FOREST SECTOR INFORMATION REPORT

Annual Review

2019

GUYANA FORESTRY COMMISSION

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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	
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 centers on the performance of the Forestry Sector in Guyana for the year 2019 with a comparison done with the year 2018. Production and export of various 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, export prices, and sector employment levels.

It continues with a summary of State Forest lands allocation across concession classes (with areas classified according to GFC designated use/size categories) for 2019 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 in Guyana, 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.

In the core report, Production data compares the volumes of various forest products by product and species categories (where applicable), between 2018 and 2019, and across the Regions (as designated for GFC purposes, and corresponding to the 3 counties of Demerara, Berbice and Essequibo), by their respective sub-divisions referred to as Forest Stations.

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.

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 Forest Sector in Guyana emerged successful against the challenges of 2019 and continued to be robust, showing improvements when compared to 2018. Overall forest production (Logs, Roundwood and Primary Lumber) shows a decrease of approximately 3.3% over 2018 (from 361,555m3 in 2018 to 345,088m3 for 2019). Other products including Fuelwood (comprising of Charcoal and Firewood), Splitwood (Shingles and Paling Staves), Wattles, Manicole Palm and Mangrove Bark were also produced in the year.

For the year 2019, log production was 277,740m3, decreasing by 5.2% when compared to 2018 production of 293,084m3. Within its sub categories, there has been increase in Special category logs production by 15%, where Purpleheart logs production was responsible for the greater percentage share increasing by 23.42% when compared to 2018.
Decline in Class 1 and Class 2 logs by 12.9% and 16.9% respectively was recorded. However, increase harvesting of Class 3 logs has resulted in an 8% increase in its production.

Primary Lumber production of 42,997m^3 was recorded for 2019, while a total of 44,607m3 was recorded in 2018. This represents a 3.6% decline in 2019 when compared to 2018 primary lumber production. A low Class 2 primary lumber production of 6,863m3 compared to 11,056 produced in 2018 was responsible for the decline.

However, there were increase across all the remaining categories of sawnwood for 2019. Special category lumber recorded the largest percentage increase by 11.66% over lumber production declared in 2018. Class 1 and Class 3 lumber also recorded increase by 6.2% and 6.1% respectively over 2018 figures.

The production of Roundwood increased by 2% when compared to 2018. Greenheart piles production of 16,774m3, followed by Wallaba Post of 2,147m3, were the main products responsible for this increase. Kakaralli piles also recorded increased production (101%) in year 2019, when compared with the corresponding production level recorded in 2018. Wallaba Post and Spars also contributed to the total Roundwood production, although for these products, 2019 production volume recorded declines when compared to that of 2018.

Plywood production of 12,089m3 was produced in 2019. Plywood production fell below 2018 production quantity by 17%.

In the export market for forest products, total logs export in volume fell by 16.1% whiles a corresponding decline was recorded in value by 14.7% when compared to 2018. Sawnwood has been the lone product recording both volume and value increase over 2018 by 15.5% and 206% respectively. Export of other timber and products such as Roundwood, Splitwood and Plywood has recorded decline in both volume and value. Roundwood fell by 2% in volume and 13% in value; Splitwood fell by 36% in both volume and value, while Plywood fell by 24% in volume and 26% in value.

Total revenue gained in the export of forest products was US$36.9M in 2019, a reduction by 2.4% as compared to that earned in 2018, when export revenue totaled US$37.9M.

3. Economic Environment

3.1. International Economy

3.1.1. Economic Growth

The International Monetary Fund World Economic Outlook report state that global growth is forecast at 3.2 percent in 2019, picking up to 3.5 percent in 2020 (0.1 percentage point lower than in the April WEO projections for both years). The report contends that GDP releases so far this year, together with generally softening inflation, point to weaker-than-anticipated global activity. Investment and demand for consumer durables have been subdued across advanced and emerging market economies as firms and households continue to hold back on long-range spending. Accordingly, global trade, which is intensive in machinery and consumer durables, remains sluggish. The projected growth pickup in 2020 is precarious, presuming stabilization in currently stressed emerging market and developing economies and progress toward resolving trade policy differences.

Accordingly, economist contend that multilateral and national policy actions are vital to place global growth on a stronger footing. The pressing needs include reducing trade and technology tensions and expeditiously resolving uncertainty around trade agreements (including between the United Kingdom and the European Union and the free trade area encompassing Canada, Mexico,

and the United States). Specifically, countries should not use tariffs to target bilateral trade balances or as a substitute for dialogue to pressure others for reforms. Further WTO postulate that with subdued final demand and muted inflation, accommodative monetary policy is appropriate in advanced economies, and in emerging market and developing economies where expectations are anchored. Fiscal policy should balance multiple objectives: smoothing demand as needed, protecting the vulnerable, bolstering growth potential with spending that supports structural reforms, and ensuring sustainable public finances over the medium term. If growth weakens relative to the baseline, macroeconomic policies will need to turn more accommodative, depending on country circumstances. Priorities across all economies are to enhance inclusion, strengthen resilience, and address constraints on potential output growth.[1]

3.1.2 Flows to Developing Countries

ECLAC 2019 reports that economic growth projection for Latin America and the Caribbean in 2019 is 1.7%, slightly below previously announced (1.8%), while the estimate for the current year (2018) was also trimmed to 1.2% from the 1.3% forecast.

ECLAC 2019, further contend that the greatest risk to the region's economic performance in the run-up to 2019 continues to be an abrupt deterioration in the financial conditions for emerging economies, the report adds. During 2018, emerging markets, including Latin America, showed a significant reduction in external financing flows, while at the same time sovereign risk levels increased and their currencies depreciated against the dollar.

As in previous years, in its Preliminary Overview of the Economies of Latin America and the Caribbean, ECLAC projects a growth dynamic with varying intensities between countries and sub-regions. This reflects not only the differentiated impacts of the international context on each economy, but also the dynamics of spending components mainly consumption and investment which have been following different patterns in economies of the north and of the south.

In this process, it was forecasted that Central America (excluding Mexico) would grow 3.3% in 2019, South America 1.4% and the Caribbean 2.1%. On a country level, the Caribbean island of Dominica is seen leading regional growth with a 9.0% expansion, followed by the Dominican

[1] https://www.imf.org/en/Publications/WEO/Issues/2019/07/18/WEOupdateJuly2019

Republic (5.7%), Panama (5.6%), Antigua and Barbuda (4.7%) and Guyana (4.6%). At the other extreme, Venezuela will suffer a -10% contraction in its economy, Nicaragua -2.0% and Argentina -1.8%. The region's biggest economies, Brazil and Mexico, are seen growing 2.0% and 2.1%, respectively.[2] In terms of fiscal policy, ECLAC contend that consolidation deepened in 2019 and the process of fiscal adjustment led to a reduction in the primary deficit (from 0.7% of GDP in 2018 to 0.6% of GDP in 2019), although this was accompanied by a small increase in public debt.

3.2 International Forestry Environment

3.2.1 International Tropical Timber Market Summary

Reports out of Central and West Africa state that Output drops due to rains but still prices weakening. African exporters report there has been a decline in the prices being offered by importers even as short-term availability as fallen due to poor weather conditions among other issues.

According to ITTO, FOB offer prices for several species have dropped due to lower demand and the high level of stocks in some markets. Particularly impacted are doussie, padouk, sapelli, sipo and iroko. Prices being suggested by French importers for bosse are also said to be under pressure as are prices for other species such as sapelli and iroko for the Dutch market. Producers say that in Belgium, a significant market for species such as doussie and padouk, it is rumored that some of the big importers have stated to mark down prices in an effort to clear stocks.

Producers in Cameroon are anxiously awaiting news on likely changes to the forestry regulations, which, they fear, could do away with the system allowing the log export of so-called promotional species, and changes to the log export authorization procedures for other species. ITTO reported that around 30,000 cubic metres of logs destined for China, some of which are deteriorating, are held up in Douala Port due to a lack of shipping opportunities.

Forest products producers and exporters in Vietnam has announces that there has been growing opportunities to forge new business links with the US. Reports state that Vietnam's exports of wood products increased significantly in the first 9 months, most notably exports to the US rose

[2] https://www.cepal.org/en/pressreleases/economies-latin-america-and-caribbean-will-grow-17-2019-international-scenario-marked

by a third. The General Department of Customs has reported exports of wood products in September reached US$862.2 million, up 21% over the same period in 2018.

The cumulative value of wood product exports in the first three quarters of 2019 was US$7.52 billion, up nearly 18% over the same period in 2018. The United States, Japan, China, South Korea and the United Kingdom are the major export markets for Vietnam's wood and wood products.

Vietnam's wood processing industry is taking advantages of US demand for wood products from sources other than China in an effort to minimize the impact of tariffs. Exports to the US topped US$3.64 billion between January and September this year.

3.2.2 Latin America

Latin American GDP was projected to grow 0.7% in 2019, less than expected three months ago and below the rate observed in the previous two years. In addition to the less favorable global context, the higher uncertainty on both the political environment and economic policies in most countries of the region will affect economic activity[3]. However, growth is projected to rebound moderately in 2020, but will remain below world growth.

According to ECLAC, during the latter of 2019, slow growth was recorded in all the economies of the region, with the exception of Colombia where GDP expansion will converge to 3% from 2.8% in 2018. The recession will be more intense than expected in Argentina and GDP will grow less than 1% in Mexico, Brazil and Uruguay.

The lack of demand pressures and low global inflation keep inflation in general under control, with Uruguay and mainly Argentina being the exceptions. Although regional currencies show some weakness in an environment of higher risk aversion, additional cuts in interest rates in the US create room for a more accommodative monetary policy in countries such as Mexico, Brazil, Chile and Peru.

3.2.3 Market Trends for Guyana' Timber Export

For the year 2019, Guyana timber products were exported to all the regional destinations. The Asia/Pacific region once again accounted for the largest market share of exports (73%). This was

[3] https://www.bbvaresearch.com/en/publicaciones/latin-america-economic-outlook-fourth-quarter-2019/

followed by the Latin American/Caribbean region accounting for (12%) of all exports; the North America region followed with (9%), with the remaining (5%) exported to Europe, South America and Africa. Of the total export value, market destinations in China (56%), India (23%), and Singapore (12%) accounted for the majority of total log exports. The main species of logs exported in 2019 were Wamara, Greenheart, Purpleheart, Darina, Cow Wood, Kabukalli, Locust, Tatabu, Muniridan, and Mora.

Sawnwood export markets has predominantly been in Latin America and Caribbean region (40%), North America (24%), Europe (20%) and Asia/Pacific (15%). Undressed Lumber has been highest demanded lumber from Guyana for 2019 (56%) of lumber export, while Dressed Lumber accounted for the remaining (44%) exported.

Europe and the Asia/Pacific regions were the two dominant markets for Guyana's undressed lumber, while the Latin America/Caribbean and North America markets consumed more of Guyana's dressed lumber. The main exported species of both dressed and undressed lumber are Greenheart, Purpleheart, Washiba, Mora, Darina, Locust, Wamara, Kabukalli, Wamaradan, and Bullet Wood.

The main markets for Guyana's Roundwood for 2019 has been North America, Europe, and Latin America/Caribbean. Under the Roundwood category, three (3) products have been exported which are Piles (89%), Poles (9%), and Posts (2%). The main roundwood species exported have been Greenheart (Piles) and Wallaba (Poles and Post).

Plywood exports declined in 2019, with the majority of exports going to the Latin American and the Caribbean region (97%), and the remaining 3% being consumed by South America and North America.

The markets in the Latin America and Caribbean Region were Belize, Trinidad and Tobago, and the British Virgin Islands. The sole markets within the South America and North America regions were Suriname, and Mexico, respectively.

The markets for Splitwood (Shingles and Staves) for 2019 was mainly in the Latin America and Caribbean region (66%), with North America (24%), Africa (8%) and the remaining Splitwood exports going to the Asia/Pacific region (2%). Shingles accounted for the majority of Splitwood exported (99.9%), while Fence Staves accounted for the remaining (0.1%).

3.3 Guyana Economy

3.3.1 Economic Growth

According to ECLAC the Guyanese economy continued to post robust growth ahead of the oil boom expected in 2020, with growth estimated at 4.0% during the first half of 2019. The construction sector made the largest contribution to growth, reflecting an increase in both private investment and government expenditure on construction activities. The mining and quarrying sector continued to recover, as gold mining expanded in response to improved road conditions and favorable international prices.

