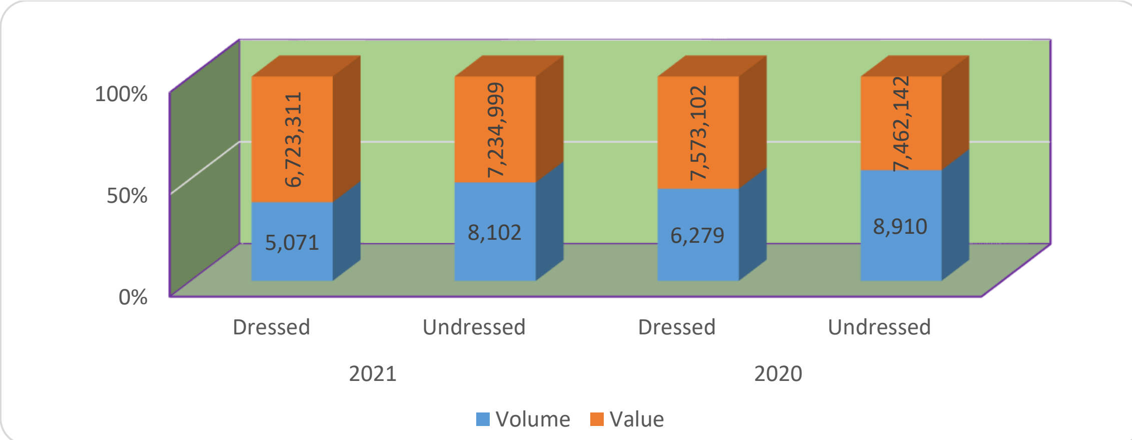
Figure # Log Export Volume 2021 and Comparative 2020



The Line Chart above shows the pattern of log export volumes during 2021. The highest level of annual exports was recorded in July 2021.

Sawnwood Export

Sawnwood exports in 2021 totalled 13,172 m3 and were worth US$13.95M, compared to 15,189 m3 and US$15.03M the year before. Export value decreased by 7.16% and export volume decreased by 13.72%.

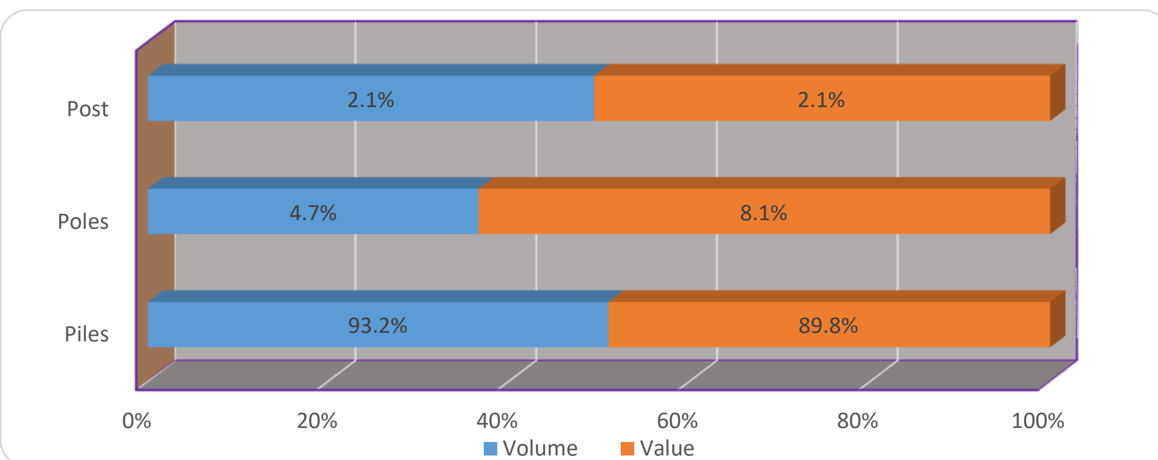


The graph above depicts the percentage share of Sawnwood exports in various categories and their contribution to the total amount of product.

Sawnwood's revenue decreased in 2021 due to lower Dressed and Undressed lumber export volumes. Sawnwood's primary export markets remain in North America and Latin America/Caribbean, while exports to the Asia-Pacific region continued to rise in 2021.

Roundwood Export

When compared to 2020, Roundwood exports increased in both volume and value in 2021. Inside the Roundwood classification, there are three sub-items that are sent out over the review period, specifically Piles, Poles, and Post.



With a volume export of 93% and a valued export of 89% of the total export of Roundwood, piles had the highest percentage share of all Roundwood products. The commodity of Poles represented

4% of Roundwood's product and contributed 8% of Roundwood's commodity income.

