GHANSHYAM MAHASE SAWMILLING INC

PROJECT SUMMARY

NAME OF PROJECT: GHANSHYAM MAHASE SAWMILLING INC LOGGING PROJECT-SFEP 01/19-ISSANO-KURIBRONG DISTRICT-REGION 7

NAME OF DEVELOPER: GHANSHYAM MAHASE SAWMILLING INC

CONTACT DETAILS:

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Prepared June 8, 2023 by Forestry Training Centre Incorporated

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2.0 A detailed description of the project (area)

2.1 General characteristics of the project site

2.1.1 Physical location of the Project

On November 29, 2019, on the basis of its application to the Guyana Forestry Commission, the GFC granted SFEP 1/2019 to the Ghanshyam Mahase Sawmilling Inc. (GMSI) (see Annexes I through V) to, *inter alia*, assess the potential of the area for a commercial logging project. (

SFEP 1/2019 constitutes 69, 005.48 hectares of forest, situate in the Issano-Kuribrong District, Mazaruni - Potaro watershed, in *Administrative Region 7*, between UTM Coordinates 21N, Easting values 200 000 and 245, 000 and Northing values 606 000 and 638 000 (see Figures 1 and 2). The concession has a perimeter of approximately 178.5km.

The concession area lies within two major hinterland roads, the **Hydro Road**-linking **Butukari**, left bank Essequibo River to Amaila Falls, and the **Issano Road**, linking Issano Village with the Bartica-Potaro Road at Kaburi Village (see Figure 3).

GMSI's project is based on the sustainable harvesting of timber from the area, then conveying these via the **Issano** Road and the **Hydro Road** to Butukari , thence across to right bank Essequibo River by barge, thence to Mabura Road and Rockstone Road , thence across the Wismar bridge, thence to GMSI's wood processing facility, Yarrowkabra, Soesdyke-Linden Highway.

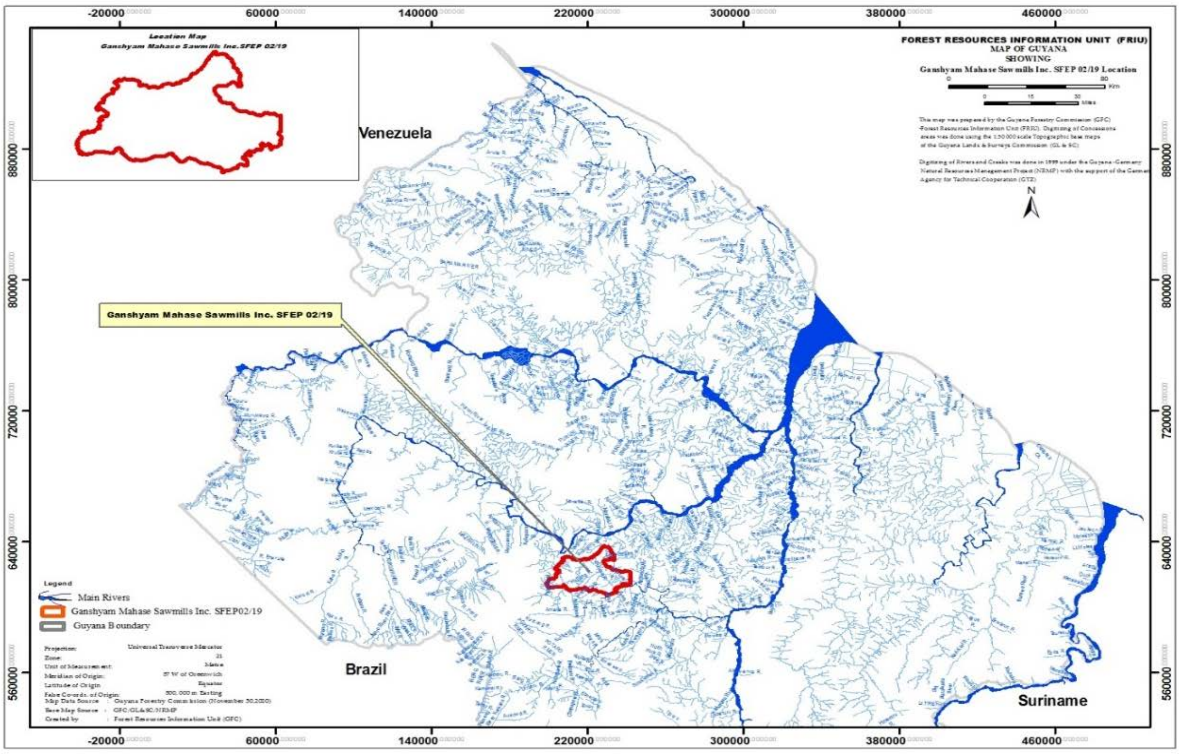

Figure 1: Map of northern Guyana showing the concession area.

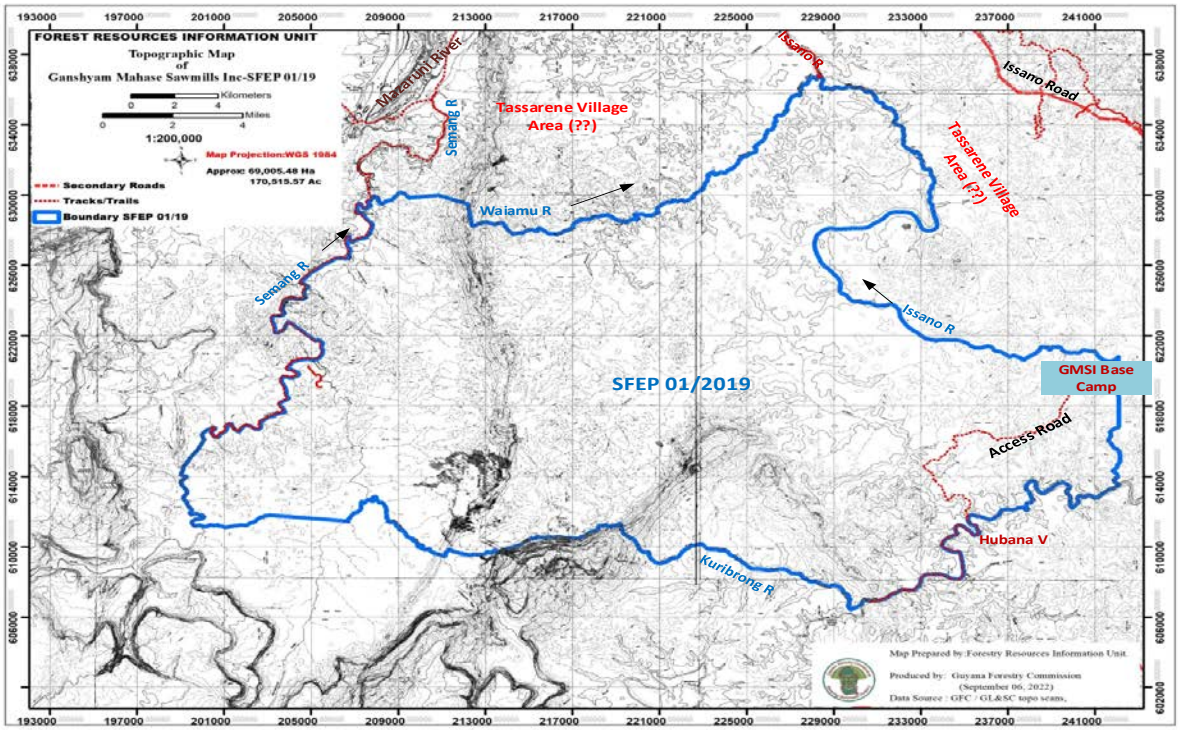

Figure 2: Indicative map showing the general location of SFEP 01/19

Figure 3: Diagram showing the basic road networks around the concession area.

2.1.2 General predominant Land use

Mining is the primary economic activity and land use in the Issano Kuribrong District, including the concession area. The **Concession area** lies within Mining District No. 2.

Mining is currently the dominant land use *within the concession area*. (In fact, no other economic activity, including eco-tourism or agricultural cultivations has been detected within the concession area).

2.1.3 Main communities and settlements

The main communities in the district are **Issano Landing** and **Tassarene Amerindian Village** (see Figure 4). Both communities lie outside of the concession area but Tassarene Village a share common 61km, boundary- including 4.1 km of cut lines- on the northern and north-eastern boundaries of the concession area).

Figure 4: Google image showing the Tassarene central Village (left), Issano Landing (right).

Issano Landing, with a population of about 220 persons, is the main commercial centre in the middle Mazaruni River District. It is accessed via the Mazaruni River navigable by boat from Bartica as well as by road via an 84km (52 mile) road link with the Bartica-Potaro Road (at the 120.7km /75 mile) junction, Kaburi Village. There is an airstrip nearby but

Issano has several business establishments, hotels, restaurants, a police station, a Medex facility, and a primary school. 85% of the residents depend directly on mining activity for their livelihoods.

Tassarene central village (TAV), with a population of about 360 persons within 47 households[1], is situated about 1 km from Issano Terminus (see Figure 4) and shares the western boundary of the forest concession. (GMSI has agreed that no logging will occur within 500m of the common boundary. GMSI will also work

[1] Amerindian Peoples Association

with TAV and GL&SC to demarcate the eastern boundary of TAV, when a period for the demarcation exercise is agreed).

Tassarene Amerindian Village recently received full title to their lands and GL&SC will present the shape file as soon as the area and extent of Issano Landing are defined. During consultations (see Section 6.0), residents complained about the quality of creek water due to mining, however recently GUYWA installed a well at the main village[2].

2.1.4 The relative abundance of resources in the area

The project area comprise pristine forests pockmarked by mining along the banks of the main rivers. The area has never been logged, although forest concessions to the north of the area, within the Kaburi Wat

Gold mining has occurred within the area for at least the last 50 years; there is no evidence so far of mining for other minerals.