On the other hand, the agriculture, fishing and forestry sector contracted slightly, as a large livestock producer reduced output of broiler meat to run down stocks. As the growth momentum is likely to continue into the second half of 2019, the growth rate is expected to accelerate to 4.5% for the year overall, from 4.1% in 2018. A hefty 85.6% expansion is projected in 2020, following the start of commercial oil production in December 2019.[4]

As the Liza Phase 1 development will likely take three months to reach its potential capacity of 120,000 barrels per day (bpd), average oil production is expected to be around 102,000 bpd in 2020. This amounts to over 80% of GDP, assuming the oil price prevailing in 2006 (the base year for the constant-price GDP measure). The non-oil growth rate is expected to reach 4.8% owing to the spillover effects of oil production on other sectors, as well as continued infrastructure development.

3.3.2 The Forestry Sector

The GFC's work programme in 2019 included a number of key areas of work that have been prioritized under the National Forest Plan 2018. Some of the main programmes with areas of progress outlined are

Community Forest Organizations benefited from FAO/EU FLEGT VPA Training and Greater interagency Collaboration

1. **General Information on Community Forestry Organizations**
    a. **Profiling of CFOs**

[4] Preliminary Overview of the Economies of Latin America and th e Caribbean ▪ 2019

Seventy (70) Community Forestry Organizations are registered with GFC, less than 60% of these groups had active logging operations during 2020. Three (3) of the 70 were new groups that uplifted their contracts and commenced operation during 2020. Altogether, CFOs have 123 Community Forest Management Agreements occupying 1,219,253 acres (483,407 hectares) of State Forests. The overall membership among these groups is 1425; providing employment for approximately 5000 persons.

Gender equality is of paramount importance among CFOs, women are given similar opportunities to manage, participate in decision-making and access the forest resources as men. This is evident in the number of women overseeing the management of Community Forestry operations (6) and are employed (78) through the CFOs. Approximately fifty (50) women are directly involved in logging while another 10 function as clerks and 30 indirectly as cooks and shop keepers.

b. Registration of CFOs

Eighty-eight (88%) of the CFOs are Registered as either Friendly Societies, Cooperative Societies or Companies. The remaining 12% are at various stages in the registration as Co-operative Societies. This resulted in groups that had applications awaiting processing as Friendly Societies being required to resubmit applications as Co-operative Societies. Further, the inactivity of many group during 2020 due to COVID-19 slowed the process. The reason as posited by the Registrar - responsible for Friendly and Co-operatives, is that Friendly Societies should be benevolent in nature and not engage in financial gains. The registration process is lengthy and include due diligence on each executive member.

2. Reporting and Record Keeping – Strengthening Governance and Accountability at CFO Level

a. Reporting and Record Keeping

Every year CFOs are required to submit to the GFC, Meeting Minutes, Financial disclosure Statements (Income and Expenditures), Tag Issuance, and Membership for the previous year. This information is used to assess the groups' application of the principles of good governance specifically transparency and accountability.

We provided the groups with templates to present the reports in an easily understandable format.

Minutes of the meetings are used to determine whether the groups are using meetings to make collective decision and whether members are informed and guided about harvesting practices; the level of participation of members and communication. According to the Constitution of most groups, at least one meeting should be held every month. Throughout the year Minutes of Meetings are used on a case-by-case basis to determine whether decisions against members are made in accordance with the Constitution of the group and the Laws of Guyana.

Financial records are used to determine whether the groups are documenting in a proper manner their income and expenditure. It also gives a sense of whether the groups utilize their resources in a manner that meets the needs of the society and the community for which they represent. Transparency and accountability are the main aspects examined here.

Tag Issuance records are used to determine how well CFOs apply the principles of equality and equitability. Tag represent the raw resources of the groups; hence, access to tags is the main interest of every member. Not having tags therefore means members lack opportunities to improve and maintain their wellbeing. As a result tag issuance is very a contentious issue in every Community Forestry Organization. However, since GFC started requesting this information we have fewer issues relating to tag issuance being reported by individual members.

Record on Membership provides a clarity on who is a part of the group and what are their specific functions. Identification of individuals within CFOs is important not only the group themselves but also to GFC more specifically when those persons are required to interface with GFC on behalf of their group. Information captured in this report include, name, contact number, national identification, TIN and NIS number.

Preparation of the records itself demonstrates that the groups are practicing good governance at the community level. It indicates that decisions taken and their enforcement are done in a manner that follows rules and regulations. Further, it

implies that CFOs are conscious of their mandate to comply with and adopt sustainable forest management practices.

Before submission of the above stated reports, groups are encouraged to table it at a general meeting and include the signatures of the Chairman, Secretary and Treasurer.

Twenty-seven percent (27%) of groups submitted records for 2019. For those groups that commenced their audit, we often do not expect them to submit annual reports to us once we are in receipt of the audit report.

Audit

According to the Constitution of all CFOs, audit are to be done annually before the May 31 for the previous year. Unfortunately majority of the groups are incompliant, especially the smaller and remote ones. An audit is the prerequisite outlined in the Constitution for CFOs to conduct Annual General Meetings at which new Executive Body is elected.

The process for conducting an audit include CFOs submitting an Annual Return Statement to the Registrar's office after which an auditor is assigned to the group. The auditor, an independent individual or entity is then assigned to the CFOs by the Registrar. Upon completion of the audit, the Registrar reviews and endorses the auditor's comments.

In addition to audits being expensive, it also takes a long time to be completed. The Registrar of Friendly Societies/ Chief Cooperatives Officer relies on GFC to remind the Community groups of this requirement. During 2020 no group conducted audit for the previous years due to inactivity.

Meetings

Monthly meetings held by CFOs are logged in a spreadsheet. This provides an insight into the level of communication within the groups and compliance with their Constitution. Group reported of meetings being held in January and September to December 2020 due to COVID-19 restrictions.

Hence, for 2020, 32 CFOs reported of conducting 55 meetings, 13 Ordinary General Meetings, 32 Executive Meetings, and 10 Special General Meetings.

3. Capacity Building at the Community Level

At the beginning of the year, CFOs and indigenous communities involved in logging are encouraged to submit in writing their interest in training for the current year. This information is used to determine what training the Community Development Unit and FTCI will offer to CFOs and Indigenous communities. 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.

a. Training with GFC

   With financial support of the FAO/EU FLEGT VPA programme, awareness sessions were initiate with Amerindian Villages involved in commercial logging through the project: "Improving FLEGT readiness of 23 Indigenous communities through increased awareness of related regulations." GFC is implementing the project in collaboration with EPA, NIS, GRA, and Ministry of Labour; it is aimed at improving compliance with Income Tax, Social Security and Labour Regulations. Thus far, two communities were engaged over a two (2) days each. These sessions were attended by a total of twenty-five loggers of the communities.

b. Additionally, three (3) days training on Administrative management and Financial accounting was done with members of the Upper Demerara Agriculture & Forest Producers Co-op Society Ltd. at the Yarrowkabra Training Center

3.0 Interagency collaboration

GFC community Forest Operations collaborated with several agencies to achieve common goals. Among these are:

Ministry of Amerindian Affairs

The Ministry's endorsement of the projects involving Amerindian Villages was the main purpose for our engagement. The Ministry provided critical information pertaining to Amerindian communities that are affected by Coronavirus and local protocol that must be observed when visiting the communities. Additionally, the ministry influenced the mode of the delivery, content of the training materials and affirmed its dedication to the successful implementation of the project by assigning a representative to participate on the project steering committee.

Department of Environment

The project, 'Strengthening technical capacities to mainstream and monitor Rio Convention implementation through policy coordination' is being implemented by the Department of Environment under the aegis of the Ministry of Presidency. The project is being funded by the Global Environment Facility (GEF), United Nations Development Programme (UNDP). The project is aimed at mainstreaming the three conventions United Nations Convention on Biological Diversity (UNCBD), United Nations Framework Convention on Climate Change (UNFCCC) and United Nations Convention to Combat Desertification (UNCCD); under the four components:

1. Institutional capacities for mainstreaming and monitoring;
2. Technical capacities for mainstreaming and monitoring;
3. Awareness of global environmental values;
4. Updating of the National Capacity Self-Assessment

The goal of the project is for Guyana to make better decisions to meet and sustain global environmental obligations. It will focus on the management of data and information to formulate and implement sectoral development plans that better reflect global environmental dimensions. Among the key activities of the project is the upgrading of key technological needs of government structures and other stakeholders.

The project utilizes an adaptive and collaborative management approach which ensures that key stakeholders are actively involved throughout the project implementation. This includes participation in the Project Board, review of project outputs such as recommendations for amendments to policies, plans, programmes and legislation, as well as participation in monitoring activities.

The GFC is a Senior Beneficiary on the Project Board. Its primary function is to ensure the realization of the project results from the perspective of the project beneficiaries. Also to validate the needs and monitor the proposed solution to ensure that those needs are met within the provisions of the project.

The project also consist of four technical working groups and an editorial group. These groups comprise of technical representatives from government and other stakeholder groups. Among the function of the groups are reviewing assessments made under the project and integrating Rio Conventions in the selected development plan.

Staff of the Community Development Unit participated as GFC representative on the Project Board and Editorial Committee.

The project achieved a significant portion of its activities during 2020 and was granted an extension due to the disruption of its activities due to coronavirus. The Community Development Unit participated in a number activities: capacity building exercises, review of documents produced by various consultants, attending Editorial Committee and Board of Directors meetings.

Department of Social Protection – This was mainly aimed at following up on incorporation of CFOs as Cooperative Societies. During 2020, through increased collaboration a number of CFOs were engaged regarding their registration and audit. This collaboration continues to improve GFC's effectiveness in guiding the groups' administrative management and also resulted in fourteen (14) groups completing their registration as Co-ops.

Forest Carbon Partnership Facility (FCPF) Programmes – Our collaboration with FCPF has resulted in significant achievements during 2020. Driven by the Ministry of Natural resources, two symposiums were held to explore with CFOs, state agencies and other partners, sustainable livelihood activities for forest-dependent communities. Seventy-five percent (75%) of CFOs attended these sessions and provided detailed inputs on how they see themselves advancing from solely dependent logging to other viable economic activities. Substantively, a key component of the discussion is focused on value added production.

REDD+ Reporting

In 2017, the Monitoring Reporting and Verification System (MRVS) moved into its second phase in line with tasks set out in the MRVS Road Map. This document outlines the stepwise progression and development of the MRVS for the next four years 2017 to 2020.

In Year 8 (2018), the GFC reported on total forest carbon emissions and removals, with a focus on reporting emissions. This move was part of the continuous improvement to the System, allowing the GFC to progressively move away from the Interim Indicators. The intention of the reference measure as well as the interim performance indicators were to be applied while aspects of the MRVS were under development and were to eventually be phased out and replaced by a full

forest carbon accounting system as methodologies are further developed. Year 8 has placed Guyana at this stage.

For reference, the ongoing comparison of performance for the area-based interim indicators is against the values reported in the 2009 "Benchmark Map5". From that point onwards, the reporting periods are numbed sequentially with Year 1 covering 2009 to 2010. This report presents the findings of the ninth national assessment, which spans a twelve-month period, 1 January 2019 to 31 December 2019.

The purpose of the MRVS is to track at a national-level forest change of deforestation and degradation, by change driver. Deforestation is monitored using a national coverage of satellite imagery. The GFC has sought to incorporate continuous improvements into the MRVS to allow for further efficiencies and sustainability elements to be incorporated. For instance, estimates of degradation as a result of mining and infrastructure is now computed using new methods developed over the years 2018 and 2019. This new method does not necessitate costly high-resolution imagery or aerial surveys to derive these estimates. Further, the method for accounting for shifting cultivation was updated, while reporting on timber harvesting and illegal logging has been mainstreamed under full emissions accounting using existing methods. These improvements provide robust measures of both deforestation and degradation that aligns with Guyana's desire to pursue a low orno-cost REDD+ implementation option – this is an integral part of the Phase 2 objective whilst moving toward full emissions accounting.

Deforestation for the period between 1 January 2019 and 31 December 2019 is estimated at 12 738 ha. This equates to an annualized deforestation rate of 0.070%, which is higher than the change reported in the previous year (0.051%). The 2017 rate was the lowest of all annual periods from 2010 to present. As with previous assessments, the Durham University (DU) team using a statistically representative independent sample has verified the GFC's deforestation area. The area of deforestation reported by DU closely aligns with the values reported by the GFC

The main deforestation driver for the current forest year reported is Fire, which accounts for 50% of the deforestation in this period. The majority of the deforestation is observed in the State Lands

5 Originally the benchmark map was set at February 2009, but due to the lack of cloud-free data the period was extended to September

Area. The temporal analysis of forest changes post-1990 indicates that most of the change is clustered around existing road infrastructure and navigable rivers. The findings of this assessment assist to design REDD+ activities that aim to maintain forest cover while enabling continued sustainable development and improved livelihoods for Guyanese.