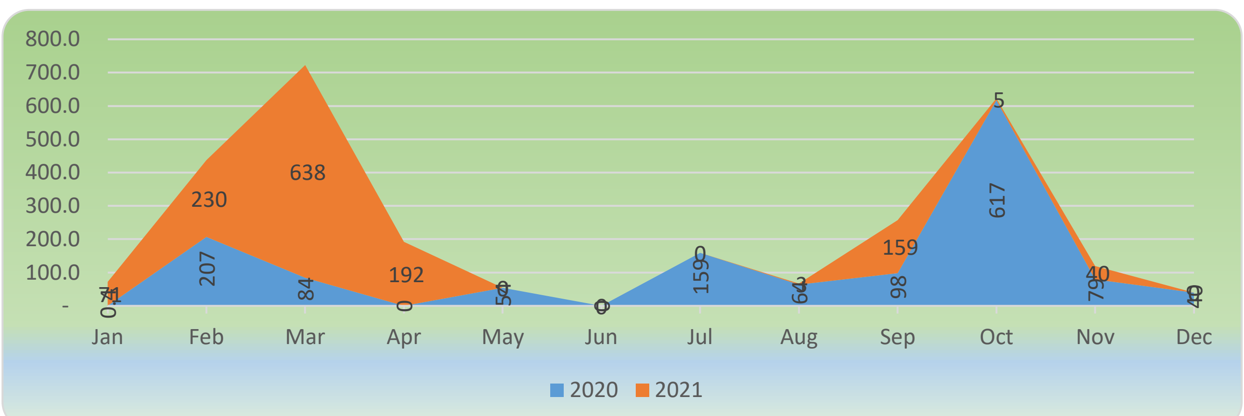
Splitwood Export

Two products are exported under Splitwood category. These are Shingles and Paling Staves. In 2021, only shingles were exported under the Splitwood category.

Export of Splitwood recorded robust increases in both value (31.06%), and volume (31.42%), with Shingles being the only form of Splitwood exported. The higher percentage of value gained from Shingles is indicative of the steady increase in the prices earned for this product. Shingles exports for 2021 totalled 4,217m3 and earned US$0.42M, while 3,209m3 of Splitwood was exported in 2020 and earned US$0.31M.

Plywood Export

Plywood Export for 2021 totalled 1,339m3 at a value of US$0.69M. when compared to 2020, Plywood recorded lower volume and value, indicative of lower production. Barama Company indicated that, a decision was taken to reduce the volume of export in order to have sufficient amount to service local demand.



Other Value Added Products and Other Non-Timber Forest Products

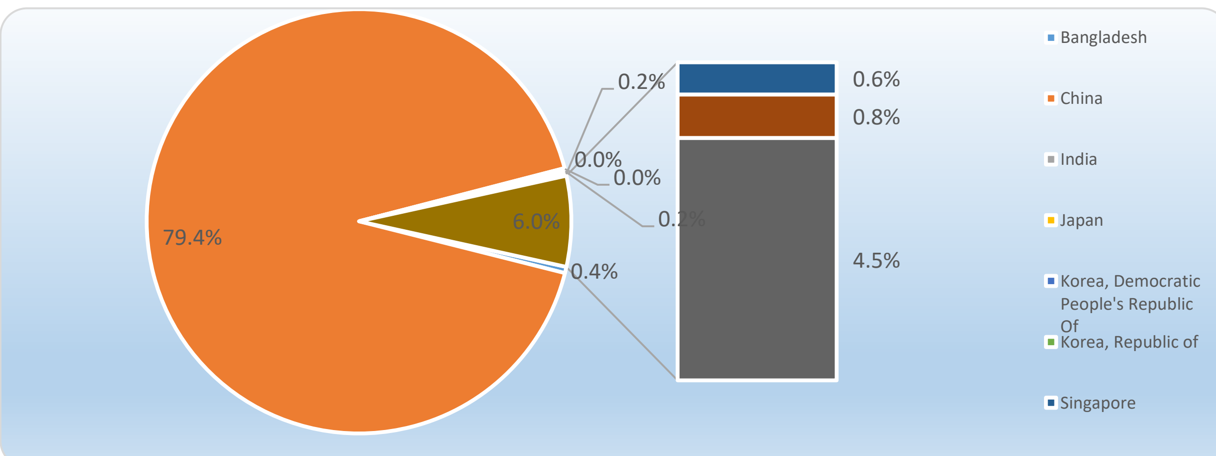
Export revenue from Other Value-Added Products (value-added items other than Plywood) for 2021 increased by 15.98% (from US$166,957 to US$193,635) compared to the same period in 2020. the export of Indoor furniture and Pre-Fabricated Houses was responsible for this increase.

Other products were exported under this category, however, these were in lower quantities when compared to 2020.