2.1.5 The non-disputed nature of the land.

As far as can be determined, the entire concession area comprise State lands; so that there are no private lands within the concession area. Both the mining community and the logging community are committed to sharing the resources in the area in line with their respective concession agreements.

2.2 A description of all feasible and reasonable alternatives

Mining activity in the Issano-Kuribrong district has been going on since the 1950s. Early mining occurred along the banks of the Kuribrong River, the Semang River and the Issano River. Based on the emergence of innovative technologies and in line with the price of gold, the intensity of mining has increased as miners return to previously mined areas. Mining has recently moved up the Hubana River to the centre of the concession area. The GGMC has developed practices to minimize the environmental impacts of mining, however forest stands occupying areas with significant sub-surface mineral resources will be removed. Mining has led to forest degradation and from an economic standpoint it makes much more sense to extract merchantable timber before such stock is destroyed by mining activity. The orderly removal of timber via a forest concession will create employment and contribute to the development of the forestry sector and support national development through taxes and royalties.

Other economic options such as ecotourism and agricultural activity do not appear feasible at this time.

Reduced impact logging systems, which emphasize the planning all interventions into the forest resources, when combined forest management practices such as the use of minimum diameter limits for felling trees and yield control parameters, all represent efficient and feasible way for conducting sustainable timber harvesting activities in Guyana. Preharvest inventories and tree marking respectively that take account of the spatial distribution of merchantable species, terrain and stream patterns will be the basis for selecting the merchantable, harvesting stock.

GMSI will not process logs at stump nor employ the use of a portable mills within the concession area: these create more impacts such as noise and dust pollution respectively and create waste which is expensive to dispose of. Milling timber on the forest floor also require more employees and equipment traversing the forest floor. Other timber harvesting options such as *Cable Yarding Systems* or *Aerial Logging* are not feasible for Guyana, given the spatial distribution of merchantable species and the prevalence of fog and mist in

[2] $53M water supply system commissioned in Tassarene – Department of Public Information, Guyana (dpi.gov.gy)

2.3 A description of available baseline information.

2.3.1 The Physical Environment.

2.3.1.1 Meteorological Conditions

Temperature

Parameters for temperature regimes within the concession area may be extrapolated from data sourced for Issano Landing, shown in Figure 5. During field work spread over 13 sample points within the concession area, between December 18-22, 2020, between the hours of 8:40 and 14:32 hours, consultants recorded a temperature range between 23.5°C and 30.7°C, with a mean of 28.2°C.

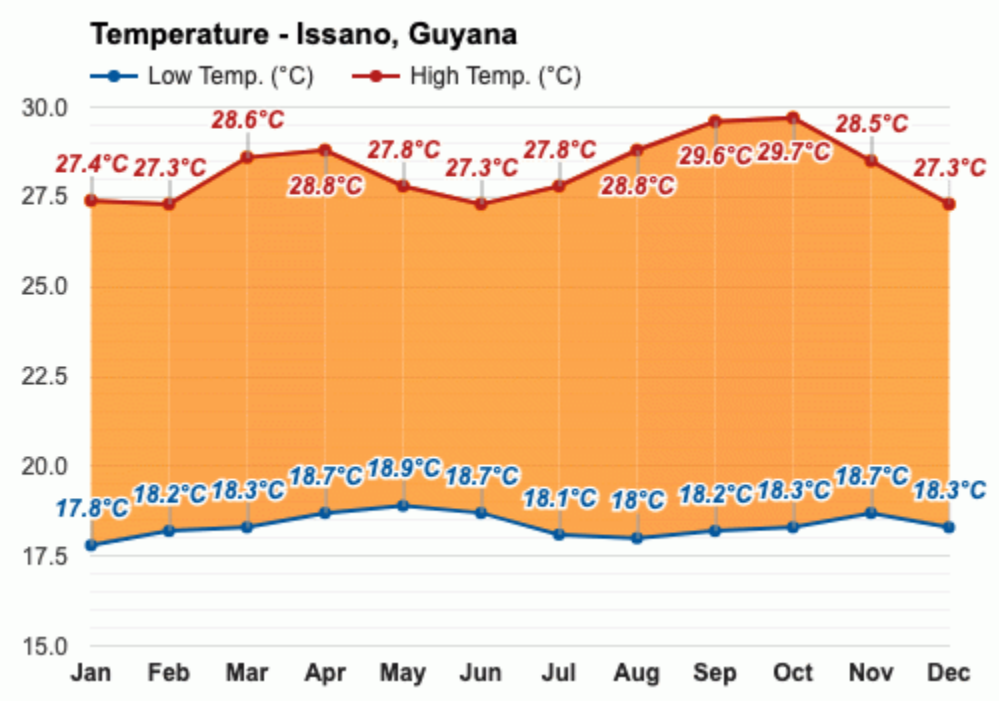

Figure 5: Temperature regime -Issano Landing[3]

Rainfall

Parameters for rainfall regimes within the concession area may be extrapolated from data sourced for Issano Landing, shown in Figure 6.

[3] Issano, Guyana - Climate & Monthly weather forecast (weather-atlas.com) June 5, 2023

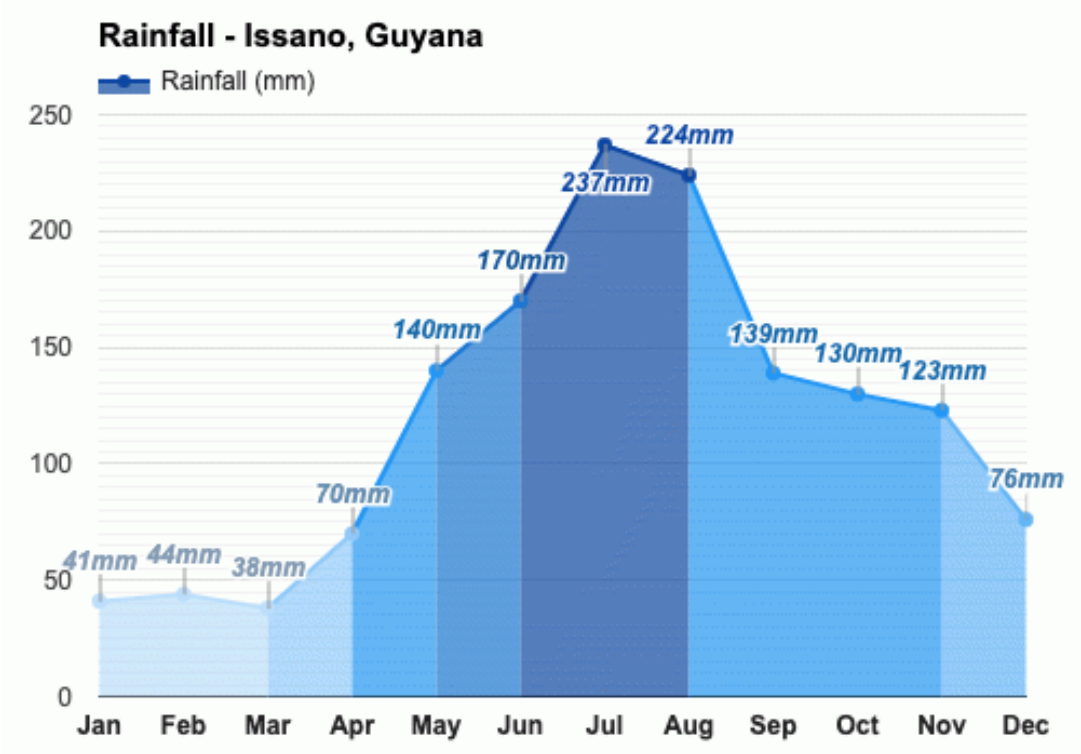

Figure 6: Rainfall regime -Issano Landing[4]

Mean Relative humidity recorded during period December 18-22, 2020 for 13 sample points was 76.4% (n=13, stdev=

Other air quality parameters

Mean **Relative humidity** recorded during period December 18-22, 2020 for 13 sample points was 76.4% (n=13, stdev=

During period December 18-22, 2020, the following data were recorded for $PM_{2.5}$ and $PM_{10.}$:

a. The mean value for $PM_{2.5}$ was 7.54 µg/m^3 (n=13, stdev=2.6, range 11.7).
b. The mean value for PM_{10} was 11.02 µg/m^3, (n=13, stdev=4.8, range 21).

[4] Issano, Guyana - Climate & Monthly weather forecast (weather-atlas.com) June 5, 2023

2.3.1.2. Terrain and drainage features

Terrain and drainage

The terrain is hilly, with a mean elevation of 115m and a maximum of 400m. Two escarpments dominate the landscape: one running north south throughout the concession, and an *upside down* 'V-shaped' one on the southern boundary of the concession.

The concession area is nestled between the right bank Waiamu river to the north, the left bank Issano River, to the east, the left bank Kuribrong River to the southwest and the right bank Semang River to the northwest. The Issano River and the Semang River are right bank tributaries of the Mazaruni River, the Waiamu River is a left bank tributary of the Issano River, while the Kuribrong River is a left bank tributary of the Potaro River.

The tributaries of the Issano River and the left bank tributaries of the left bank Kuribrong river-*including the Hubana River*, dominate the concession area. The Waiamu River , on left bank Issano River forms part of the shared boundary between the concession area and Tassarene Amerindian Village.

In the rainy season, it is easy to traverse these rivers, but their use for hauling logs by pontoon or barge is not feasible due to rock bars and waterfalls.

The flood plain of all the rivers in the area are inundated for extensive periods during the rainy season.