A summary of the key reporting measures and main results are outlined

Table S1 (a): MRVS Results 2019 (Year 9)

Measure Ref.	Reporting Measure on Spatial Indicators	Indicator	Reporting Unit	Adopted Reference Measure	Year 9 (2019)	Difference between Year 9 and Reference Measure
1	Deforestation Indicator	Rate of conversion of forest area as compared to the agreed reference level	Rate of change (%)/yr	0.275%	0.07%	0.205%
2	Degradation Indicator	National area of Intact Forest Landscape (IFL) Change in IFL post Year 1, following consideration of exclusion areas	ha	7 604 820	7 603 487	81 ha loss in year 2019

Table S1 (b): MRVS Results 2019 (Year 9)

Driver	Area (ha)	EF (t CO2/ha)	Emissions (t CO2/ha)

	Deforestation		
Mining	5,248	1,045	5,484,630
Mining Infrastructure	573	1,045	598,836
Forestry	226	1,045	236,190
Infrastructure	52	1,045	54,345
Agriculture	246	1,104	271,623
Settlements	22	1,045	22,992
Fire	6,371	804	5,123,752
Deforestation Total	12,738		11,792,369
	Degradation		
Timber Harvest			1,766,523
Illegal Logging			10,463
Mining Degradation		22	58,131
Degradation Total			1,835,117
TOTAL CO2 EMISSIONS FOR GUYANA FOR 2019 FROM FOREST SECTOR			13,627,486

3.3.3 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.

Table 1: Forest Sector Contribution to GDP

GDP at Constant 2012 Basic Prices (G$M)				Forestry's Sub Sector Contribution to:	
Year	GDP	Agriculture Sector	Forestry Sub Sector	GDP	Agriculture Sector
2010	749,742	198,283	20,225	2.70%	10.20%
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%

Source: Bureau of Statistics @ Constant 2006 Prices

4 Forestry Sector Structure

4.1 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.

Table 2: Forest Land Allocation

CLASSIFICATIONS	COUNT	Area (Hectares)	% Total Allocation
PRODUCTION LANDS ending 2019			
State Forest Permits (SFP, CFMA)	531	2,198,239	43.60%
AL and ML	28	13,648	0.30%
State Exploratory Permits (SFEP)	6	1,153,855	22.90%
Timber Sale Agreements (TSA)	14	1,656,294	32.90%
Total Production Area Allocated	**579**	**5,022,036**	**100**
PERMANENT RESEARCH AND RESERVES			
GFC Forest Reserves	12	17,924.92	
Total Forest Allocated		5,039,961.25	
Unallocated State Forest		7,526,038.75	
Total State Forest		**12,566,000**	
Iwokrama	1	0.1	
Kaieteur National Park	1	0	
Shell Beach	1	122,448.00	
Kanuku Mountains	1	93,345.00	
Total within Protected Area within State Forest		**215,793.10**	
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**	

Source: GFC Database

4.2 Other Sector Licenses

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

Table 3: Licenses by Forest Type

Licence Type	Comparison of the year 2018&2019 Licence Issuance					
	Year of Issuance	Division				
		Demerara	Berbice	Essequibo	Northwest	Total
Timber Dealer Export	Year 2018	60	23	11	0	94
	Year 2019	41	24	8	0	73
Import	Year 2018	8	1	0	0	9
	Year 2019	7	0	0	0	7
Consolidated Log Export	Year 2018					
	Year 2019	1	0	0	0	1
Lumber Yard	Year 2018	92	37	21	2	152
	Year 2019	92	33	21	2	148
Timber Dealer No Storage	Year 2018	6	2	10	1	19
	Year 2019	3	3	6	1	13
Sawpit Licence	Year 2018	73	60	98	19	250
	Year 2019	66	53	100	21	240
Sawmill Licence	Year 2018	102	40	60	1	203
	Year 2019	91	37	63	3	194
Firewood Licence	Year 2018	4	5	8	0	17
	Year 2019	4	5	8	0	17
Charcoal Licence	Year 2018	41	3	1	2	47
	Year 2019	41	3	0	2	46
Timber Depot	Year 2018	24	27	4	0	55
	Year 2019	25	26	7	1	59
Timber Path	Year 2018	2	5	1	0	8
	Year 2019	0	3	2	0	5
Permit to Erect	Year 2018	11	3	10	0	24
	Year 2019	13	2	14	0	29
Total	Year 2018	423	206	224	25	878
	Year 2019	384	189	229	30	832

5 Production

The table below shows the aggregate production volumes for the various forest products for the year 2019 in comparison to 2018. In this section, the production aspects are examined as it relates to the utilization of forest resources based on Timber Products (Logs, Sawnwood, Roundwood, Splitwood, Plywood, and Fuelwood), as well as Non-Timber Forest Products (Wattles and Manicole Palm).

Table 4: Forest Sector Production 2019

PRODUCTS	Unit	Jan-Dec 2019 Total	Jan-Dec 2018 Total	[1] % Change over Jan-Dec '18
TIMBER PRODUCTS				
Logs	m^3			
Special Category				
Greenheart		64,536.04	56,408.48	14.41
Purpleheart		8,924.15	7,230.77	23.42
Others		4,334.70	3,921.61	10.53
Total Special Category Logs		**77,794.89**	**67,560.86**	**15.15**
Class 1		114,175.90	131,171.46	(12.96)
Class 2		53,583.76	64,545.14	(16.98)
Class 3		32,186.04	29,806.94	7.98
Total Other Class Logs		**199,945.70**	**225,523.54**	**(11.34)**
Total Logs		**277,740.59**	**293,084.40**	**(5.24)**
Roundwood	m^3	-		
Greenheart Piles		16,774.76	15,335.24	9.39
Kakaralli Piles		1,438.09	715.54	100.98
Wallaba Poles		3,831.40	5,932.98	(35.42)
Posts		2,147.85	1,737.21	23.64
Spars		158.46	178.22	(11.09)
Total Roundwood		**24,350.56**	**23,899.19**	**1.89**
Primary (Chainsaw) Lumber	m^3	-		
Special Category		-		
Greenheart		5,183.98	4,697.36	10.36
Purpleheart		2,290.48	2,001.17	14.46
Others		2,815.96	2,516.92	11.88
Total Special Cat. Lumber		**10,290.42**	**9,215.45**	**11.66**
Class 1		21,275.31	20,032.02	6.21
Class 2		6,863.05	11,056.99	(37.93)
Class 3		4,568.29	4,303.07	6.16
Total Other Class Lumber		**32,706.65**	**35,392.08**	**(7.59)**
Total Primary Lumber		**42,997.07**	**44,607.53**	**(3.61)**
Splitwood	m^3	-		
Paling Staves		29.71	45.21	(34.27)
Vat Staves		-	-	-
Shingles		-	-	-
Total Splitwood		**29.71**	**45.21**	**(34.27)**
Fuelwood Charcoal	m^3	8,747.75	10,394.00	(15.84)
Firew ood	m^3	17,503.40	13,622.81	28.49
Total Fuelwood	m^3	**26,251.15**	**24,016.81**	**9.30**
Plywood	m^3	**12,089.81**	**14,571.79**	**(17.03)**
NON - TIMBER FOREST PRODUCTS		-		-
Wattles	pieces	**310,596.00**	**277,285.00**	12.01
Manicole Palm	pieces	**4,053,065.00**	**2,825,704.00**	43.44

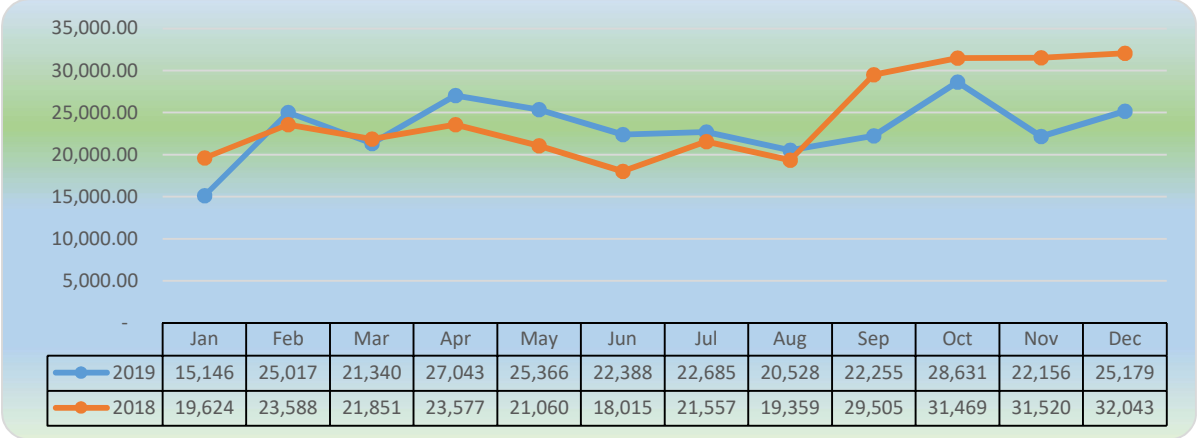
5.1 Production Volumes

The table above presents the production volumes for various Timber and Non-Timber forest products, together with Plywood for the year 2019 compared to 2018. Production declared at individual Forest Stations within the respective Regions (as per GFC reporting areas) of Essequibo, Demerara, and Berbice, are shown in Appendices I-IV.

5.2 Log Production

Total log production for the January to December 2019 period was recorded at 277,740m3, a 5.24% decline in comparison to 2018 (293,084m3). Special Category and Class 3 Logs recorded notable increases in production of 15.15% (from 67,560m3 in 2018 to 77,794m3 in 2019), and 9.44% (from 29,807m3 in 2018 to 32,186m3) respectively. However, declines in Class 1, and Class 2 Logs by 12.96% (from 131,171m3 in 2018 to 114,175m3 in 2019), and 16.98% (from 64,545m³ in 2018 to 53,583m3 in 2019) respectively, resulted in the recorded decline in aggregate log production volumes. The decreased level of production was owed to the lower volumes of Wamara, Baromalli, and Soft Wallaba harvested during 2019 as compared to 2018. Figure 1 compares monthly log production for the years 2019 and 2018.

Figure 1: Monthly Trend of Log Production for 2019 compared to 2018 (m3)



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2019	15,146	25,017	21,340	27,043	25,366	22,388	22,685	20,528	22,255	28,631	22,156	25,179
2018	19,624	23,588	21,851	23,577	21,060	18,015	21,557	19,359	29,505	31,469	31,520	32,043

5.2.2 Log Production by GFC Reporting Regions and Forest Stations

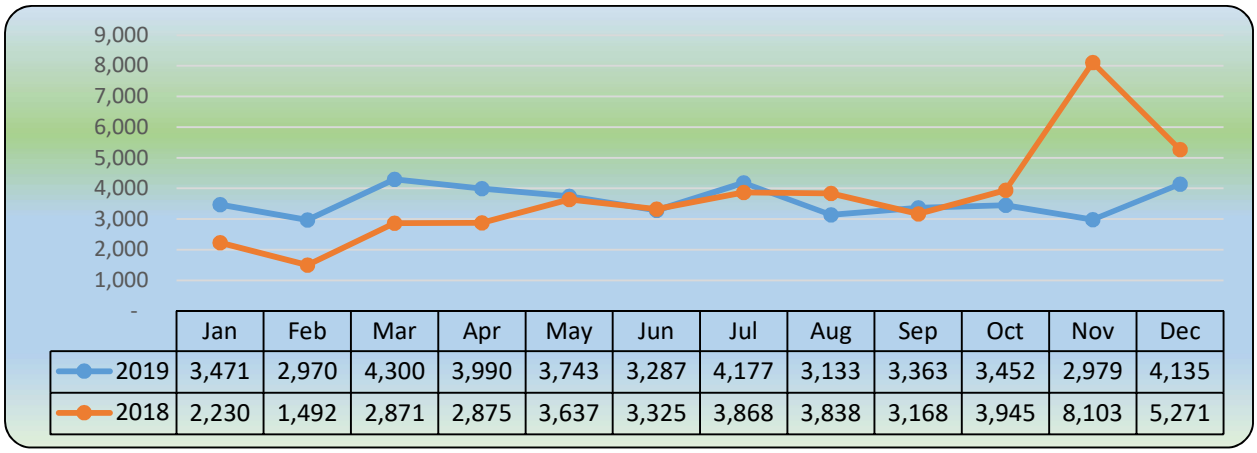
During 2019, the largest volume of logs harvested was recorded in the county of Demerara at 118,899m3, representative of 54.9% of total logs harvested from state lands. Of this, the dominant

category was Class 1 logs at 57,372m³. Within the county of Demerara the highest producing stations were Soesdyke (47,851m3), Linden (31,876m3), and Mabura (20,497m3). The county of Berbice recorded 60,553m3, while Essequibo County, accounted for the remaining 37,426m3.