Export revenue earned from Other Non-Timber Forest Products totalled US$288,712. When compared to 2020, the export of these products recorded a decline by 5.84%. this was as a results of decline in the export of Wooden Ornaments and Utensils and Craft.

Export by Regions and Destinations

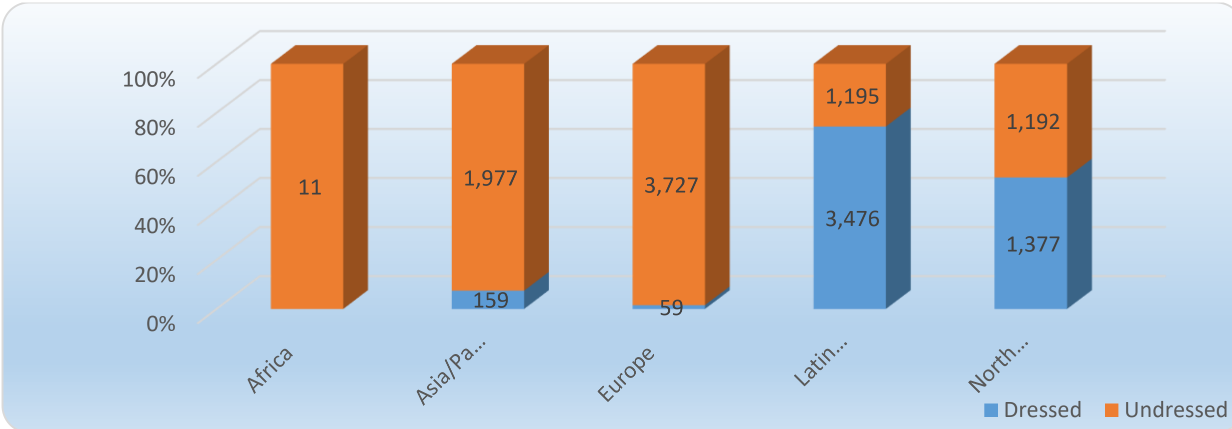
This section examines exports of Timber products, which includes; Logs, Sawnwood, Roundwood, Splitwood, and Plywood, by their export destinations with respect to the international regions of Asia/Pacific, Europe, Latin America/Caribbean, North America, South America and Africa.



In 2021, Log was exported to the Asian Pacific region. Within this region the main destinational markets was China, India and Vietnam, accounting for 98% of the total market share. Other smaller markets emerged in Bangladesh, Japan and Singapore. Export to China totalled US$14.9M, which represents 79.4% of total market share.

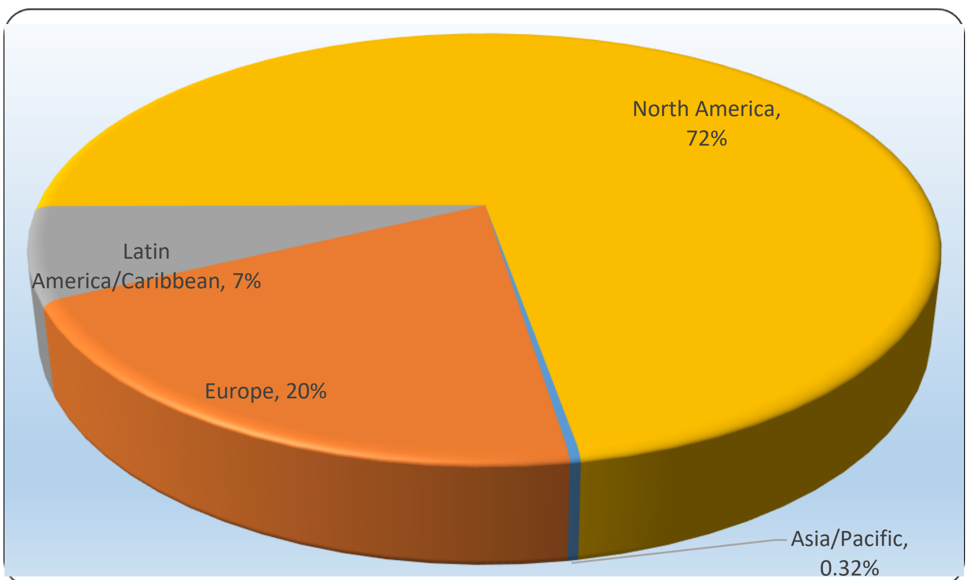
Sawnwood Lumber Export by Region and Destinations

Guyana Sawnwood was exported to five regional markets over the review period. These markets were Latin America and the Caribbean, North America, Europe, Asia Pacific and Africa. The Latin America/ Caribbean market continues to be the main consumer of Guyana's Sawnwood, attracting mostly Dressed Lumber (3,476m3) and Undressed (1,195m3).