Water analysis

During period xxxx, FTCI gathered the following data within the concession area:

a. Temperature[5]: mean 26.35°C (n=6, stdev=1.4°, Range 3.7°)
b. pH[6]: mean 7.8 (n=6, stdev 1.6, range 4.33)
c. Oil & Grease: mean 0.01mg/l,(n=6 stdev 0.02mg/l, range 0.039mg/l)
d. Total suspended solids (TSS)[7]: mean 34ppm (n=6, stdev 6.39ppm, range 18ppm)

2.3.1.3 Soil types

The primary soil type in the concession is Kanhapludults (65% of the area). Kanhapludults constitutes very deep, well drained soils, with a slight to high erosion hazard.

2.3.1.4 Existing roads and trails

There is no network of roads ***within*** the concession area, however there at least 46 km of trails, constructed and used by primarily by miners using ATVs.

2.3.2 Biological environment

2.3.2.1 Vegetation

Notwithstanding the history of mining within the concession area, approximately 85% of the concession area is covered with pristine forests. The major mining areas are on left bank Kuribrong River where there is some forest fragmentation due to extensive mining over the past 50 years.

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[5] <40°C
[6] With the range 6-9
[7] <50mg/l

The forest types within the project area are described as Pakaraima Wet Forests[8]: this type is dominated by Clump Wallaba (*Dicymbe altsonii*)-~475 trees/100ha; other important data relate to Crabwood (*Carapa guianensis*) 215 trees/100ha and Greenheart (Chlorocardium rodiei) 96 trees/100ha.

The forest type map available from GFC (see Figure 7) indicate that the forest resources are quite diverse with **fifteen** forest types, and consistent with other published data, Clump Wallaba comprise 33% of all forest types. The vegetation of the escarpments is intact, and is believed to host major pockets of biodiversity, given their inaccessibility and vertical gradients.

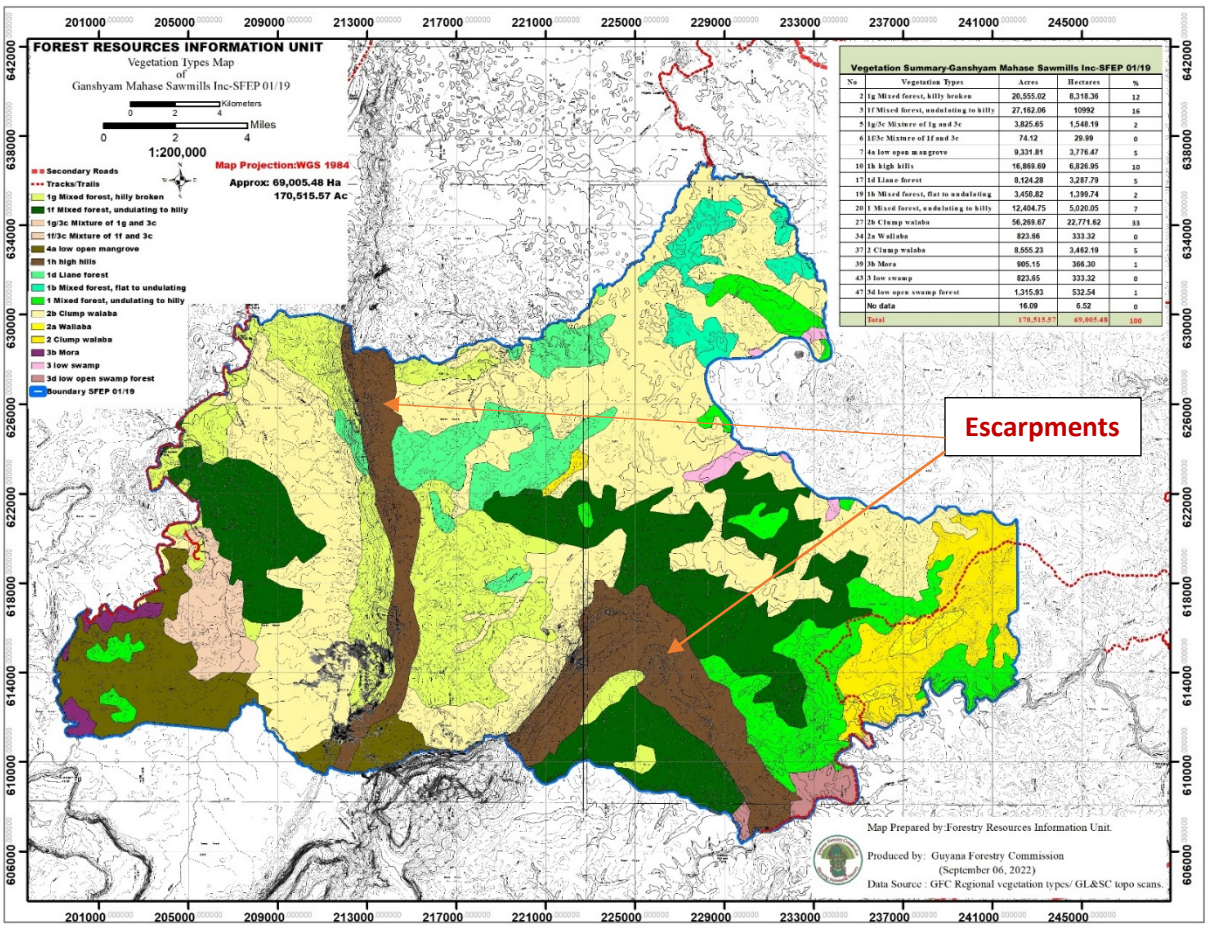

Figure 7: Vegetation Map of the concession area (GFC, 2023).

Reconnaissance inventory also revealed the presence of numerous hardwood species such as Wamara (Swartzia spp), Tatabu (), Shibadan (Aspidosperma spp), Suya (Pouteria spp.), Bulletwood (Manilkara sp.), Simarupa (Simaruba sp.), Tauroniro (Humira sp.), and Manni (Symphonia spp).

Figure 8 gives an example of the distribution of diameter classes typical of the vegetation of the Mazaruni-Potaro District for trees with dbh≥40cm.

[8] Ter Steege et al, 2000.

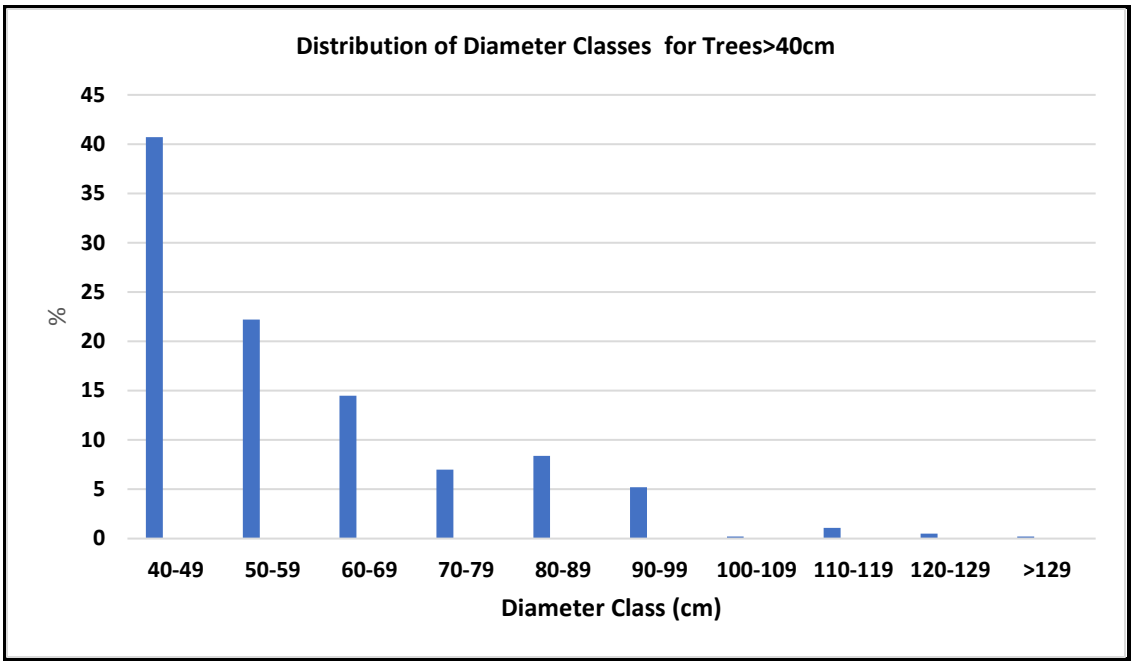

Figure 8: Typical distribution of diameter classes-Mazaruni-Potaro District (FTCI/Viatarna Holdings, 2015)

Many of the forest types occur on steep terrain which will not be harvested. The net productive area for the concession area is computed as 76.4% of the concession area.

2.3.2.2 Fauna

In respect of fauna, initial assessments point to significant levels of diverse fauna (see example at Figure 8).

Figure 9: Photographs of bats-Kuribrong River, Fish-Semang River

(Fishing along the lower Semang River and the lower Issano River is a major part of the livelihood of the residents of Tassarene Village, but there was no fishing or hunting observed in other areas. In fact, no fish or wildmeat was on offer at groceries at Hubana, where all meat and chicken sold were sourced from Georgetown or Linden).

Miners reported diverse mammalian fauna and a wide variety of reptiles. Arboreal fauna (particularly monkeys) was seen during field surveys. Likewise, avian fauna, including powis and Warakabra were seen frequently during field work.

Avian fauna is also well represented: various species of hawks, powis (*Crax alector*) and Warakabra (*Psophia spp*.) were frequently seen during field work.

2.3.3 Socio-economic environment

2.3.3.1 Overview

The drivers of the socio-economic environment in the Issano Kuribrong River area are gold mining (see Figure 10), and support services offered by businesses at **Issano Landing**-RB Mazaruni River, **Semang Landing**, left bank Mazaruni River, **14 Mile Landing**-Issano Road, and **Hubana Landing**, LB Kuribrong River (see Figure 11).