5.2.3 Monthly Production of Primary Lumber

Production of Primary Lumber for the review period January to December 2019 was recorded at 42,997m3, a 3.6% decline when compared to the 44,607m3 recorded for 2018. This decline is attributed exclusively to 37.93% drop in the production of Class 2 Lumber. Special Category, Class 1, and Class 3 Lumber all recorded notable increases of 11.66%, 6.21%, and 6.16% respectively. A more in-depth look within the Class 2 Category of Lumber shows that the decline was mostly due to a decrease in the Soft Wallaba species from 7,866m3 to 3,992m3.

Figure 2: Primary Lumber Production Volume (m3)



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2019	3,471	2,970	4,300	3,990	3,743	3,287	4,177	3,133	3,363	3,452	2,979	4,135
2018	2,230	1,492	2,871	2,875	3,637	3,325	3,868	3,838	3,168	3,945	8,103	5,271

5.2.4 Primary Lumber by GFC Reporting Regions and Forest Stations

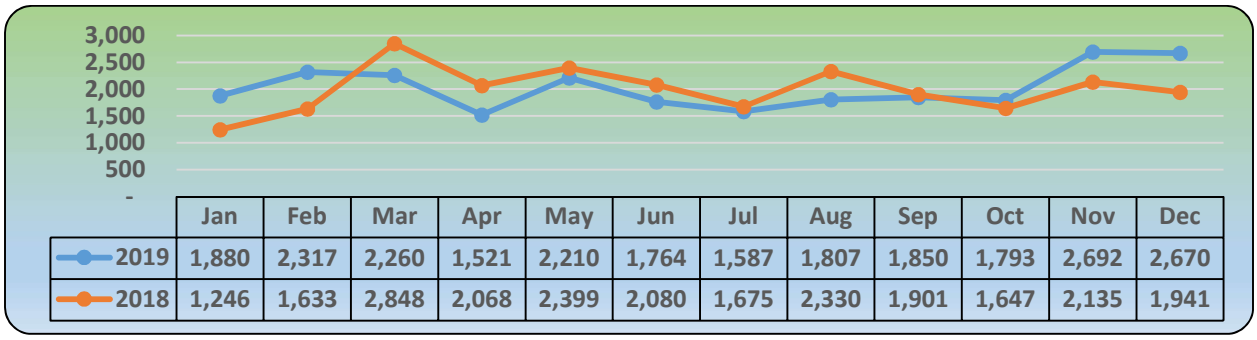
The county of Demerara, as it has in previous years, recorded the highest level of lumber production at 17,296m3. Of this 50% was within the Class 1 category (8,571m3), while special category and Class 2 lumber account for 4,388m3 and 2,893m3 respectively, and Class 2 category registered the remaining 1,444m3. The counties of Essequibo and Berbice recorded 8,778m3 and 2,264m3 of lumber production respectively.

5.3 Roundwood Production

The production of Piles, Poles, Posts, and Spars constitutes the product category of Roundwood. Roundwood production was mainly in the form of Piles of the Greenheart species with a small volume being of the Kakaralli species. Poles, Posts, and Spars are mainly produced from Wallaba.

Total Roundwood production for 2019 was recorded at 24,350m3, a 1.89% increase over total Roundwood production for 2018, which recorded 23,899m3. The increase in Roundwood production was attributed to increases in Piles (13.47%) and Posts (23.64%) which countered the decline in both Poles (35.42%), and Spars (11.09%). Greenheart Piles continues to be the leading contributor within this category with production of 16,774m3, followed by Poles (3,831m3), Posts (2,147m3), and Kakaralli Piles (1,438m3), with Spars accounting for the remaining 158m3.

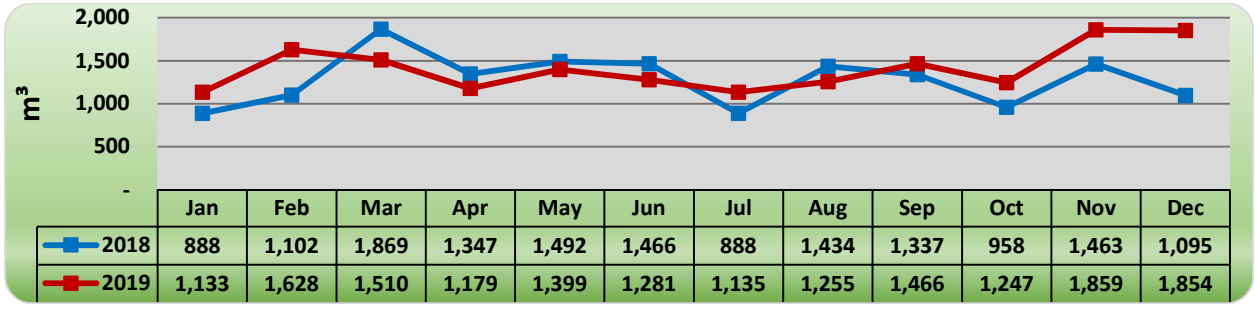
Figure 3: Monthly Trends of Roundwood Production for 2019 compared to 2018 (m3)



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2019	1,880	2,317	2,260	1,521	2,210	1,764	1,587	1,807	1,850	1,793	2,692	2,670
2018	1,246	1,633	2,848	2,068	2,399	2,080	1,675	2,330	1,901	1,647	2,135	1,941

The graph on the overleaf presents the monthly trends in Greenheart Piles production for the review period January to December 2019 in comparison to the same period of 2018. The 2019 period saw a relatively stable production trend for the first ten (10) months, in comparison to 2018, with a notable increase over the final two (2) months.

Figure 4: Monthly Production Trends for Greenheart Piles for 2019 and 2018



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2018	888	1,102	1,869	1,347	1,492	1,466	888	1,434	1,337	958	1,463	1,095
2019	1,133	1,628	1,510	1,179	1,399	1,281	1,135	1,255	1,466	1,247	1,859	1,854

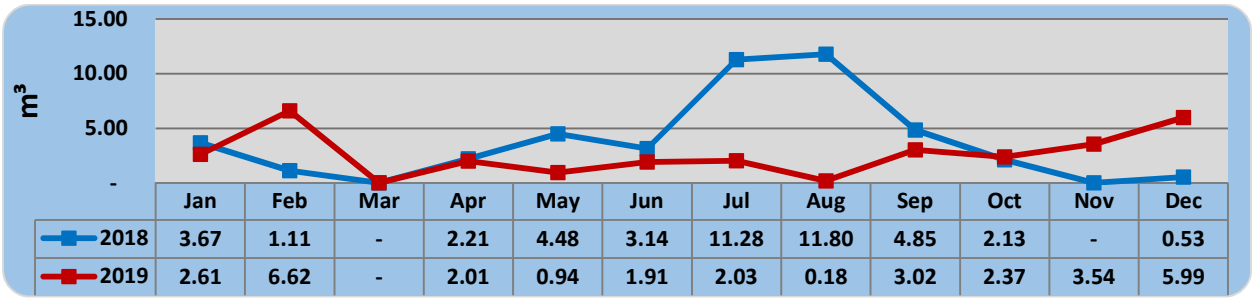
5.4 Splitwood Production

Splitwood product category refers to Staves (both Paling Staves and Vat Staves), and Shingles (non-machine made), all of which are usually produced from the Wallaba species. The category only includes hand split shingles.

Over the January to December 2019, review period, Splitwood production totaled 31m3, a 30.93% decline over the 2018 Splitwood production of 45m3.

The graph below presents the monthly production level of Paling Staves produced in 2019 compared to 2018.

Figure 5: Monthly Trends in Paling Staves Production for 2019 and 2018

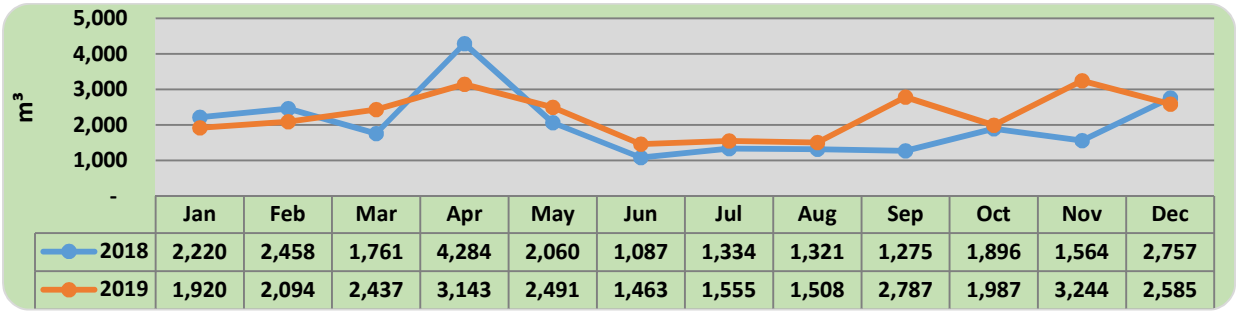


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2018	3.67	1.11	-	2.21	4.48	3.14	11.28	11.80	4.85	2.13	-	0.53
2019	2.61	6.62	-	2.01	0.94	1.91	2.03	0.18	3.02	2.37	3.54	5.99

5.5 Fuelwood Production

There are two (2) products that make up the Fuelwood category: Charcoal and Firewood. The graph below shows the monthly trend in Fuelwood production for the January to December 2019-review period.

Figure 6: Monthly Trends in Fuelwood Production for 2019 and 2018



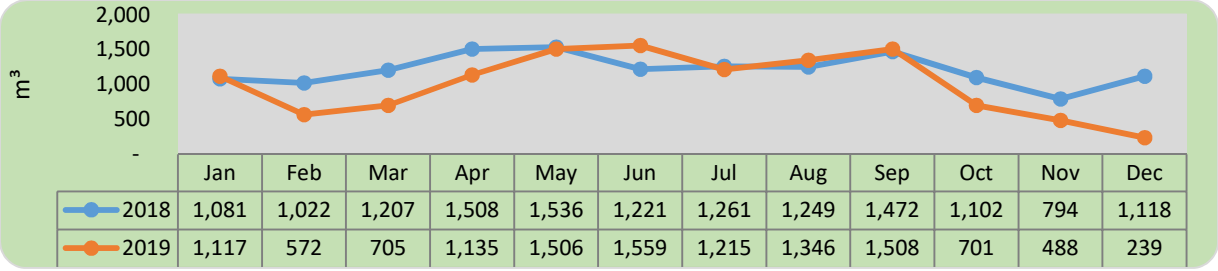
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2018	2,220	2,458	1,761	4,284	2,060	1,087	1,334	1,321	1,275	1,896	1,564	2,757
2019	1,920	2,094	2,437	3,143	2,491	1,463	1,555	1,508	2,787	1,987	3,244	2,585

Fuelwood production for 2019 recorded a 13.31% increase, with 27,215m³ over 2018 production of 24,017m³. Firewood production for 2019 was 18,093m³, a 32.81% increase over 2018 production of 13,623m³; while charcoal recorded a decline of 12.24%, from 10,394m³ in 2018 to 9,122m³.

5.6 Plywood Production

Plywood production for 2019 recorded a decrease of 17.03% from 14,572m³ in 2018 to 12,090m³. The line graph below shows Plywood production for the year 2019 in comparison to 2018. Plywood production for the year 2019 fluctuated considerably with a sharp decline during the last quarter.