Other significant markets were in Europe attracting 58m3 of dressed Sawnwood and 3,726m3 of undressed Sawnwood. North America, Asia and Africa attracted a combined total of 4,716m3 of both dressed and undressed variety.

Roundwood Export by Region and Destination

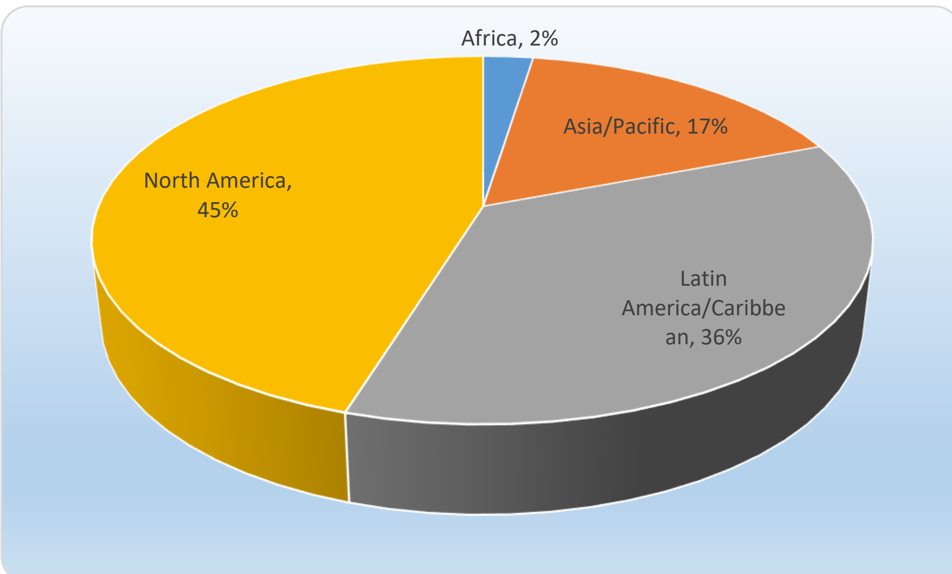


North America Region has been the largest consumer of Roundwood 4,370m3. The United States has been the only market within this region accounting for 72% of total market share. Other significant markets were found in Europe, namely Netherlands, Italy and Denmark accounting for 1,230m3. Within the LAC region there was six markets with Trinidad and Tobago, Barbados and Antigua and Barbuda being the main markets. The French Polynesia and New Zealand were the two markets in the Asia Pacific.

Splitwood Export by Regions and Destinations

Shingles has been the lone exported product under the Splitwood category during 2021. Shingles totalling 4,217m3 and valued at US$4.06M were exported during the review period.

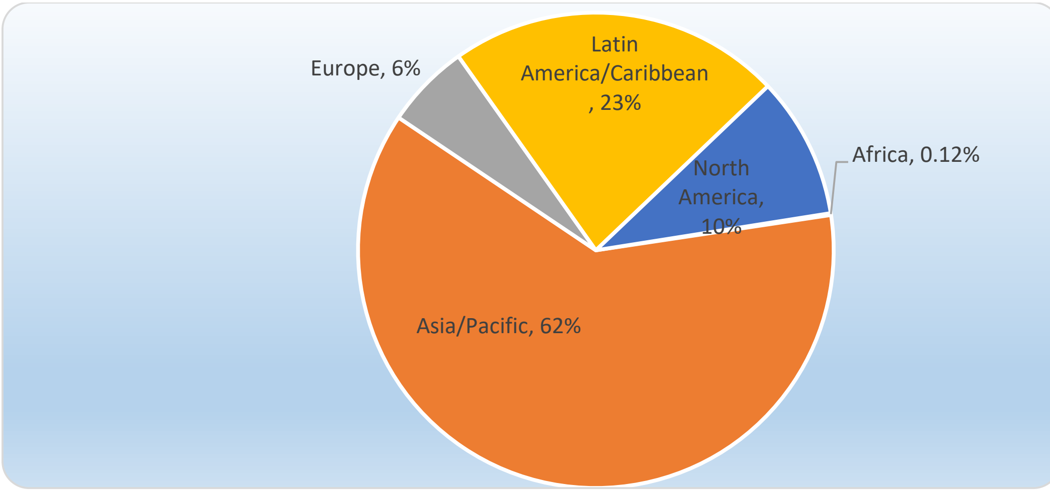
In 2021, North America was the largest consumer of Guyana's Splitwood product, which is Shingles. Within this region, the destination market was the United States of America with export volume of 1,908m3 at a value of US$0.19M.