FTCI's estimates that apart from the residents of Tassarene Village, about 400 people occupy the Kuribrong-Semang Landing-Issano District, which includes the concession area. About 15% of these are females, engaged as cooks or running small businesses. Most of the miners currently work in the lower Semang River and the lower Issano River.

Also, most of the miners in the area **do not live there and treat the area as a work zone**.

Figure 10: Photograph showing an example of mining activity, LB Kuribrong River.

For areas north of the concession area, Issano Landing is by far the largest business centre, with three to four jet boats travelling from Parika via Bartica to Issano Landing six days per week. Jet boats convey personnel and small goods (particularly machine spares) to Issano Landing (see Figure 12)[9]. Heavier goods such as fuel are normally transported to Issano Landing by Lorry via the Issano Road.

[9] In fact, the boats serve all Landings along the Mazaruni River, as far as Martin Landing, right bank Mazaruni River.

Figure 11: Photographs showing 14 Mile Landing (left) and Semang Landing (right).

Figure 12: Jet boats moored at Issano Landing.

For the concession area, the primary business centre is Hubana Landing, left bank Kuribrong River.
Hubana Landing is situated at the mouth of the Hubana River, left bank Kuribrong River. Hubana Landing (with about 60 persons, 20 females, but no children) is the major 'village' **within** the concession area: the area is a cluster of businesses addressing the requirements of miners in the Hubana River Basin, the Left bank Kuribrong River.
Hubana is an ad-hoc community: there are only business enterprises there. There is no evidence of any formal local authority, such as a District Council (NDC). There is no medical facility nor any public office or facility at Hubana. Staffs of the GGMC patrol the area from time to time. A new Chinese run supermarket opened there within the last two years: a fact which indicates that Hubana Landing may be expanding in area.
Miners within the concession area have been routinely removing small volumes of timber from the concession area for their personal use (see Figure 13).

2.4 Layout of the project.

The logging project will encompass the entire concession area (see Figure 14) , although only the areas that form the net part of the concession will be logged.

Figure 13Timber structures constructed by miners within the concession area.

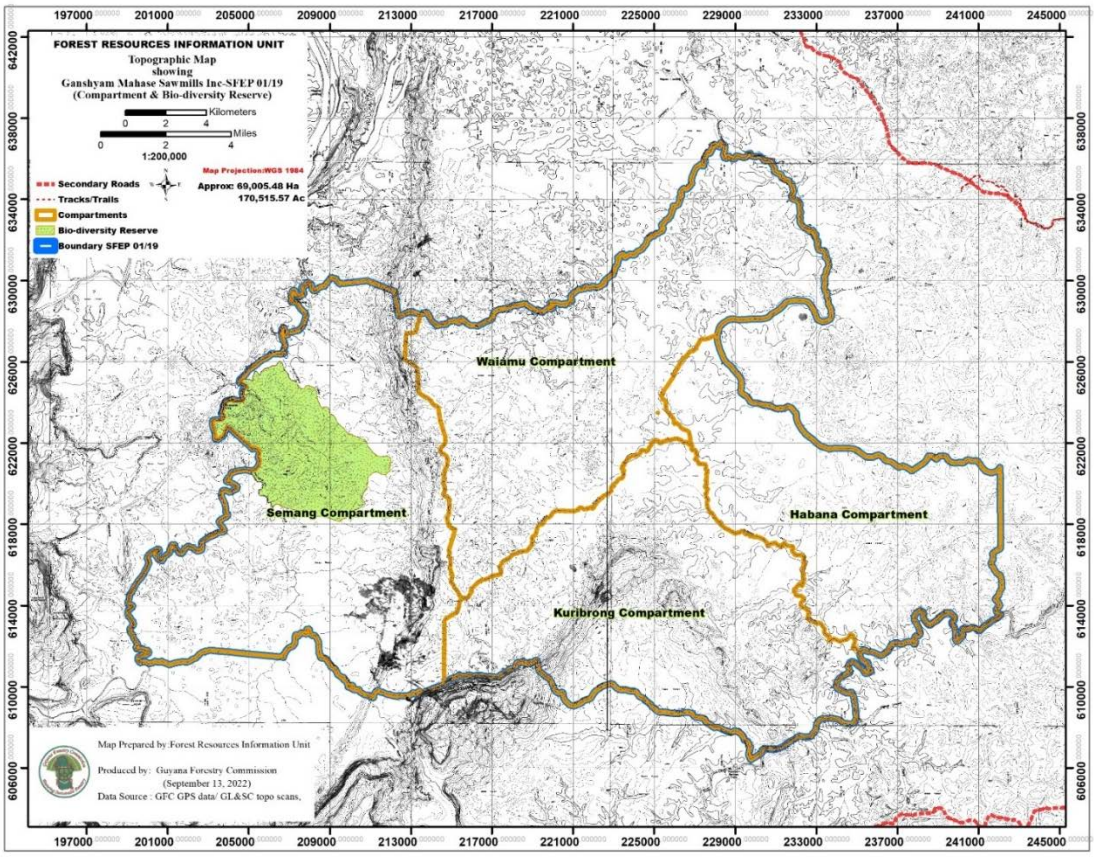

Figure 14: Indicative Map[10] showing the general compartment layout for the project area.

Only 2108.81 ha or 3.06% of the concession area will be harvested per annum. It is thus not possible at this time to specify receiving bodies of water, identify existing or proposed intake and discharge structures, or identify effluent/emission discharge points.

[10] The map shows the relative location of the features presented but the scale is too small to allow accurate measurements. Large scale maps are difficult to distribute as separate attachments.

3.0 Project Description

3.1 Management Objectives

GMSI proposes to harvest logs from the concession area, subject to sustainable practices agreed with the GFC, and convey the logs to GMSI's facility, Linden-Soesdyke Highway.

3.2 GMSI's access road

To access the concession area and to haul logs from the concession area, GMSI will invest heavily in supporting segments of public roads such as the Hydro-Road and the Issano Road.

Figure 15: Diagram showing the general roading & logging concessions in the district.

GMSI will construct a base camp at the point where the Hubana Access Road crosses the north-eastern boundary of the concession area. GMSI will set up a self-contained base camp catering for a maximum of 40 persons initially and will install facilities for generating electricity and potable water, and for preventive maintenance of vehicles.

3.3 Investments

GMSI proposes to invest US$3.5 million in the development of the concession area over period 2023-2024, with roading infrastructure accounting for 50% of the budget and new equipment, 34.3% (see Table 2).

3.4 Staffing

GMSI's projections are that 70 field operatives will be required at full operations. GMSI is prepared to recruit males and females from the Tassarene Villages, Issano Village and Kaburi Villages once they subscribe to the training that will be provided and GMSI's disciplinary framework. GMSI guarantees regular fortnightly and monthly payment schedules. (Only tree fellers will be paid fortnightly).

Table 1: Provisional expenditure for the year 2023

#	Period	Details	Amount ($US)	%
1	2023	Short term staff recruitment and training	8,000.00	0.2
2	2023	Base Camp Development	70,000.00	2.0
3	2023	Socio-economic surveys to identify and map major mining sites, mining camps and existing roads and paths installed or used by the mining community; demarcation of concession boundaries	45,000.00	1.3
4	2023	Forest Inventory (100%) (Phase 1)	75,000.00	2.1
5	2023	Acquisition of new heavy-duty equipment	1,200,000.00	34.3
6	2023	Road surveys, road surveys and alignment, road construction	1,750,000.00	50.0
7	2023	Consultations with stakeholders	5,000.00	0.1
8	2023	Other expenses (for example, licenses and permits, preparation of AOP, purchase of forest monitoring equipment, setting up permanent monitoring stations, etc.	347,000	10.0
Total			**3,500,000.00**	**100**

All employees would be required to use personal safety gear that GMSI will provide. All employees will be required to subscribe to GMSI's environmental policies.

3.5 Annual production output

GMSI projects a sustainable *annual* output of 17,500m^3 of timber covering 28 species of timber. This implies a mean monthly production of 1458.3 m^3 and about ten trips per week.

3.6 Waste

GMSI is expected to generate tree crown debris which will remain on the forest floor, decompose, and contribute to soil fertility. Other timber waste comprising about 357m^3 of wood debris derived from grading logs prior to their transport to GMSI's wood processing facility will also be left on the forest floor.

Figure 16 gives an indication of GMSI's management for domestic waste.(Please also see Section 5.0)

3.7 Risks and challenges

GMSI is associated with logging activities near the concession area and has been supporting road maintenance works along the Issano Road. Therefore, the company is familiar with general conditions in the area. Two challenges are anticipated as GMSI embarks on this project. Firstly, during the rainy season, roads can be reduced to inoperable conditions due to challenges in doing preventative road maintenance in the rainy season.