Figure 7: Trends in Plywood Production for the 2019 against 2018



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2018	1,081	1,022	1,207	1,508	1,536	1,221	1,261	1,249	1,472	1,102	794	1,118
2019	1,117	572	705	1,135	1,506	1,559	1,215	1,346	1,508	701	488	239

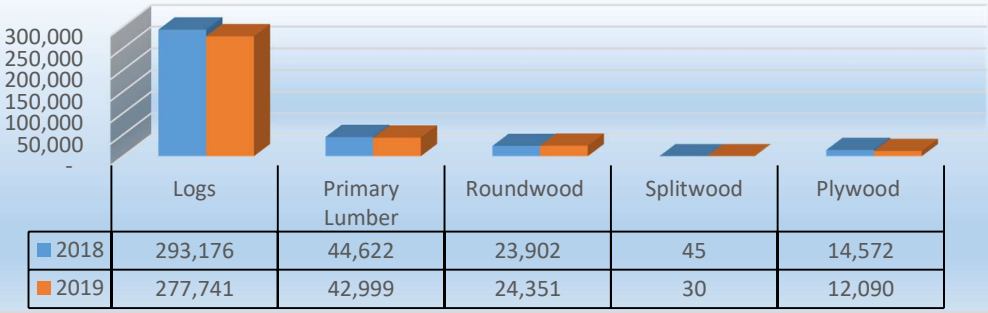
5.7 Non-Timber Forest Products

Non-Timber Forest Products (NTFPs) refer to a range of products other than primary and secondary timber products derived from forest resources. These comprise of Wattles, Manicole Palm Mangrove Bark, Palms and Latex (Balata). Manicole Palm (Heart of Palm) totalled 4,053,065 pieces in 2019 representing an increase of 43.44% over 2018, which totalled just 2,825,704 pieces. Wattles production also recorded an increase of 12.01% from 277,285 pieces in 2018 to 310,596 pieces in 2019.

5.8 Comparative Production Volume Analysis

The graph below illustrates to trend in production by forest product categories, specifically for Timber and Plywood, for 2019 against 2018. Over the 2019 review period, there was a decline of 3.92%, owing mainly to a decrease in Logs of 4.32%, and Plywood of 17.03%. Roundwood, however, recorded a modest increase of 3.55%.

Figure 8: Production Volume Analysis for 2019 and 2018



	Logs	Primary Lumber	Roundwood	Splitwood	Plywood
2018	293,176	44,622	23,902	45	14,572
2019	277,741	42,999	24,351	30	12,090

6 Employment & Domestic Prices

6.1 Employment

Table 5: Employment Estimates for the Forestry Sector 2018 and 2019

Activity	2018	2019	%Change
Logs	10,625	10,637	0.11
Sawmilling	4,690	4,672	(0.38)
Timber Dealership (Lumberyards)	1,415	1,422	0.49
Plywood	230	212	(7.83)
Manicole Palm	450	435	(3.33)
Other*	2,230	2,238	0.36
Total	**19,640**	**19,616**	**(0.12)**

** Other: includes activities in Furniture, Building Components, Craft, Utensils/Ornaments, Firewood, Charcoal and Conservation.*

For the review period January to December 2019, employment within the forestry sector declined by 0.12%. Forest sector employment in 2019 was recorded at 19,616, down from 19,640, which was recorded in 2018. Of the six active areas of the forest sector, decline in employment was recorded in Sawmilling, Plywood and the production of Manicole Palm. The main reason for this decline was owing to structural changes in concessions operations.

6.2 Domestic Prices

Table 6: Domestic Prices

PRODUCT	Year									
	2015		2016		2017		2018		2019	
	G$	US$	G$	US$	G$	US$	G$	US$	G$	US$
Logs	44,290	215	37,080	180	36,400	175	35,910	171	35,280	168
Sawnwood *	144,200	700	140,080	680	143,520	690	135,030	643	149,520	712
Dressed	152,440	740	154,500	750	161,200	775	156,660	746	164,640	784
Undressed	121,540	590	117,420	570	117,520	565	110,040	524	114,870	547
Roundwood	85,490	415	92,700	450	91,520	440	96,600	460	101,220	482
Splitwood	51,500	250	49,440	240	54,080	260	57,750	275	60,060	286
Fuelwood	7,210	35	7,210	35	8,320	40	8,820	42	7,560	36
* Row indicates combined average for Dressed and Undressed Sawnwood										
** Average 2019 Exchange Rate: G$210 =S$1										

Domestic prices increase in 2019 for most forest products except for logs and fuelwood when compared to prices recorded in 2018. General Sawnwood along with its categorical dressed and undressed types recorded the largest increase in price when compared to 2018. Roundwood, particularly Greenheart Piles has recorded progressive increase owing to increase demands both locally and domestically.

7 Export

7.1 Export Summary

In this section, the various types of forest products exported are examined and an analysis of their impact on the forest sector from 2019 is presented. Table 7 below compares export performances for 2019 against their 2018 levels, categorized by product and category where applicable.

Total Timber and Plywood exported over the review period declined in both volume and value by 11.8% and 2.7%, respectively; Other Value Added Products recorded an increase 10.2% in value; Other Products increase in value by 22.97%, in comparison to 2018 figures.

Log exports decline in volume by 16.1% and value by 14.7% when compared to 2018. This translates to a drop from US$13.3M in 2018 down to US$11.3M in 2019.

Total export volume of Splitwood recorded a decrease in both volume and value by 36%. Shingles and Paling Staves are the two products in this category, with shingles being the dominant exported product.

Plywood exports similarly, reflected a decline of 24.2% and 26.2% in volume and value respectively, in 2019, in comparison to 2015 totals.

However, Sawnwood exports recorded an increase in volume of 15.59% from 15,683m^3 in 2018 to 18,128m^3 in 2019, representing an increase of 20.69% in revenue earned. The increase in volume was mainly attributed to an increase in both the Dressed Lumber and Undressed Lumber category with the largest percentage increase occurring in the export Undressed Lumber by 19.52% and 20.92% in volume and value respectively, when compared to 2018.

Over the review period 2019, Roundwood exports fell by 1.95% in volume and 12.59% in value. This decline was attributed to low export of Poles. However, within this category individual increase was recorded for Greenheart Pile and Wallaba Poles. The largest increase was recorded for Greenheart piles which increase in both volume and value by 24.93% and 28.97% in volume and value respectively.

The export of Wallaba post increase in both volume and value by 23.04% and14.54% respectively. There was no export during 2019 for Spars.

Table 7: Forest Sector Export 2019 and Comparative 2018

	Jan-Dec 2019		Jan-Dec 2018		% Change *Over*	
PRODUCT	**Volume**	**Value**	**Volume**	**Value**	**Jan-Dec 2018**	
	m^3	US$	m^3	US$	% Vol	% Val
Logs	**68,178**	**11,342,743**	**81,259**	**13,302,122**	**(16.10)**	**(14.73)**
Sawnwood	**18,128**	**18,368,604**	**15,683**	**15,219,780**	**15.59**	**20.69**
Dressed	*7,959*	*10,005,991*	*7,175*	*8,304,238*	10.93	20.49
Undressed	*10,169*	*8,362,613*	*8,508*	*6,915,542*	19.52	20.92
Roundwood	**5,431**	**2,779,833**	**5,539**	**3,180,230**	**(1.95)**	**(12.59)**
Greenheart Piles	*4,830*	*2,328,000*	*3,866*	*1,805,137*	24.93	28.97
Kakaralli Piles	-	-	*268*	*136,696*		
Other Piles	-	-	-	-	-	-
Poles	*478*	*377,100*	*1,305*	*1,173,153*	(63.36)	(67.86)
Posts	*123*	*74,732*	*100*	*65,245*	23.04	14.54
Spars	-	-	-	-	-	-
Splitwood	**2,611**	**2,482,280**	**4,050**	**3,880,271**	**(35.53)**	**(36.03)**
Paling Staves	4	1,584	-	-		
Shingles	2,607	2,480,696	4,050	3,880,271	(35.63)	(36.07)
Plywood	**2,215**	**1,172,113**	**2,925**	**1,588,463**	**(24.27)**	**(26.21)**
Veneer	**-**	**-**	**21**	**8,323**		
TOTAL TIMBER & PLYWOOD	**96,563**	**36,145,573**	**109,477**	**37,179,189**	**(11.80)**	**(2.78)**
Furniture (pcs)	**-**	**195,615**	**288**	**69,662**		
Indoor Furniture	2,261	160,567	276	57,715	719.20	178.21
Outdoor/Garden Furniture	80	35,048	12	11,947	566.67	193.36
Building Componentry (pcs)	**-**	**262,282**	**9,096**	**357,833**		**(26.70)**
Doors	886	190,293	1,050	212,567	(15.62)	(10.48)
Door Components	10	2,353	51	4,074	(80.39)	(42.25)
Windows	622	42,230	577	113,513	7.80	(62.80)
Other Builder's Joinery (pcs)	461	11,684	12,050	15,705	(96.17)	(25.60)
(m^3)	-	-	-	-		
Rails (pcs)	88	11,404	457	11,365	**(80.74)**	**0.34**
Wattles	16,029	2,602	300	144	**5,243.00**	**1,707.19**
Spindles (pcs)	154	1,716	13	465	**(31.12)**	**269.05**
Mouldings (m)	**27,831**	**57,449**	**16,398**	**39,823**	**69.73**	**44.26**
Pre-Fabricated Houses (pcs)	-	-	-	-	-	-
OTHER*(than Plywood)* ***VALUE ADDED***	**-**	**515,346**	**17,440**	**467,318**		**10.28**
Fuelwood (m^3)	**5,366**	**297,720**	**5,493**	**227,859**	**(2.31)**	**30.66**
Charcoal	8,897	295,349	6,936	226,840	28.27	30.20
Firewood	57	2,370	25	1,019	124.56	132.57
Other (pcs)	**-**	**3,969**	**2,468**	**9,064**	**-**	**(56.20)**
Wooden Ornaments & Utensils	513	2,093	1,238	6,037	(58.56)	(65.34)
Craft	1,355	1,877	5,029	3,027		
Non - Timber Forest Products (pcs)	**5,518**	**14,465**	**12,137**	**20,181**	**(54.54)**	**(28.32)**
OTHER PRODUCTS		**316,154**		**257,104**	**-**	**22.97**
TOTAL EXPORT VALUE		**36,977,073**		**37,903,611**		**(2.44)**

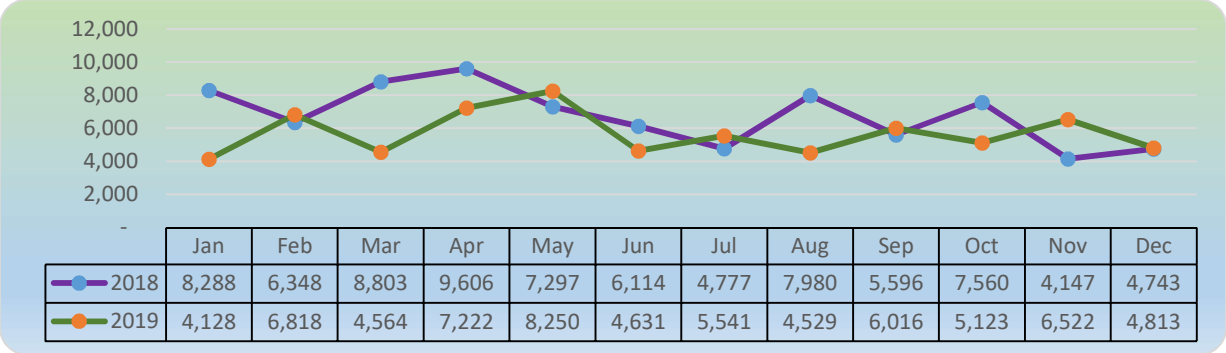
Source GFC Database, 2019

7.1.1 Log Export

This section provides a more comprehensive breakdown for the various aspects of forest product exports during 2019.

Total volume of Logs exported during the 2019 review period recorded a decrease of 16.1%, while a decline in the export value was recorded at 14.73%, when compared to 2018 figures. Export volumes of Logs for 2019 totaled 68,178m³, with a total value of US$11.34M in comparison to 2018 total volume of 81,259m³ and US$13.30M in value.