The Latin America and Caribbean LAC region was the second largest market for Shingles 1,501m3 and valued at US$1.38M. There were twenty (20) destinational markets within this region with the main markets being the French West Indies, Jamaica, Antigua and Barbuda. The Asia Pacific and African Region accounted for the remaining 808m3 of Shingles, which was valued at US$0.69M,

Forest Sector Earnings by Regions

The Asia/Pacific region continues to be the largest market for Guyana's forest products accounting for 39% of total export earnings in 2021 with a value totalling US$11.79M. Noteworthy, there has been a gradual decline in export to this market, while there has been opposite increase in the more non-traditional markets such as North America.



In 2021, India was the single largest destination for Guyana's timber products which was followed closely by export to New Zealand.

Regions	2017	2018	2019	2020	2021
Africa	1%	1%	1%	1%	0.3%
Asia/Pacific	47%	40%	38%	36%	39%
Europe	7%	8%	10%	15%	12%
Latin America/Caribbean	29%	33%	29%	27%	25%
North America	16%	18%	22%	21%	24%
South America	0.2%	0.1%	0.1%	0.1%	
Total	**100%**	**100%**	**100%**	**100%**	**100%**

Export Prices

All categories of exported forest products saw an increase in export prices in 2021, with the exception of plywood. Splitwood, which experienced a 25% increase in export prices over the 2020 price level, was the product category with the highest price increase.

Products	2020/m3	2021/m3	% Change over 2020
Logs	180	187	4%
Sawnwood	1,168	1,215	4%
Dressed	1,248	1,347	8%
Undressed	804	903	12%
Roundwood	633	648	2%
Splitwood	810	1,011	25%
Fuelwood	54	56	4%
Plywood	551	540	-2%

** Rows indicates a combined average of Dressed and Undressed Sawnwood

*** Splitwood Export prices refers to Mill produced Splitwood mainly Shingles

Sawnwood reported an overall 4% price increase. Undressed Lumber saw a 12% growth within its classification, with an average export price of $903 USD. Prices for dressed lumber rose by 8%, while those for Roundwood and fuelwood saw overall increases of 2% and 4%, respectively.

The average price level for logs, which make up the majority of export volume, increased by 4% in 2021.

16. References

- Guyana Forestry Commission. (2020). Forest Sector Information Report. Georgetown

- World Bank, Global Economic Outlook Report 2021

- UNCTAD. (2021). Investment Trend Monitor. Geneva: United Nation

- ECLAC. (2020, February). Retrieved from ECLAC

17. Appendix

Major Timber Species and their Uses

Classification	Species (Local Names)	Species (Scientific Names)	Major Uses
Special Category	Greenheart	*Chlorocardium rodiei*	Boat building, marine work, piling, general heavy construction, flooring, heavy furniture, turnery and finishing rods.
	Purpleheart	*Peltogyne venosa*	Building construction, flooring, bridging, boat building – keels, transoms, canoes, coach building, furniture, turnery, inlay, tool handles, sticks, bows, and veneer.
	Brown Silverballi	*Licaria cannella*	Boat building, canoes, furniture, interior work, and general carpentry.
	Red Cedar	*Cedrela odorata*	Furniture, cabinet work, panelling, boats, coffins and cigar boxes.
	Letterwood	*Brosimum guianense*	Inlay, turnery, sticks, tool handles and bows for archery.
	Bulletwood	*Manilkara bidentata*	General heavy construction, house framing, sleepers, mill rollers, wheel spokes, fencing, axe and tool handles, turnery.
Class 1	Crabwood	*Carapa guianensis*	General construction, interior work, carpentry, furniture, and turnery, plywood and veneer.
	Yellow Silverballi	*Aniba hypoglauca*	Boat planking, canoes, furniture, cabinet work, and interior construction.
	Itikiboraballi	*Swartzia xanthopetala*	Inlay turnery, cabinet work, walking sticks, bag-pipes and tool handles.
	Locust	*Hymenaea courbaril*	Ship-building, general construction, carriage buildings, tool handles, furniture and croquet mallets.
	Tatabu	*Diplotropis purpurea*	Boat-building, house framing, and flooring, furniture and turnery, interior work, carriage-building, tool handles, and sleepers.
	Determa	*Ocotea rubra*	Boat and carriage building, masts, furniture, carving, interior work, and general carpentry.
	Wamara	*Eperua grandiflora*	Furniture, cabinet work, parquet flooring, turnery, inlay, tool handles, walking sticks, and bows for archery.
	Kabukalli	*Goupia glabra*	Heavy construction, house framing, flooring, decking, punt bottoms, canoes, railway sleepers, paving blocks, furniture and decorative plywood.
	Shibadan	*Aspidosperma*	Fuel and Plywood.