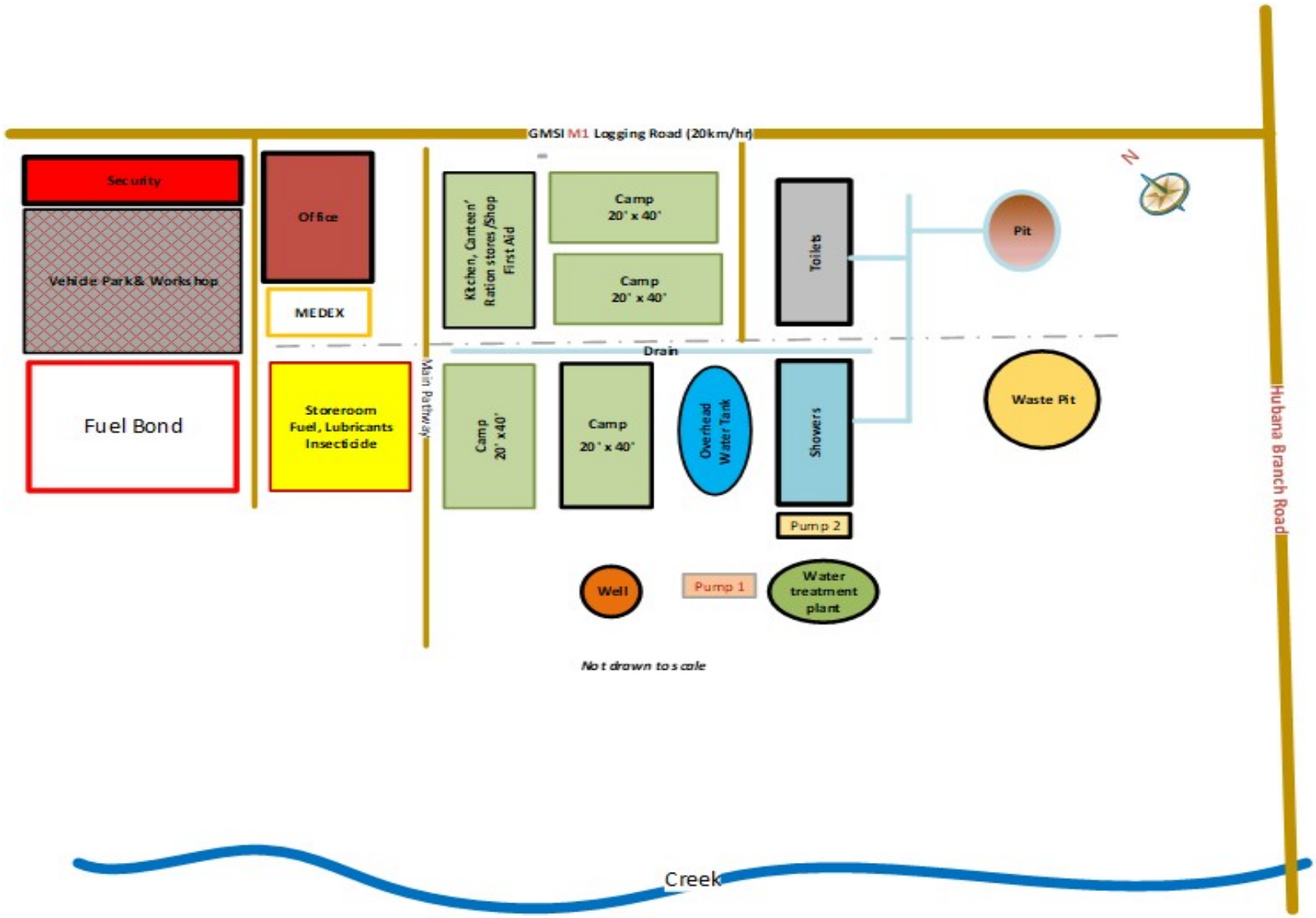

Figure 16 : Illustration of GMSI's proposed base camps showing inter alia, waste management

4.0 Potential Impacts and their significance

4.1 Overview

The interventions necessary to extract timber from the concession area will generate environmental impacts. These interventions include road construction, the establishment of skid trails and log markets, the clearing of land for campsites, impacts generated from the long-term human occupation of camp sites, the felling of trees, and the use of myriad machinery.

4.2 Routine operational impacts

Impacts generated from routine operations throughout the period of the logging project are summarised in Table 2.

Fortunately, most of these impacts will be confined to the concession area (and the mining community therein) and neighbouring forest concessions and mining operations. During reconnaissance operations at least one year prior to actual road construction or timber harvesting , GMSI will inform stakeholder communities of its plans.

Likewise, in about 20 years hence, when logging activity approximates the shared boundary with Tassarene Village, that Village council will be duly informed, although GMSI will operate at a minimum of 500m from the common boundary.

4.3 Cummulative Impacts

4.3.1 Expanded economic activity in the Issano-Kuribrong

GMSI will develop a proper road infrastructure within the concession area in order to extract timber. The road system will afford miners more and improved access to mining concessions that will lead to improved economic activity within the Issano Kuribrong District. Consultations conducted on behalf of GMSI at communities such as Semang Honey Camp revealed many people who are ‘idle’ and awaiting job opportunities; these people are familiar with the concession area and once employed with GMSI can help GMSI engage in production at an earlier stage, contributing to expanded economic activity in the short term.

The Government will be attracted to stronger economic performance, and would definitely put more resources education, health, and security sectors in the area. This in turn would improve the business climate for developers who wish to invest in the area, leading to even greater expansion of economic activity.

School leavers at Issano Landing and Kaburi Amerindian Village would be delighted to find jobs near to their place of residence.

4.3.2 Marketing challenges

GMSI will enter the concession area and its interventions to extract timber will generate environmental impacts that will add to environmental impacts generated by the mining community already entrenched there as well as new miners who will start work there in the short term. The cumulative environmental footprint could present challenges for GMSI if it wants to export timber to markets with high sensitivity to issues of water quality, air quality, or conservation of biodiversity.

Table 2: Summary of environmental impacts and their significance.

Environment Type	*Project Activities*	*Project Phase(s)*	*Potential Environmental Impact*	*Impact Significance*
Physical Environment (Land/Soil)	Land clearing operations (for the construction of base camps, roads, log markets and mechanical workshops)	Preparatory Phase/Operations	Removal of specific site vegetation to facilitate the construction of project facilities exposes the soil surface, facilitating soil erosion. Scarification of soil surface and sub-soil, soil compaction.	Ex: Ir: Lt: Un: M: Sig: Hp
	Operation of Machineries	Operations	Soil compaction from multiple passes of heavy vehicles over soil surface.	Ex: Ir: Lt: Un: M: Sig: Hp
	Waste Disposal (solid and liquid waste)	Operations	May result in soil contamination from indiscriminate disposal of liquid, solid and hazardous waste	Lo: Rv: St: Av: M: In: Lp
	Fuel and Oil transportation, handling, and storage	Operations	Pollution from fuel and oil as a result of a spill during transportation, handling, or storage.	Lo: Ir: Lt: Av: M: Sig: Lp.
Physical Environment (Water Resources)	Clearing of lands for the construction of base camps, roads, log markets and mechanical workshops	Construction/ Operations	Potential increase in sediment loads and turbid streams due to surface run off and erosion. Removal of vegetation	Ex: Rev: Lt: Av: M: Sig: Hp
	Construction of bridges and the installation of culverts	Construction/ Operations	Potential reduction/obstruction of stream flow from the installation of bridges and culverts	Lo: Rev: Lt: Av: M: Sig: Lp:
	Waste Disposal (solid and liquid waste)	Construction/Operation	Contamination of water in proximity to disposal sites, modifications in water temperature, turbidity, ph. Pollution with oil	Ex: Ir: Lt: Av: M: In: Lp
	Fuel and Oil transportation, handling, and storage	Construction/Operation	Contamination of water in proximity to storage sites, modifications in water temperature, turbidity, pH. Pollution with oil	Lo: Ir: Lt: Un: M: Sig: Lp
Physical Environment (Air)	Operation of chainsaws, and heavy-duty equipment.	Construction/Operation	Noise, dust, and smoke generated from the operation of the various equipment. Changes in microclimate.	Ex: Ir: Lt: Un: M: Sig: Hp

Environment Type	*Project Activities*	*Project Phase(s)*	*Potential Environmental Impact*	*Impact Significance*
	Clearing of lands	Construction/Operation	Excessive exposure of soil to constant traversing of heavy-duty vehicles over exposed soil	Ex: Ir: St: Av: M: In: Lp
	Operation of heavy-duty vehicles and equipment.	Operation	Dust and particulate matter resulting from the operations of chainsaws and movement of vehicles.	Lo: Ir: Lt: Un: M: Sig: Hp
Ecological Environment (Flora)	Clearing of lands for the construction of base camps, roads, log markets and mechanical workshops	Construction	Destruction of vegetation from the clearing of lands for construction purposes.	Ex: Ir: St: Un: Im: Sig: Hp:
	Harvesting of Logs (Logging and extraction)	Operation	Reduction in tree species specific to the areas of logging/Genetic erosion of plant species/decline in soil fertility due to removal of biomass from poor soils/Increased potential for blow downs of residual trees due to freer flow of air though the canopy/under-storey.	Ex: Ir: Lt: Un: M: Sig: Hp:
Biological & Ecological Environment (Fauna)	Clearing of lands for the construction of base camps, roads, log markets and mechanical workshops	Construction	Modification, fragmentation, and destruction of habitats (especially in terms of cover and food sources); depletion in number,/variety of some species	Ex: Rev: St: Un: M: Sig: Hp:
	Presence of humans	Construction and Operation	Increase in the level of predation, modifications of prevailing ecological relationships: plant-plant, plant-animal, animal-animal	Lo: Rev: St: Av: M: In: Lp
Socio-economic Environment (Occupational Health & Safety)	All construction and Operation activities	Construction/Operation	Risk of accidents from the use of the various pieces of equipment onsite	Lo: R: St: Av: M: In: Lp
	Operation of machineries and equipment	Construction /Operation	Continuous exposure to excessive noise and vibration from the operation of equipment.	Lo: Rev: St: Av: M: Sig: Lp
	Conflict resulting from the Change in Land Use activities	Construction /Operation	Restriction of access, perceived alienation of rights, unplanned changes in lifestyle, restrictions on hunting.	Lo: Rev: St: Av: M: In: Lp

Environment Type	*Project Activities*	*Project Phase(s)*	*Potential Environmental Impact*	*Impact Significance*
Socio-economic Environment (Employment)	Increase in workforce	Construction /Operation	Increase in the incidences of crime, increase in the use of illicit drugs and alcohol, socially unacceptable behaviour and inappropriate with members of close-by communities.	Lo: Rev: St: Av: M: Sig: Hp
	Hiring of Workforce	Construction /Operation	Skills transfer , Training opportunities job creation, increase in incomes and cash flows	Ex: Ir: Lt: Un: M: Sig: Hp
	Regional Development	Construction /Operation	Improvement of infrastructure. Crime; use of alcohol; health risks, disagreeable behaviour	Ex: Ir: Lt: Un: M: Sig: Hp
Socio-economic Environment (Archaeological Resources)	Construction and operational activities	Construction /Operation	Loss, destruction, or modification of assets of archaeological significance	Lo: Rev: Lt: Av: M: In: Lp

Impact Significance (parameters): Lo-**localised,** Ex-**Extensive/** Rev-**Reversible,** Ir-**reversible;/** St-**short term,** Lt-**long term/** Av-**Avoidable,** Un-**Unavoidable.**

M-**Mitigable,** Im-**Immitigable/** Sig-**Significant,** In- **Insignificant/**Hp-**High probability,** Lp-**Low probability**

4.3.3 Challenges for Government of Guyana's international obligations

The cumulative effects of GMSI's environmental impacts added to those of the mining community could put the Government (and people) of Guyana at risk with obligations linked to forest conservation, and climate related treaties and conventions.