Figure 8: Log Export 2019 and a Comparative 2018



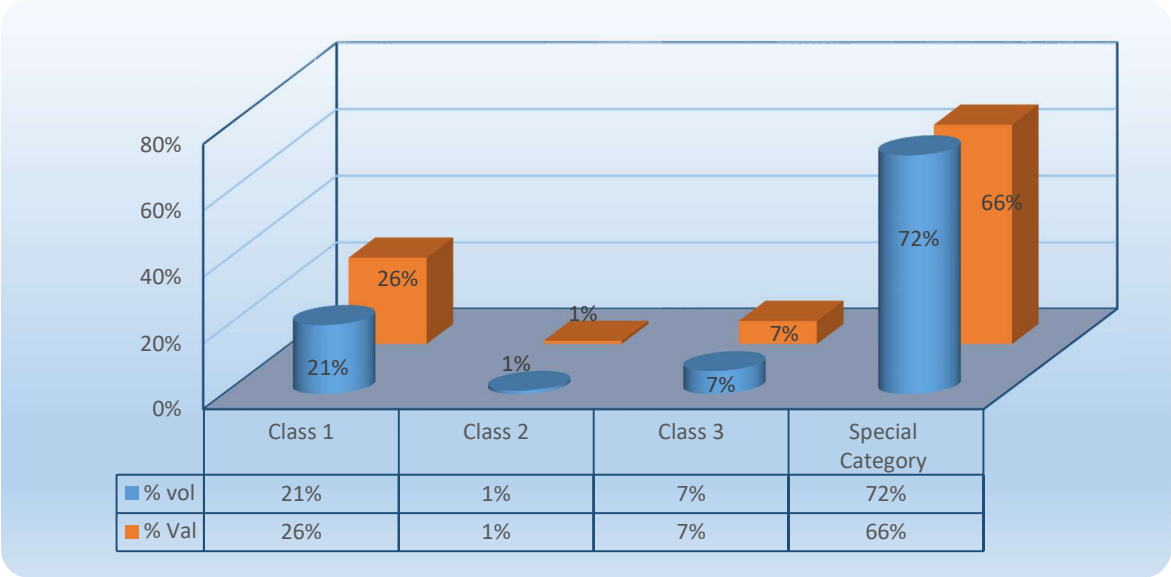
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2018	8,288	6,348	8,803	9,606	7,297	6,114	4,777	7,980	5,596	7,560	4,147	4,743
2019	4,128	6,818	4,564	7,222	8,250	4,631	5,541	4,529	6,016	5,123	6,522	4,813

The graph above illustrates the comparative monthly log export volumes for 2019 compared to 2018.

7.1.2 Sawnwood Export

Total Sawnwood exports for 2019 amounted to 18,128m³ in volume and earned US$18.36M in revenue, representing 15.59% and 20.69% increase respectively, over the comparative 2018-year's total of 15,683m³ and US$15.21M. Dressed Sawnwood was the highest vale earner in this category with earnings totaling US$10.005M, compared to US$8.30M exported in 2018.

Figure 9: Sawnwood Export by Percentage Volume and Value



The increase in Sawnwood revenue was because of higher value of Dressed lumber exported.

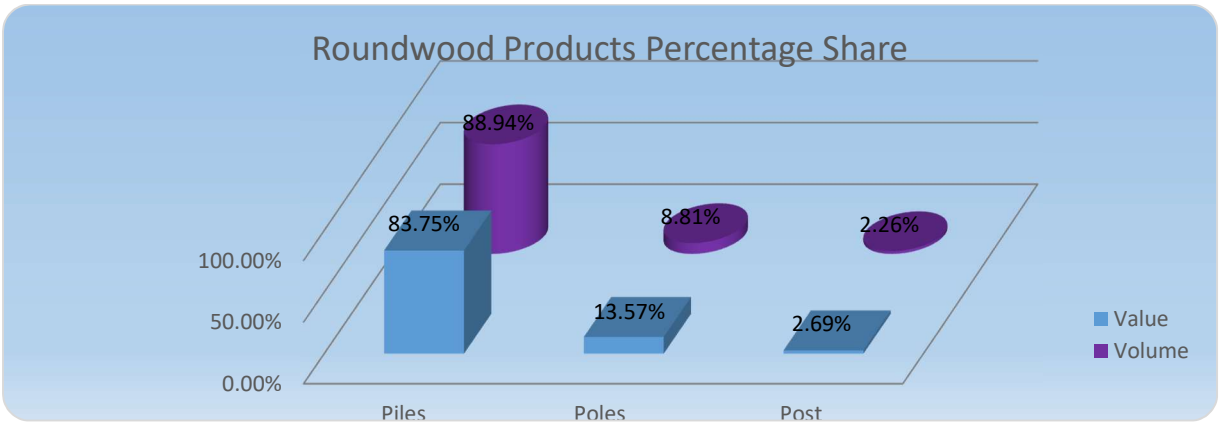
Special category Sawnwood export, which comprises of species such as Greenheart and Purpleheart, was the highest value earner, responsible for 72% of all Sawnwood export value and 66% of its value. Class 1 Sawnwood recorded high exports of species such as Washiba, Mora, Locust and, Kabukalli, and hence responsible for 21% of Sawnwood export volume and 26% of its value.

7.1.3 Roundwood Export

A comparison of Roundwood export for 2019 and 2018 figures indicates a decline in both volume and value by 2% and 13% respectively. Export volume of Roundwood products decrease from 5,539m3 in 2018 to 5,431m3 in 2019. Total value decline from US$3.18M in 2018 down to US$2.77M in 2019.

Piles, Poles and Post were the products exported within the Roundwood category. A decline in the export of Poles was responsible for the decline in this category. Bothe Piles and post recorded increase in 2019 over export figures reported for 2018.

Figure 10: Roundwood Export in Volume and Value

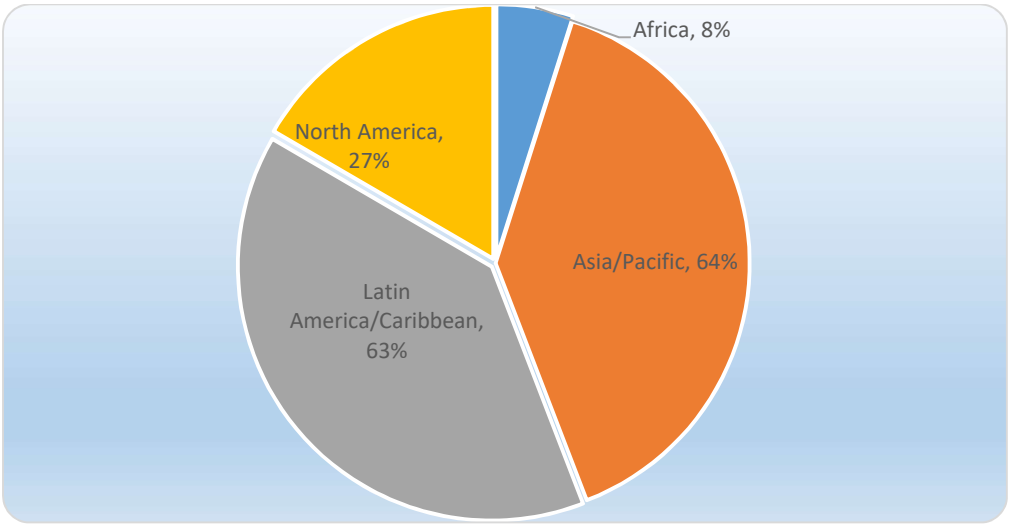


7.1.4 Splitwood Export

Shingles and Staves are two products exported under the Splitwood category during 2019. Of these two products, Shingles (99%) accounts for the larger market share.

The main regions for Guyana's Splitwood has been Latin America and the Caribbean, North America, Africa and Asia Pacific regions.

Figure 11: Splitwood Export in Percentage



The main destinational markets has been the French West Indies, Antigua and Barbuda and Jamaica for the Latin America and the Caribbean regions, while, Mauritius and the United Republic of Tanzania in the African region. The United States has been the sole North American market for Guyana's Splitwood during 2019.

7.1.5 Plywood Export

Total Plywood exports for the 2019 review period, recorded a decline of 24% in volume and 26% in value when compared with 202018. Plywood exports totaled 2,214m³ in volume at a value of US$1.17M in 2019 as compared to 2,924m³ and US$1.58M in volume and value respectively in 2018.

7.1.6 Other Value Export

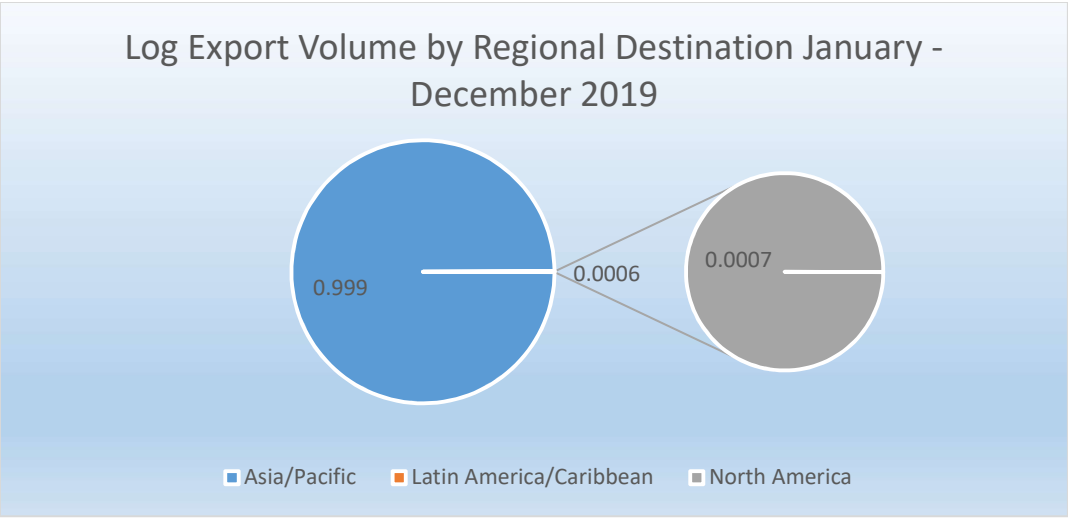
Total export revenue from Other Value-Added Products (value-added items other than Plywood) for 2019 increased from US$0.724M in 2018 to US$0.831M in 2019. These figures were mainly as a result of the Building Component category and Fuelwood which recorded increase in value.

7.2 Export by Destination

This section examines exports of the various timber products, namely Logs, Sawnwood, Roundwood, Splitwood, and Plywood, by their export destinations with respect to the international regional destinations of Asia/Pacific, Europe, Latin America/Caribbean, North America and Africa. Summaries are presented in Appendix V and Appendix VI by volume and value, respectively.

7.2.1 Log Export by Destination

Figure 12: Log Export by Destination

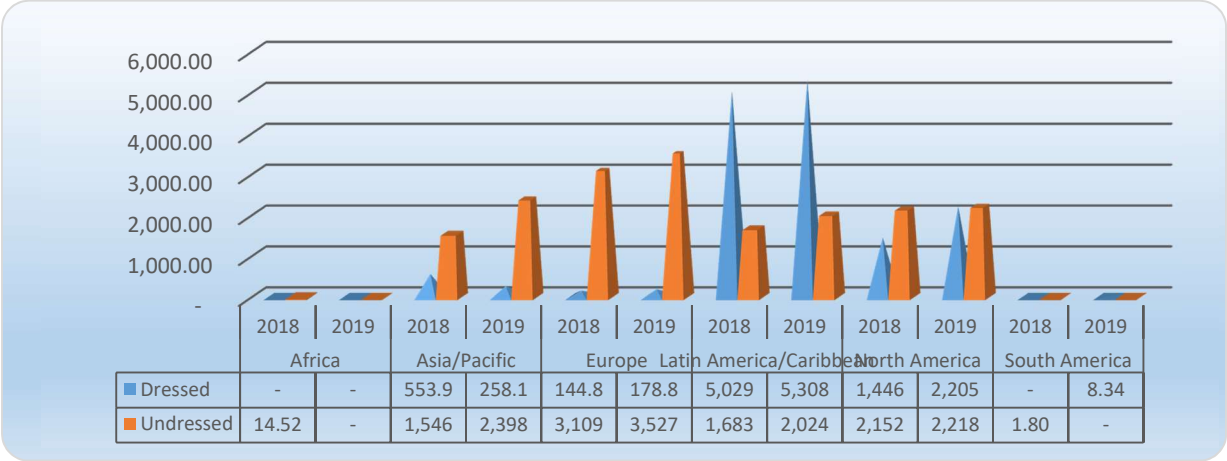


The pie chart in above, shows the percentage distribution of Guyana's Log exports volume by region. As illustrated, volumes amounting to 99% of all Logs exported went to the Asia/Pacific region, while the remainder was exported to the North American and the Latin America and Caribbean region. Within the Asia/Pacific region China and India accounts 79% of total Log export market share collectively, followed by Singapore and Vietnam, which accounts for 19% collectively.

7.2.2 Sawnwood/Lumber Export by Destination

The top three destinational markets for Guyana's Sawnwood in 2019 was Latin America/ Caribbean (37%), North America (31%) and, Europe (18%). The remaining markets has been the Asia Pacific region and South America. An accumulative quantity of 15,462m3 of the total Sawnwood quantity of 18,128m3 along with a total value amount of US$15.89M was exported to these top three markets.