		album	
	Tauroniro	*Humiria balsamifera*	Heavy construction, piling, bridges, house framing, flooring, wheelwright work, furniture, sleepers, counters, work bench tops.
	Manniballi	*Moronobea coccinea*	Heavy construction house sills, machinery frames, flooring, furniture and sheet piling.
	Washiba	*Tabebuia sp.*	Bridges, house framing, sleepers, tool handles, rollers' walking sticks, and fishing rods.
	Hakia	*Tabebuia serratifolia*	Bridges, house framing, sleepers, tool handles, rollers' walking sticks, and fishing rods.
	Dalli	*Virola spp.*	Match boxes, coffins, inside boarding, carpentry, packing cases, plywood, slack cooperage chip board and concrete shuttering.
	Suya	*Pouteria speciosa*	Interior boarding, carpentry, and plywood.
	Ulu	*Trattinickia demerarae*	Inside boarding, cupboard linings, canoes and plywood.
	Simarupa	*Quassia simarouba*	Interior construction, furniture, shelves, drawer linings, shoe heels, plywood, paper pulp, toys.
	Aromata	*Clathrotropis branchypetala*	Furniture, house framing, boat building, flooring and sleepers.
	Mora	*Mora excelsa*	Building construction especially flooring, framing and siding, boat building especially ribs, stems, knees, transoms, and decking, sleepers, furniture, turnery, wagon building; wheelwright-work, naves and felloes, croquet mallets.
	Morabukea	*Mora gonggrijpii*	Heavy construction, sleepers, flooring and siding, heavy furniture, boat timbers, truck bodies.
	Hububalli	*Loxopterygium sagotii*	Panelling, furniture and cabinet work.
Class 2	Baromalli	*Catostemma commune*	Dry cooperage, interior work, paper pulp, and plywood.
	Dukalli	*Parahancornia fasciculata*	Carpentry, interior work, furniture, door and window stock, concrete shuttering, match boxes and plywood.
	Kereti Silverballi	*Lauraceae spp*	Shuttering, temporary buildings, box making, and plywood.
	Kurahara	*Calophyllum lucidum*	Boat planking, canoes, punt mast and furniture.
	Wabaima	*Licaria cannella*	Heavy construction, flooring, furniture, boat building (planking), bridge decking, musical instruments.
	Karohoro	*Schefflera decaphylla*	Match splints, drums, canoes, interior construction and plywood.
	Baradan	*Ocotea tomentella*	Canoes, concrete shuttering and plywood.
	Ubudi	*Anarcadium giganteum*	Interior work and plywood.
	Kirikua	*Iryanthera*	Oars, interior construction, utility plywood, slack cooperage and

		macrophylla	concrete shuttering.
	Kurokai	*Protium decandrum*	Masts, spars, house framing and plywood.
	Maporokan	*Inga alba*	Interior work, fuel and cheap plywood.
	Monkey Pot	*Lecythis zabucajo*	General construction, furniture, turnery and wheel spokes.
	Manni	*Symphonia globulifera*	Utility wood, paper, pulp, plywood, cooperage, railway sleepers, sheet piling, packing cases, general carpentry, flooring, furniture and fuel.
	Pakuri	*Platonia insignis*	Piling, boat building, furniture, turnery, house framing, flooring, panelling, tight cooperage and general carpentry.
	Yaruru (Yarula)	*Aspidosperma excelsum*	Paddles, axe and tool handles, walking sticks, fishing rods and fuel.
	Muneridian	*Siparuna spp.*	
	Wallaba	*Eperua falcata* *Eperua grandiflora*	Pillar trees, roundwood framing, fence posts, transmission poles, sleepers, paling and vat staves, shingles, charcoal, particle board and firewood.
Class 3	Burada	*Parinari campestris*	Heavy construction, flooring.
	Duka	*Tapirira marchandi*	Interior construction, furniture, and plywood.
	Dukuria	*Sacoglottis cydonioides*	Heavy construction.
	Fukadi	*Terminalia amazonia*	House framing, framing, constructional work, railway sleepers and plywood.
	Inyak	*Antonia ovata*	Interior work, furniture and boxes.
	Limonaballi	*Chrysophyllum pomiferum*	Heavy construction and fuel.
	Suradan	*Hyeronima alchorneoides*	Boat-framing, railway sleepers, heavy construction, truck building, wheel spokes, furniture, plywood and gun stocks.
	White Cedar	*Tabebuia insignis*	Paddles, shovel handles, and interior work, packing cases and cheap furniture.
	Futui	*Jacaranda copaia*	Coffins, matches, concrete shuttering and interior construction.
	Halchiballi	*Pera schomburgkiana*	Fuel and utility plywood.
	Haiariballi	*Alexa imperatricis*	Interior construction, packing cases and plywood.
	Huruasa	*Abarema jupunba*	Fuel and plywood.
	Iteballi	*Vochysia schomburgkii*	Carpentry and furniture.
	Kakaralli	*Eschweilera alata*	Piling, house framing, mine lagging, posts and sleepers.
	Kauta	*Licania laxiflora*	Light gauge railway sleepers, roof shingles, mine timbering, fuel and charcoal.