4.3.4 Support for the expansion of national, regional housing drive

GMSI's advent into logging will add large volumes of timber to the local market, at a time when there are massive housing projects, driven by Governments massive house lot allocation programme as well as local developers' commitment to support the regional (Caricom) housing drive in countries such as Barbados and Grenada.

5.0 Description of the proposed environmental management and mitigation measures.

5.1 Overview of environmental and mitigation measures

The primary mitigation measures that GMSI will employ are summarised as follows.

a) *Employee education*: GMSI will ensure that all employees area aware of the negative impacts that logging creates as well as impacts arising from the improper disposal of waste. GMSI will use regular briefing sessions as well as pamphlets published by various agencies, force proper behaviour. Briefing sessions will also cover the application of GFC and EPA Guidelines.

b) *Appropriate waste management practices*: GMSI will take care to dispose of waste in an acceptable manner so that potential pollutants do not enter the environment, and water bodies in particular.

c) Collaboration with stakeholders: GMSI will collaborate or engage with other legitimate resource users as far as practicable to reduce conflict.

d) Use of RIL practices: GMSI will use *Reduced Impact Logging* practices which emphasises planning of all interventions in the forest resources, the proper use of machines, due to attention to occupational safety and health practices, and general forest conservation practices. Whenever necessary, GMSI will request the services of the *Forestry Training Centre Inc. for training targeting RIL courses.*

e) *Heavy-duty machine diversity*: GMSI will maintain the appropriate diversity of machines to ensure the most efficient field practices. Care will be taken to maintain machines.

f) *Environmental data:* GMSI will set up a network of permanent sampling points that collect air quality data and water quality data, respectively. GMSI will discuss with the Hydrometeorological Department, the establishment of a mini-meteorological station to collect data specific to that area. GMSI will make sure that it makes annual budgetary provisions for ensuring the collection of environmental data. The budgetary provisions will also make provisions for the recruitment of consultants.

g) *Robust system of collecting, analysing, and reporting on environmental data*. GMSI will maintain a robust system of records to facilitate environmental management and the preparation of environmental reports.

Mitigation measures would be included in GMSI's Road Corridor Management Plans, Wildlife Management Plans and Forest Monitoring Plans. Mitigation measures are set out in more detail in Annex VIII.

5.2 Summary of Mitigation measures

A summary of GMSI's mitigation measures is shown in Table 3.

Table 3: Summary of GMSI's mitigation measures			
Predicted impact.	**Proposed mitigation measures**	**Lead agency**	**Period for implementation**
Physical Environment			
Earthworks Grubbing, cut and fills, scarification of soil surface, sub-soil exposure , erosion, compaction, water logging	• Plan roads, bridges and culverts paying attention to topography and the use of stock maps. • Use appropriate machines for all earth works to reduce the time taken to complete each activity. • Consider the weather pattern before initiating major earthworks. • Follow the recommendations of the CoP (Sections 4.5-4.7, Section 5)	GMSI	During the entire period for the project.
Air quality: Dust and smoke (especially along roads) minor changes in micro-climate	• None. In any event, dust and smoke do not represent a major impact. However, Occupational Health and safety must be an integral part of planning and conducting all operations; for example, GMSI's staff would use dust masks (as well as safety helmets, goggles, and earmuffs during normal work. • Vehicles will travel **slowly** <25 km/hr whenever they pass homesteads or communities.	GMSI	During the entire period for the project.
Water resources: negligible increases in turbidity, temperature, ph.; oil spills	• Strict adherence to RIL principles and prescriptions of the CoP, especially regarding buffer zones along waterways. • Maximum care to be taken to ensure all vehicles and machinery are in a proper state. Dispense or change lube oil only in designated areas. • EPA's Brochure on Water conservation to be placed at all public points around the concession. • Regular briefing sessions for field staff would be formalised. • Care taken to avoid excessive spillage of borax solutions whenever used to treat (some species of) timber.	GMSI, GFC	During the entire period for the project.
Biological/ecological environment			
Timber harvesting: destruction of juvenile trees, genetic erosion of species, decline in soil fertility, spillage of oil, increased potential for blow downs	• Implement a system for conducting pre-harvest inventories and preparing stock maps. • Use directional felling techniques for felling trees. • Plan skid trails on the basis of stock maps. • Use winching techniques. • Use heavy duty machines that are fully functional. • Train all field operatives in RIL practices	GMSI	During the entire period for the project.
Wildlife: modification, destruction of habitats, population changes	• Ensure a systematic manner of timber harvesting so that once a block is harvested, the operation moves on (and animals can return). • Restrict hunting activities by placing advisory notices at strategic points in and around the concession area.	GMSI	During the entire period for the project.

Table 3: Summary of GMSI's mitigation measures			
Predicted impact.	**Proposed mitigation measures**	**Lead agency**	**Period for implementation**
	• Unique ecosystems, habitats and species will be conserved, by restricting logging in areas where they occur.		
Ecological relationships; Modifications of ecological relationships. Increased potential for pests.	• Implement proper RIL practices and prescriptions of the CoP (Sections 8, 9 & 10).	GMSI, GFC	During the entire period for the project.
Socio-economic environment			
Conflicts: restrictions of access, alienation of rights	• Engage residents in discussion and consultations to address mutual concerns.	GMSI	As required
Social problems: crime, use of alcohol, other disagreeable behaviour; increase in life threatening behaviour through exposure to various illnesses.	• Work with public agencies (Police, staff of the Ministry of Health, and staff of the Ministry of Regional Development) in Region 7 to address emerging issues. • Keep proper records of emerging problems and pass these on to the appropriate agencies.	GMSI	As required
Road safety: high probability of road accidents.	• Work with the police and the Kartabu-Puruni Road community and other stakeholders to ensure adherence to proper road use practices and to identify road locations requiring special attention. • Make sure that each vehicle is in a full functional state prior to its use on the roadways, within and outside of the concession area. • Place appropriate cautionary signs at sharp turns, steep grades, and bridges and near populated areas. • Promote proper skills set among drivers through training.	GMSI	During the entire period for the project.
Waste management: illnesses resulting from a polluted environment	• Observe prescriptions of the Code of Practice For Forest Operator's 3rd Ed. Sections 8.0, 9.1, 9.2 • Hold frequent briefing sessions with staff to ensure a shared understanding of the consequences of poor control over waste management. • Distribute and put-up EPA's brochure on waste management at all camps.	GMSI	Monthly
Indigenous, archaeological assets: loss , destruction modification of habitats, landscapes	• Identify and isolate any assets encountered and post appropriate advisory signs and notices. • Ensure such sites are placed on all stock maps. • Build fences around assets and place appropriate signs after consultation with MOA. • Consult with the Amerindian Affairs Ministry and the Walter Roth Museum on collaborative efforts to protect any assets discovered.	GMSI	As required

Table 3: Summary of GMSI's mitigation measures			
Predicted impact.	**Proposed mitigation measures**	**Lead agency**	**Period for implementation**
	• Collaborate with communities to address the conservation of existing and emerging assets. • Offer training & incentives where appropriate		

6.0 A summary of public consultations held by the project proponent.

6.1 Overview

'Consultations' were conducted at Semang Landing, Issano Landing, Dungeon, Hubana Landing, and Honey Camp[11]-Issano Road.

Consultations **within** the concession area were characterized by two features:

a) 90% of the persons interviewed were miners and they had two concerns: whether GFC intends in any way to restrict mining on the concession area; and secondly how soon the logger would start its road construction network.
b) Although miners as a rule are helpful in pointing out the location of mining sites, paths, and trails, or provide historical data to the extent that they are able, these miners abhor, and were clearly reluctant in providing their full names or address or to allow themselves to be photographed.

6.2 Consultations with Tassarene Amerindian Village

FTCI's representatives visited Tassarene Village on three occasions for consultations (see Figures 17 & 18), at the weekly ***community meetings***[12], chaired by the Toshao. The meetings were therefore well attended, including up to 80% of residents.

Figure 17: Community meeting at Tassarene at which FTCI's representatives engaged them.

[11] Honey Camp and Dungeon, both in the vicinity of the concession area are remnants of once thriving mining communities; however, the people there are reluctant to move, hoping for new employment opportunities.
[12] This was done at the advice of the Toshao.

Earlier meetings were treated as ***information sessions*** where the consultants showed residents maps with their extended village lands and the spatial relations with the concession area. Care was also taken to explain in detail, the GFC procedures for the granting of large-scale forest concessions.