Figure 13: Sawnwood Export by Destination

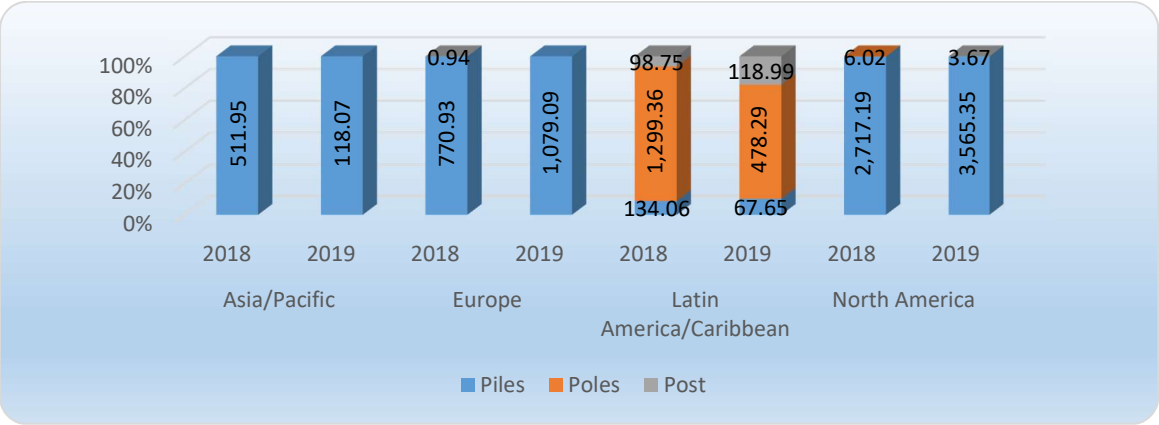


	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019
	Africa		Asia/Pacific		Europe		Latin America/Caribbean		North America		South America	
Dressed	-	-	553.9	258.1	144.8	178.8	5,029	5,308	1,446	2,205	-	8.34
Undressed	14.52	-	1,546	2,398	3,109	3,527	1,683	2,024	2,152	2,218	1.80	-

Other markets for Guyana Sawnwood were in Asia Pacific region and South America. The main destinations in the Asian Pacific region were New Zealand, China, French Polynesia and Saudi Arabia. Within the South American region, the main destination was Suriname.

7.2.3 Roundwood Export by Destinations

Figure 14: Roundwood Export by Destination

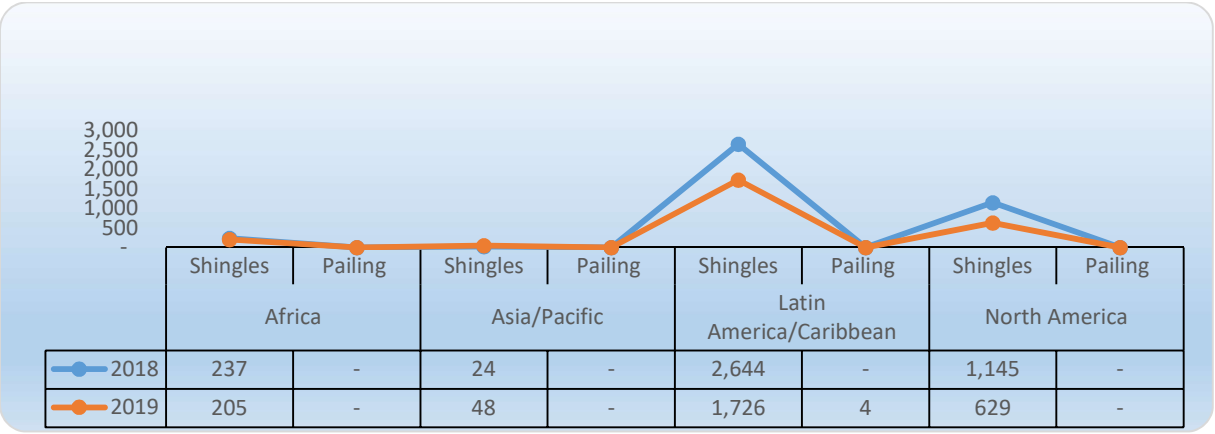


The graph above provides a comparison of 2018 and 2019 for Roundwood exports across the various regions. During the period January to December 2019, Guyana's Roundwood was exported to Asia Pacific, Europe, Latin America/Caribbean and North America, totaling US$2.77M. The North American market account for the majority of Roundwood exported with the main market being United States.

7.2.4 Splitwood Export by Destinations

Splitwood amounting to 2,610m³ and valuing US$2.48M was exported during the 2019 review year. The majority (63%) was exported to the Latin America/Caribbean region where the leading markets for Guyana's Splitwood were French West Indies (538m³), Antigua and Barbuda (260m³), and Jamaica (180m³).

Figure 15: Splitwood Export by Destination



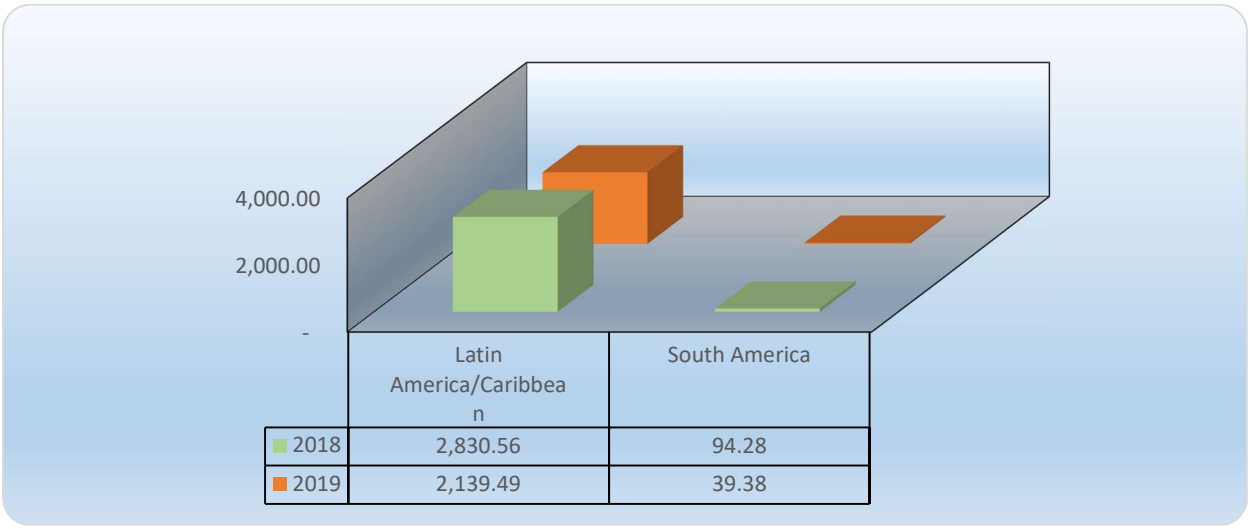
	Africa		Asia/Pacific		Latin America/Caribbean		North America	
	Shingles	Pailing	Shingles	Pailing	Shingles	Pailing	Shingles	Pailing
2018	237	-	24	-	2,644	-	1,145	-
2019	205	-	48	-	1,726	4	629	-

Shingles and Fencing Staves are the two products within the Splitwood category. For the review period, 2,606m3 of Shingles was export. The main markets was in the LAC (66%) and North America (24%) region. The remaining volumes were shared between Africa and the Asia Pacific region. A total of 3.89m3 of Fence Staves was exported during the review period. The only market was in the LAC region namely the French West Indies.

7.2.5 Plywood Export by Destination

For the period January to December 2019, Latin American/Caribbean and South America were the two regional markets for Guyana's Plywood. The LAC region accounted for 97% of all Plywood exports, whilst the South America region accounted for the remaining 3% of total exports. The main markets in the LAC has been Belize, Trinidad and the British Virgin Island, while the main markets in South America has been Suriname.

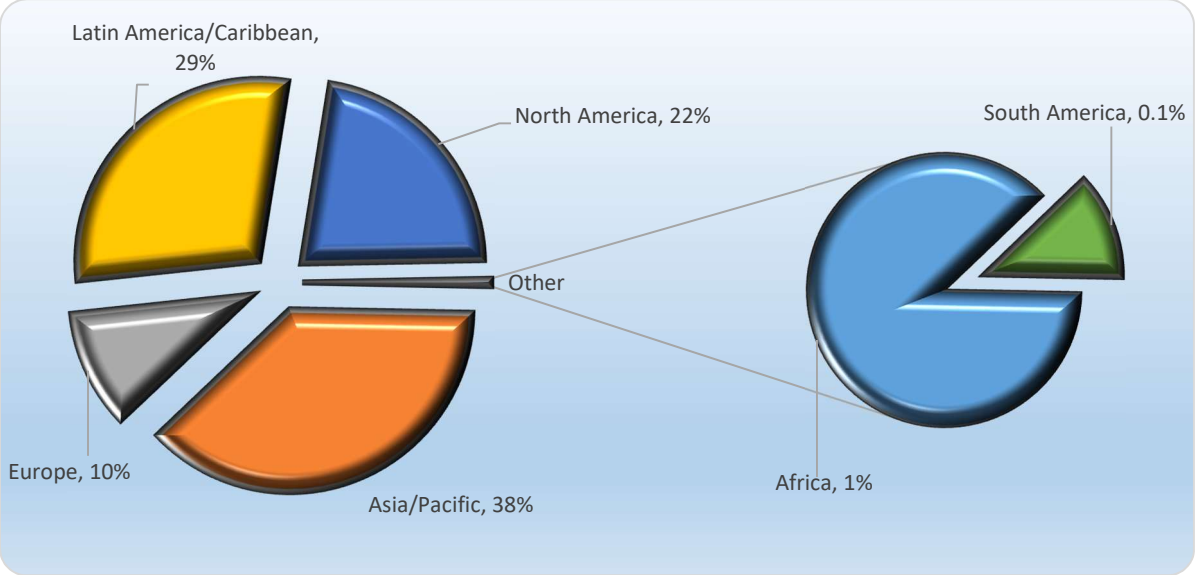
Figure 16: Plywood Export by Destination



7.3 Forest Sector Earnings by Destinations

The Asia/Pacific region continues to be the largest market for Guyana's forest product with value earned in 2019 amounting to US$13.9M and accounting for 38% of total export earnings. China, India New Zealand and Singapore were the largest markets within this region accounting for 86% of the region total export.

Figure 17: Forest Sector Earnings



The Latin America/Caribbean region was the second largest market zone for Guyana's forest produce, with earnings from the region totaling US$10.8M and accounting for 29% of total export value. During 2019, all of Guyana forestry products was exported to this region. The main products has been Sawnwood US$6.77M, Shingles US$1.57M and, Plywood US$1.13M totaling US$9.49M. The remaining forest products accounted for US$1.31M.

Cumulative export value for the other four (4) regional markets Africa, Europe, North America, and South America totaled US$12.26M.

Table 8: Comparative Export by Region

Market Destinations	2015	2016	2017	2018	2019
Africa	0.1	0.1	1	1	1
Asia/Pacific	53	49.6	47	40	38
Europe	6	5	7	8	10
Latin America/Caribbean	24.9	27	29	33	29
North America	15	18	16	18	22
South America	1	0.1	0.2	0.1	0.1
Total	**100**	**100**	**100**	**100**	**100**

7.4 Export Prices

In 2019, Export prices increased in several category of forest products, namely logs, general Sawnwood, and the dressed category. Average Sawnwood price increase by 0.1% indicative of favourable demand, particularly for dressed category, which prices increase by 0.02%. Undressed Sawnwood prices declined by 0.02% in 2019. Log prices increase demand for Guyana logs because of opened markets within the Latin America and Caribbean region. Roundwood particularly Greenheart piles prices also increase by 0.03%.

Splitwood, Fuelwood and, Plywood were the products which prices recorded decline in 2019 when compared to 2018.