State Forest Production by Counties 2021						
Product	**Category**	**Uom**	**BER**	**DEM**	**ESS**	**Grand Total**
Logs	Special Category Logs	m^3	4,768	17,768	30,504	53,040
	Class 1 Logs		28,140	52,832	10,767	91,739
	Class 2 Logs		5,877	22,558	13,453	41,888
	Class 3 Logs		6,682	14,207	5,218	26,106
Logs Total		**m^3**	**45,467**	**107,365**	**59,941**	**212,773**
Primary Lumber	Special Category Lumber	m^3	116.52	1,994	2,001	4,112
	Class 1 Lumber		608.71	4,243	2,014	6,866
	Class 2 Lumber		512.22	2,807	669.6	3,988
	Class 3 Lumber		124.6	1,031	693	1,849
Primary Lumber Total		**m^3**	**1,362**	**10,074**	**5,378**	**16,814**
Splitwood	Paling Staves	m^3	0.30		1.78	2.08
	Shingles		-	-		-
Splitwood Total		**m^3**	**0.30**	**-**	**1.78**	**2.08**
Roundwood	Piles	m^3	932.38	7,016.25	1,974.19	9,922.83
	Poles		357.08	2,836.96	227.64	3,421.68
	Posts		11.45		14.29	25.73
	Spars			6.17		6.17
Roundwood Total		**m^3**	**1,301**	**9,859**	**2,216**	**13,376**
Fuelwood	Charcoal	m^3	420.53	1,320.29		1,740.82
	Firewood			4,878.89	61.63	4,940.52
Fuelwood Total		**m^3**	**420.53**	**6,199.18**	**61.63**	**6,681.34**
Wattles	Wattles	pcs	3,790	382,266	16,387	402,443
Wattles Total		**pcs**	**3,790**	**382,266**	**16,387**	**402,443**
Manicole Palm Heart	Manicole Palm Heart	pcs	-		2,525,335	2,525,335
Manicole Palm Heart Total		**pcs**	**-**		**2,525,335**	**2,525,335**

State Forest Production by Stations in Berbice 2021

Product	Category	Uom	Bamboo Landing	Canje	Hururu	Kwakwani	Orealla	Springlands	Unamco Road 110 KM	Total
Logs	Special Category Logs	m³	3,098	95.9	28	613		127	806	4,768
	Class 1 Logs		1,041	6,584	1,931	12,699	135	4,049	1,699	28,140
	Class 2 Logs		115	1,188	541	1255.51	98	2,471	210	5,877
	Class 3 Logs		151	2059.51	230	2053.36	49	1,548	592	6,682
Logs Total		**m³**	**4,405**	**9,927**	**2,730**	**16,621**	**282**	**8,195**	**3,307**	**45,467**
Primary Lumber	Special Category Lum	m³		111.44		3.45		2		117
	Class 1 Lumber			362.76		56.03	48	142		609
	Class 2 Lumber			34.54		38.61	22	417		512
	Class 3 Lumber			56.68	11	39.14		18		125
Primary Lumber Total		**m³**		**565**	**11**	**137**	**70**	**579**		**1,362**
Splitwood	Paling Staves	m³					0.02	0.28		0
	Shingles		-						-	-
Splitwood Total		**m³**					**0.02**	**0.28**		**0**
Roundwood	Piles	m³	631.14		28.33	184.32			88.59	932.38
	Poles				81.50	272.72	2.86			357.08
	Posts							11.45		11.45
	Spars		-				-			
Roundwood Total		**m³**	**631**	**0**	**110**	**457**	**3**	**11**	**89**	**1,301**
Fuelwood	Charcoal	m³		420.53						420.53
	Firewood									
Fuelwood Total		**m³**	**-**	**420.53**	**-**	**-**	**-**	**-**	**-**	**420.53**