Figure 18: Information sharing session with residents of Tassarene Village

Not all the residents spoke English[13], however the general concerns of the community related to

a) **Logging in proximity to the common boundary.** Normally loggers agree to avoid logging within a 500m depth of shared boundaries.

b) **The inadequate quality of creek water available to the community due to contamination by mining activity**. (This has been addressed, GUYWA has installed a well).

c) **Opportunities for the employment of youth.** It was explained that FTCI has the capability for training youth in various skills sets that the concessionaire would require. Reference was also made to a recent course on 'The Use of a GPS' Device' that GFC conducted at the community.

It must be noted that no resident objected to the granting of a forest concession to GMSI.

6.3 Consultations with other stakeholders

During period February 20 to 24, 2022, FTCI conducted consultations with other communities that are within the concession (Hubana Landing) or in the communities on the outskirts. Figures 19, 20 , 21 and 22 provide a breakdown of interviewees by community, gender, region of normal residence, and occupation, respectively. Again, the engagements with other stakeholders were more information sessions. Three concerns dominated these engagements:

[13] The Toshao translated whenever necessary.

a) The status of miners **within Tassarene Village Lands**: will the miners be put out or can they negotiate an agreement with the Village Council? The issue is compounded by the fact that many residents of Tassarene are also miners.

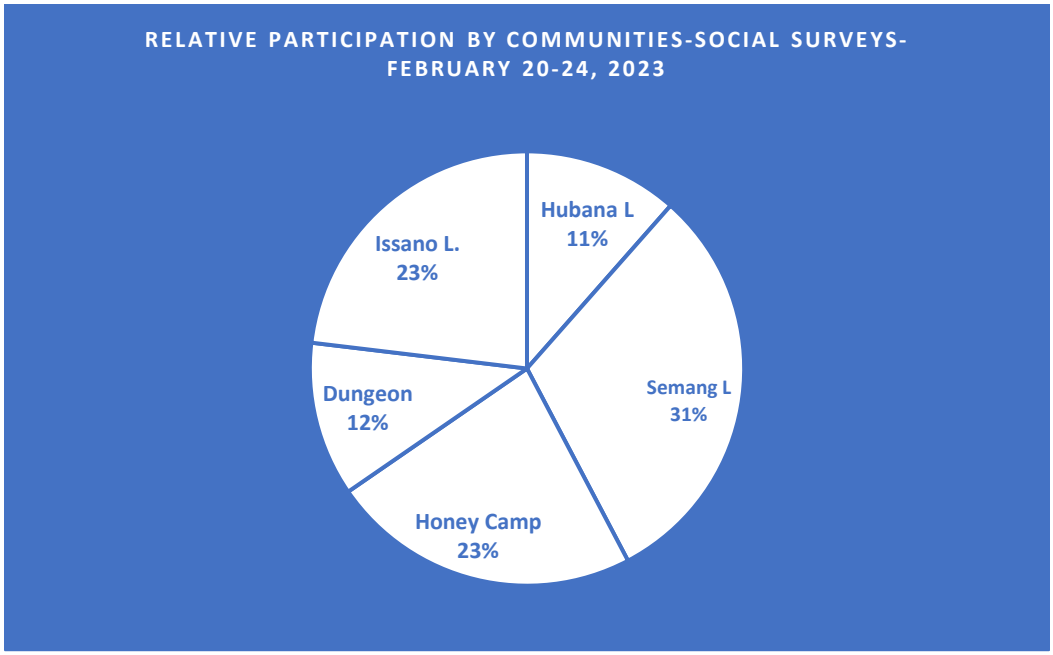

Figure 19: Chart showing participation by community during consultations.

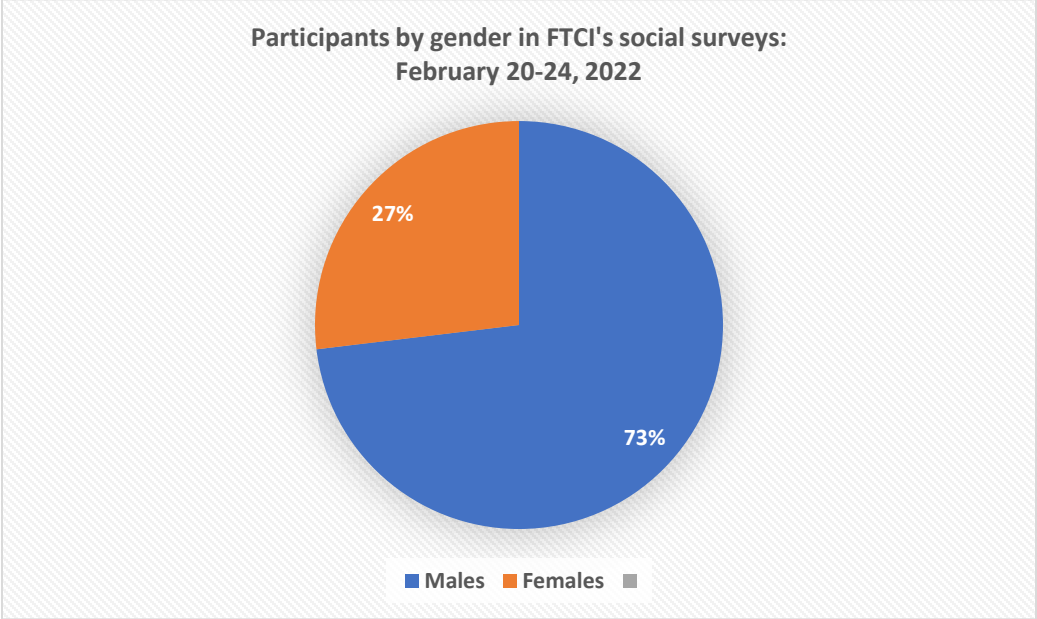

Figure 20: Distribution of interviewees by gender.

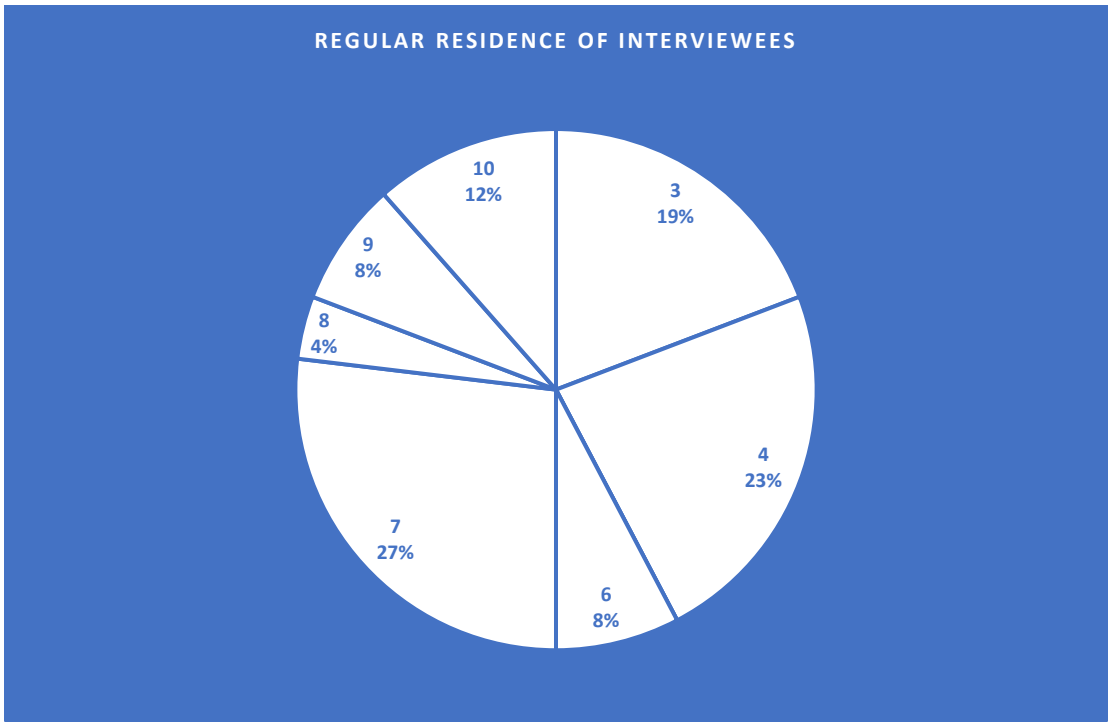

Figure 21: Profile of interviews by their normal place of abode

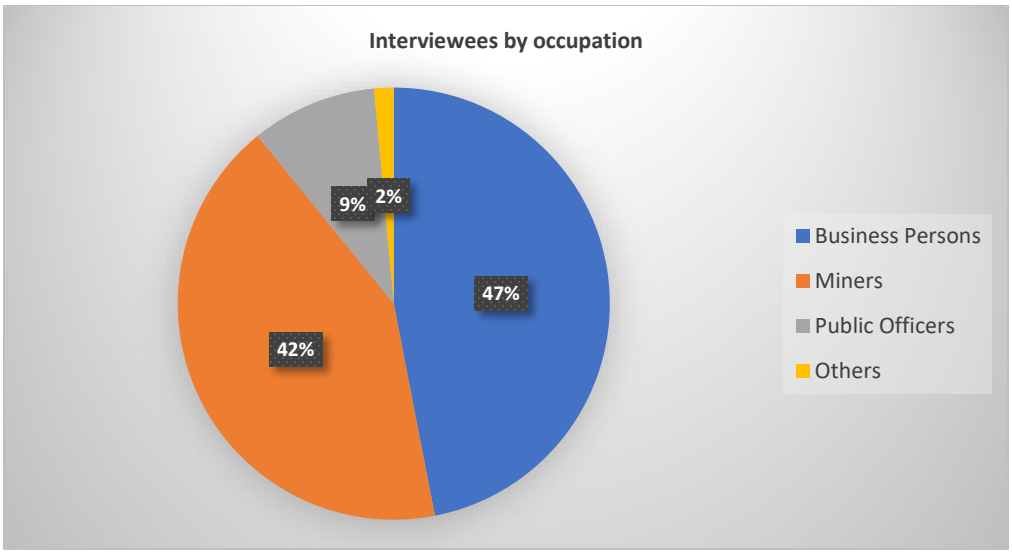

Figure 22: profile of interviewees by their regular occupation.

b) Will the granting of a forest concession lead to the eviction of miners? FTCI explained that that will not happen.

c) How soon will the concessionaire commence construction of road networks?