Table 9: Export Prices

Products	2018/m3	2019/m3	% change over 2018
Logs	164	170	0.04
Sawnwood **	970	1,071	0.10
Dressed	1153	1172	0.02
Undressed	812	796	(0.02)
Roundwood	574	589	0.03
Splitwood***	958	662	(0.31)
Fuelwood	42	41	(0.02)
Plywood	543	530	(0.02)

** Row indicates combined average for Dressed and Undressed Sawnwood

*** Splitwood Export prices refer to mill-produced Splitwood, mainly Shingles

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9 Appendices

Appendix 1: Forest Production

Appendix 2: Production Volumes by Counties 2019

Appendix 3: State Forest Total Production by Station in Berbice 2019

Appendix 4: State Forest Total Production by Station in Demerara 2019

Appendix 5: State Forest Total Production by Station in Essequibo 2019

Appendix 6: Analysis of Values (US$) by Region 2018 & 2019

Appendix 7: Major Timber Species and their Uses

Appendix 1: Forest Production

PRODUCTS		Uom	Jan-Dec 2019	Jan-Dec 2018	% Change over Jan-Dec 2018
Logs					
Special Category Log	Greenheart	m³	64,585.64	56,443.36	14.43
	Purpleheart		8,945.87	7,230.77	23.72
	Others		4,358.24	3,921.61	11.13
Total Special Category Logs		**m³**	**77,889.75**	**67,595.74**	**15.23**
Class 1 Log			115,219.40	131,227.70	(12.20)
Class 2 Log			54,781.21	64,545.14	(15.13)
Class 3 Log			32,619.78	29,807.00	9.44
Total Other Class Logs		**m³**	**202,620.39**	**225,579.84**	**(10.18)**
Total Logs		**m³**	**280,510.14**	**293,175.58**	**(4.32)**
Roundwood	Greenheart Piles		16,945.07	15,338.41	10.47
	Kakaralli Piles		1,438.09	715.54	100.98
	Wallaba Poles		3,946.91	5,932.98	(33.48)
	Wallaba Posts		2,249.05	1,737.21	29.46
	Spars		172.58	178.22	(3.16)
Total Roundwood		**m³**	**24,751.70**	**23,902.37**	**3.55**
Primary (Chainsaw) Lumber		m³			
Special Category Lumber	Greenheart		5,254.08	4,697.36	11.85
	Purpleheart		2,306.18	2,001.17	15.24
	Others		2,905.96	2,517.30	15.44
Total Special Category Primary Lumber		**m³**	**10,466.22**	**9,215.83**	**13.57**
Class 1 Lumber			21,846.35	20,042.42	9.00
Class 2 Lumber			7,197.12	11,056.99	(34.91)
Class 3 Lumber			4,676.65	4,307.17	8.58
Total Other Class Primary Lumber		**m³**	**33,720.12**	**35,406.58**	**(4.76)**
Total Primary Lumber		**m³**	**44,186.34**	**44,622.41**	**(0.98)**
Splitwood	Paling Staves		31.23	45.21	(30.93)
	Vat Staves		-	-	-
	Shingles		-	-	-
Total Splitwood		**m³**	**31.23**	**45.21**	**(30.93)**
Fuelwood		m³			-
	Charcoal		9,121.78	10,394.00	(12.24)
	Firewood		18,092.76	13,622.81	32.81
Total Fuelwood		**m³**	**27,214.54**	**24,016.81**	**13.31**
Plywood			**12,089.81**	**14,571.79**	**(17.03)**
	Wattles	pcs	311,096.00	277,485.00	12.11

Non-Timber Forest Products	Manicole Palm	pcs	4,053,065.00	2,825,704.00	43.44

Appendix 2: Production Volumes by Counties 2019

Product	Category	Uom	BER	DEM	ESS	Grand Total
Logs	Special Category Logs	m³	12,652	28,690	17,448	58,790
	Class 1 Logs		31,051	57,372	8,049	96,472
	Class 2 Logs		9,745	20,871	8,616	39,231
	Class 3 Logs		7,105	11,966	3,159	22,231
Logs Total		**m³**	**60,553**	**118,899**	**37,271**	**216,723**
Primary Lumber	Special Category Lumber	m³	204	4,388	3,046	7,639
	Class 1 Lumber		937	8,571	3,744	13,252
	Class 2 Lumber		889	2,893	971	4,753
	Class 3 Lumber		233	1,444	1,017	2,693
Primary Lumber Total		**m³**	**2,264**	**17,296**	**8,778**	**28,337**
Splitwood	Paling Staves	m³	-	-	5	5
	Shingles		-	-	-	-
Splitwood Total		**m³**	**-**	**-**	**5**	**5**
Roundwood	Piles	m³	2,340	9,931	1,738	14,009
	Poles		36	2,526	287	2,849
	Posts		140	646	25	811
	Spars		-	14	-	14
Roundwood Total		**m³**	**2,516**	**13,117**	**2,050**	**17,683**
Fuelwood	Charcoal	m³	378	2,376	668	3,422
	Firewood		-	7,728	298	8,026
Fuelwood Total		**m³**	**378**	**10,104**	**966**	**11,448**
Wattles	Wattles	pcs	9,887	244,116	2,770	256,773
Wattles Total		**pcs**	**9,887**	**244,116**	**2,770**	**256,773**
Manicole Palm Heart	Manicole Palm Heart	pcs	-	52,645	3,883,735	3,936,380
Manicole Palm Heart Total		**pcs**	**-**	**52,645**	**3,883,735**	**3,936,380**

Appendix 3: State Forest Total Production by Station in Berbice 2019

Product	Category	Uom	Georgetown	Ituni	Linden	Mabura	Soesdyke	Grand Total
Logs	Special Category Logs	m³	3,682	150	3,216	8,156	13,487	28,690
	Class 1 Logs		6,383	1,584	18,799	11,290	19,316	57,372
	Class 2 Logs		3,388	1,116	5,205	108	11,054	20,871
	Class 3 Logs		1,613	760	4,656	943	3,994	11,966
Logs Total		**m³**	**15,065**	**3,610**	**31,876**	**20,497**	**47,851**	**118,899**
Primary Lumber	Special Category Lumber	m³	1,596	185	511	6	2,089	4,388
	Class 1 Lumber		2,412	3,887	608	16	1,647	8,571
	Class 2 Lumber		763	207	123	-	1,800	2,893
	Class 3 Lumber		671	163	163	-	447	1,444
Primary Lumber Total		**m³**	**5,443**	**4,443**	**1,405**	**22**	**5,983**	**17,296**
Splitwood	Paling Staves	m³	-	-	-	-	-	-
	Shingles		-	-	-	-	-	-
Splitwood Total		**m³**	**-**	**-**	**-**	**-**	**-**	**-**
Roundwood	Piles	m³	1,246	21	815	188	7,661	9,931
	Poles		1,033	-	259	-	1,234	2,526
	Posts		21	-	-	-	625	646
	Spars		-	-	-	-	14	14
Roundwood Total		**m³**	**2,299**	**21**	**1,074**	**188**	**9,535**	**13,117**
Fuelwood	Charcoal	m³	142	-	596	-	1,638	2,376
	Firewood		478	-	29	-	7,221	7,728
Fuelwood Total		**m³**	**621**	**-**	**625**	**-**	**8,859**	**10,104**
Wattles	Wattles	pcs	12,400	-	-	-	231,716	244,116
Wattles Total		**pcs**	**12,400**	**-**	**-**	**-**	**231,716**	**244,116**
Manicole Palm Heart	Manicole Palm Heart	pcs	52,645	-	-	-	-	52,645
Manicole Palm Heart Total		**pcs**	**52,645**	**-**	**-**	**-**	**-**	**52,645**

Appendix 4: State Forest Total Production by Station in Demerara 2019

Product	Category	Uom	Bamboo Landing	Canje	Kwakwani	Orealla	Springlands	Unamco Road 110 KM	Grand Total
Logs	Special Category Logs	m^3	4,927	378	3,017	-	381	3,949	12,652
	Class 1 Logs		450	7,397	13,751	-	5,135	4,318	31,051
	Class 2 Logs		3	1,213	3,849	-	3,809	871	9,745
	Class 3 Logs		134	1,124	2,387	-	2,384	1,077	7,105
Logs Total		**m^3**	**5,512**	**10,113**	**23,005**	**-**	**11,708**	**10,215**	**60,553**
Primary Lumber	Special Category Lumber	m^3	-	111	44	-	49	-	204
	Class 1 Lumber		-	557	114	8	257	-	937
	Class 2 Lumber		-	247	60	2	580	-	889
	Class 3 Lumber		-	104	42	-	86	-	233
Primary Lumber Total		**m^3**	**-**	**1,019**	**261**	**10**	**973**	**-**	**2,264**
Splitwood	Paling Staves	m^3	-	-	-	-	-	-	-
	Shingles		-	-	-	-	-	-	-
Splitwood Total		**m^3**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Roundwood	Piles	m^3	1,067	47	856	-	-	370	2,340
	Poles		-	-	34	1	-	-	36
	Posts		-	43	-	-	97	-	140
	Spars		-	-	-	-	-	-	-
Roundwood Total		**m^3**	**1,067**	**90**	**890**	**1**	**97**	**370**	**2,516**
Fuelwood	Charcoal	m^3	-	378	-	-	-	-	378
	Firewood		-	-	-	-	-	-	-
Fuelwood Total		**m^3**	**-**	**378**	**-**	**-**	**-**	**-**	**378**
Wattles	Wattles	pcs	-	9,887	-	-	-	-	9,887
Wattles Total		**pcs**	**-**	**9,887**	**-**	**-**	**-**	**-**	**9,887**
Manicole Palm Heart	Manicole Palm Heart	pcs	-	-	-	-	-	-	-
Manicole Palm Heart Total		**pcs**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

Appendix 5: State Forest Total Production by Station in Essequibo 2019

Product	Category	UoM	Annai	Arapiaco	Bartica	Capoey	Charity	Drumhill	Iteballi	Kwebanna	Lethem	Mabaruma	Moruca	Parika	Port Kaituma	Supenaam	Winiperu	Grand Total
Logs	Special Category Logs	m^3	4	-	153	-	111	-	3,547	-	-	-	-	5,791	1	1,329	6,511	17,448
	Class 1 Logs		1	64	106	-	262	-	584	-	-	-	-	6,103	4	494	432	8,049
	Class 2 Logs		-	900	593	-	1,561	-	33	-	-	195	-	3,711	892	730	-	8,616
	Class 3 Logs		-	57	22	-	55	-	379	-	-	351	-	2,069	10	171	44	3,159
Logs Total		**m^3**	**5**	**1,021**	**874**	**-**	**1,990**	**-**	**4,543**	**-**	**-**	**547**	**-**	**17,675**	**906**	**2,725**	**6,987**	**37,271**
Primary Lumber	Special Category Lumber	m^3	98	21	186	69	23	-	175	96	87	157	5	712	14	1,403	-	3,046
	Class 1 Lumber		180	289	100	50	445	-	238	117	200	236	4	256	32	1,597	-	3,744
	Class 2 Lumber		6	4	65	38	9	-	12	-	7	35	-	372	1	421	-	971
	Class 3 Lumber		179	56	91	51	71	-	4	16	244	9	-	7	11	278	-	1,017
Primary Lumber Total		**m^3**	**463**	**369**	**443**	**208**	**548**	**-**	**429**	**229**	**538**	**437**	**9**	**1,347**	**58**	**3,699**	**-**	**8,778**
Splitwood	Paling Staves	m^3	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	5
	Shingles		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Splitwood Total		**m^3**	**-**	**-**	**-**	**5**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**5**
Roundwood	Piles	m^3	-	-	167	-	112	-	191	-	8	-	-	778	-	483	-	1,738
	Poles		-	-	23	-	264	-	-	-	-	-	-	-	-	-	-	287
	Posts		25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25
	Spars		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Roundwood Total		**m^3**	**25**	**-**	**190**	**-**	**375**	**-**	**191**	**-**	**8**	**-**	**-**	**778**	**-**	**483**	**-**	**2,050**
Fuelwood	Charcoal	m^3	-	-	-	-	-	-	-	-	-	-	-	668	-	-	-	668
	Firewood		-	-	-	-	-	-	-	-	-	-	-	-	-	298	-	298
Fuelwood Total		**m^3**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**668**	**-**	**298**	**-**	**966**
Wattles	Wattles	pcs	-	-	785	-	-	-	-	-	-	-	-	-	-	1,985	-	2,770
Wattles Total		**pcs**	**-**	**-**	**785**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**1,985**	**-**	**2,770**
Manicole Palm Heart	Manicole Palm Heart	pcs	-	-	-	-	-	3,883,735	-	-	-	-	-	-	-	-	-	3,883,735
Manicole Palm Heart Total		**pcs**	**-**	**-**	**-**	**-**	**-**	**3,883,735**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**3,883,735**

Appendix 6: Analysis of Values (US$) by Region 2018 & 2019

Appendix 7: 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 album*	Fuel and Plywood.
	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.

	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.
Class 2	Kirikua	*Iryanthera macrophylla*	Oars, interior construction, utility plywood, slack cooperage and 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.