State Forest Production by Stations in Demerara 2021

Product	Category	Uom	Georgetown	Ituni	Linden	Mabura	Soesdyke	Total
Logs	Special Category Logs	m^3	2,299.73	23.47	3,041.85	3,642.20	8,761.16	17,768.41
	Class 1 Logs		5,320.11	1,745.26	26,903.85	1,159.04	17,703.30	52,831.56
	Class 2 Logs		1,838.40	1,631.57	8,707.38	19.58	10,361.16	22,558.09
	Class 3 Logs		1,645.73	437.26	8,060.92	177.88	3,884.83	14,206.62
Logs Total		**m^3**	**11,104**	**3,838**	**46,714**	**4,999**	**40,710**	**107,365**
Primary Lumber	Special Category Lumber	m^3	219.43	105.66	291.47	6.01	1,371.62	1,994.19
	Class 1 Lumber		1,125.98	2,140.83	254.75		721.21	4,242.77
	Class 2 Lumber		408.46	161.32	55.79		2,180.99	2,806.56
	Class 3 Lumber		511.57	45.40	47.91		426.06	1,030.94
Primary Lumber Total		**m^3**	**2,265**	**2,453**	**650**	**6**	**4,700**	**10,074**
Splitwood	Paling Staves	m^3					0.02	0.02
	Shingles		-	-	-	-		-
Splitwood Total		**m^3**					**0.02**	**0.02**
Roundwood	Piles	m^3	1,010.29	78.48	564.38	89.46	5,273.64	7,016.25
	Poles		565.94		217.81		2,053.20	2,836.96
	Posts							
	Spars		-			-	6.17	6.17
Roundwood Total		**m^3**	**1,576**	**78**	**782**	**89**	**7,333**	**9,859**
Fuelwood	Charcoal	m^3			97.08		1,223.21	1,320.29
	Firewood		311.72		304.50		4,262.67	4,878.89
Fuelwood Total		**m^3**	**311.72**	**-**	**401.58**	**-**	**5,485.88**	**6,199.18**
Wattles	Wattles	pcs	6,915		900		374,451	382,266
Wattles Total		**pcs**	**6,915**		**900**		**374,451**	**382,266**

State Forest Production by Stations in Essequibo in 2021

Product	Category		Annai	Arapiaco	Bartica	Buckhall	Capoey	Charity	Drumhill	Iteballi	Kwebanna	Lethem	Mabaruma	Manaka	Parika	Port Kaituma	Supenaam	Winiperu	Total
Logs	Special Category Logs	m^3			67.44	2,900.03		378.94		1,475.04			3.49	9,715.34	6,151.81	1,379.64	549.77	7,882.15	30,503.65
	Class 1 Logs			42.69	265.07	1,714.04		531.13		49.43			126.08	768.89	5,116.82	710.32	148.61	1,294.15	10,767.23
	Class 2 Logs			459.85	194.67	6,204.78		797.61					20.47	592.25	3,951.02	707.34	517.17	7.57	13,452.73
	Class 3 Logs			34.90	65.03	381.57		245.89		385.76			180.55	115.39	2,816.97	482.91	106.07	402.52	5,217.56
Logs Total		**m^3**		**537**	**592**	**11,200**		**1,954**					**331**	**11,192**	**18,037**	**3,280**	**1,322**		**59,941**
Primary Lumber	Special Category Lumber	m^3	92.15	7.21	47.07		50.68	133.59		277.99	1.42	96.08	61.02		167.95		1,065.84		2,001.00
	Class 1 Lumber		71.12	288.06	78.65		17.56	159.27		229.36	164.67	57.49	180.24		117.33	10.66	639.66		2,014.07
	Class 2 Lumber		1.52	28.22	26.03		29.82	32.52		19.17		6.04	45.66		105.90		374.72		669.60
	Class 3 Lumber		79.55	38.20	24.95		33.51	99.39		30.12	11.17	85.35	40.92		0.47		249.61		693.24
Primary Lumber Total		**m^3**	**244**	**362**	**177**		**132**	**425**		**557**	**177**	**245**	**328**		**392**	**11**	**2,330**		**5,378**
Splitwood	Paling Staves	m^3					1.78												1.7818
	Shingles																		
Splitwood Total		**m^3**					**1.78**												**1.7818**
Roundwood	Piles	m^3			61.40	444.45	-	77.93	-	25.10	-	-	14.88	-	987.70	-	362.73	-	1,974.19
	Poles				14.16	7.73		87.19		23.16					17.85		77.55		227.64
	Posts		12.29					1.99											14.29
	Spars																		
Roundwood Total		**m^3**																	
Fuelwood	Charcoal	m^3																	
	Firewood							14.50							47.13				61.63
Fuelwood Total		**m^3**																	
Wattles	Wattles	pcs			765										15,622				
Wattles Total		**pcs**																	
Manicole Palm Heart	Manicole Palm Heart	pcs							2,525,335										2,525,335
Manicole Palm Heart Total		**pcs**							**2,525,335**										**2,525,335**