It must be noted that **no one objected** at any stage of the consultations to the granting of a forest concession to GMSI.

7.0 A description of any uncertainties and gaps in knowledge

It is unpredictable at this time what would be the cumulative impacts of mining activity and forestry activity on the various resources. It is certain however that mining activity will expand once GMSI develops a proper road network. It is certain though that If no concession were granted, miners will erode the timber stocks, use what they need, and discard the rest. (Wastage of merchantable timber would deprive the national coffers of a major source of revenue).

For now, the extensive ***gold*** mining activity has been noted. It is uncertain what other major mineral resources exist in the area. It is noted that there has been a surge in the number quarries for stone and lateritic earths, respectively. There must be at least another six minerals that developers may contemplate mining in the short term. The advent of Chinese developers in the Hubana District and their recent construction of a road east of GMSI's concession may signal expanded mining development in the area in the short term.

8.0 A nontechnical summary of the project.

8.1 Business Objectives

GMSI's primary business objective is to harvest merchantable timber from the concession area and then transport the logs by road from the concession area via Issano Road, Hydro-road, Mabura Road, Wis-Roc Road, and the Linden-Soesdyke Highway to its wood processing facilities at Yarrow Kabra. In doing so its trucks would traverse about 200km, and cross the Essequibo River by barge at Butukari, and the Linden-Wismar bridge.

8.2 Administrative requirements

Once GFC grants the State Forest Exploratory Permit to GMSI, GMSI is obligated to obtain an Environmental Authorization from the EPA. The Environmental Authorization is a prerequisite for the GFC to grant a State Forest Authorization (SFA) to GMSI in order that the company will formally start timber harvesting operations and ancillary operations such as road construction.

In the granting of the SFA, the GFC applies criteria that determine where and in which areas logging will occur, the total area that may be harvested per year, and the maximum volume that will be harvested per year.

For SFEP 01/2019, GFC's provisional prescriptions are:

a) The production criteria will be based on a felling cycle of 25 years-meaning that for each unit area harvested, harvesting will only be allowed in that unit after a period of 25 years. In addition, the logger would be allowed to harvest a maximum of 8,33m^3 per hectare.

b) The net productive area to be harvested by the concessionaire is 52, 720.19ha (76.4% of the concession area).

c) GMSI must maintain a biodiversity reserve with a minimum area of 3,105.24ha

d) The annual area to be harvested is 2108.81 ha; this means that only 3.06% of the concession area will be harvested per year, over a period of 25 years.

e) The maximum volume to be harvested per year is 17,566.37m^3.

In addition, three critical prescriptions must be followed:

a) GMSI must conduct pre-harvest 100% forest inventory for every 100ha block to be harvested and submit the data for GFC's validation.

b) GMSI must prepare a 3–5-year Forest Management Plan, in line with GFC guidelines, setting out the nature and scope of timber harvesting operations for a specific area of the concession. This plan will include considerations for staffing, staff training, environmental management, stakeholder collaboration, road construction schedules, timber harvesting schedules, and timber marketing plans.

c) GMSI is required to prepare *annual operation plan*s (AOPs), in line with GFC guidelines, setting out in detail, *inter alia,* plans for forest inventory, road construction and maintenance, staff recruitment and training, vehicular assets, timber harvesting plans, and forest monitoring plans for each calendar year. These AOPs must be approved by the GFC.

Needless to say, GMSI will follow all prescriptions, such as the Code of Practice for Field Operations, prescriptions aligned to the Environmental Authorization, and other applicable guidelines and policies.

8.3 First operational steps

In the pursuit of its forest concession development, GMSI's first steps will be to:

a) Verify the boundaries of the forest concession, resolve any conflicts with any other party and post signboards for the benefit of stakeholders.

b) Conduct forest reconnaissance activity aimed at identifying other land use events within the concession area, identify existing roads and paths within the concession area, and start the process of developing partnerships (with miners and communities) wherever appropriate.

c) Set up buffer zones wherever appropriate. (Typically, loggers maintain a distance of at least 500m from the edges of mining communities, farmsteads, and mining operations; also, loggers maintain a buffer zone of at least 500m from the boundaries of adjacent Indigenous communities).

d) Identify the area for the biodiversity reserve, and then organise the concession area into compartments, which are duly given a designation for easy reference (see Figure 23).

e) The entire concession area is then divided into 1000m x 1000m (100ha) blocks: each block is then given a unique alpha-numerical code, which allows the location of any event to be described in detail. For example, the base camp will be located in Block, whose north-western extremity has coordinates of 21N 0241000, 0621000; and the estimated position for the base camp is 21N 0241350, 0620200.

8.4 Timber harvesting Operations

GMSI and GFC has agreed that 21 @100ha blocks may be harvested per year. For any given calendar year, GMSI will indicate in which blocks it will conduct 100% forest inventory, then duly submit the inventory data for each block to the GFC for validation purposes. Once GFC approves of the quality of the forest inventory, the company will prepare stock maps- showing the number of trees, the species of trees and their spatial distribution, and extraction routes via primary roads, secondary roads, and skid trails – for the stock it plans to harvest. Stock maps for all the blocks to be harvested will be the basis for an annual operational plan. An AOP for any given year must be submitted to GFC for approval during period November-December of the preceding year.

Apart from the block to be harvested for the year at hand, the Company will prepare an annual operational plan setting out *inter alia* the following:

a) the personnel and machinery assets available to harvest the stock contained on the stock maps.

b) the primary and secondary road works respectively planned for the current year for the extraction of the logs to be harvested.

c) any developmental works planned for the base camp or forward camps.

d) blocks to be inventoried in the next calendar year.

Figure 16 illustrates the annual, cyclic activities that GMSI will follow; however, the geographical area will change in accordance with the sequence of operations set out in the forest management plan.

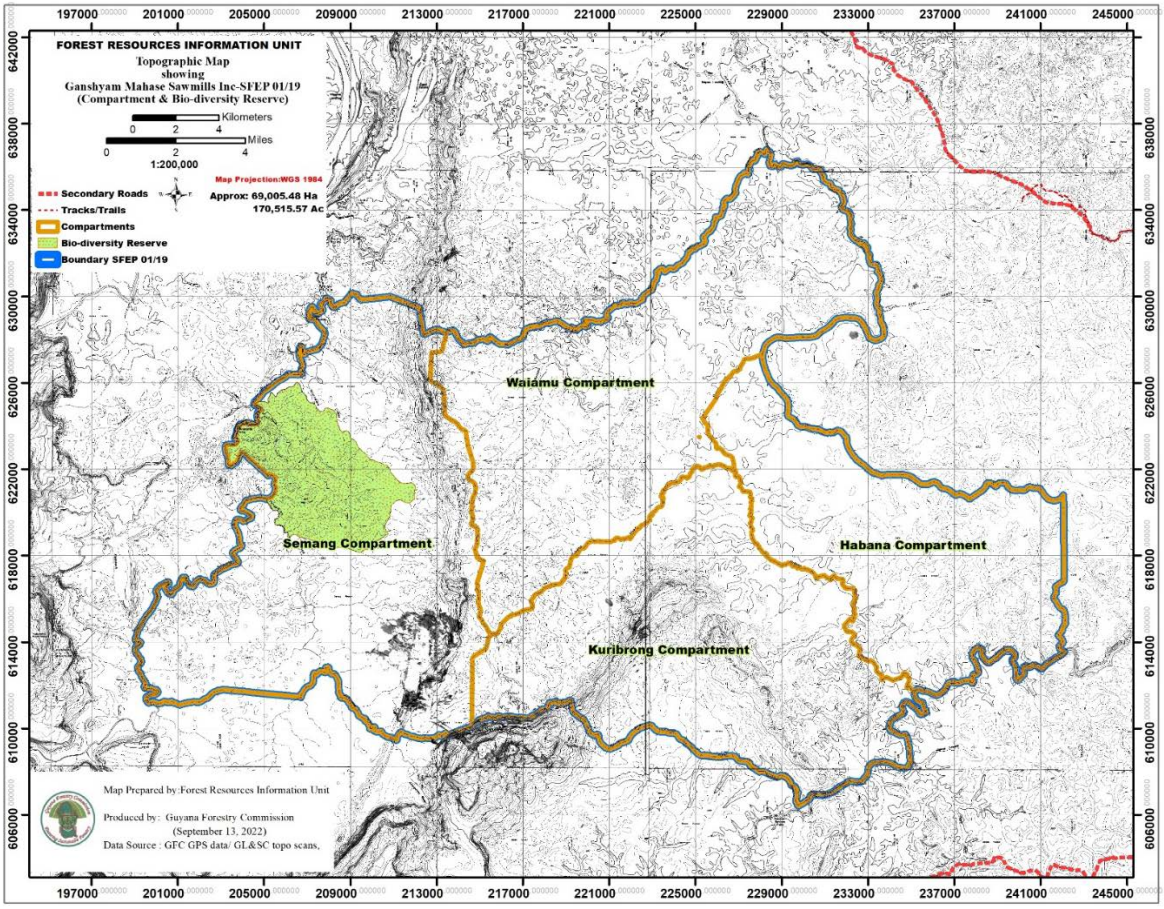

Figure 23 : Indicative map showing the organization of concession into compartments and a biodiversity reserve.

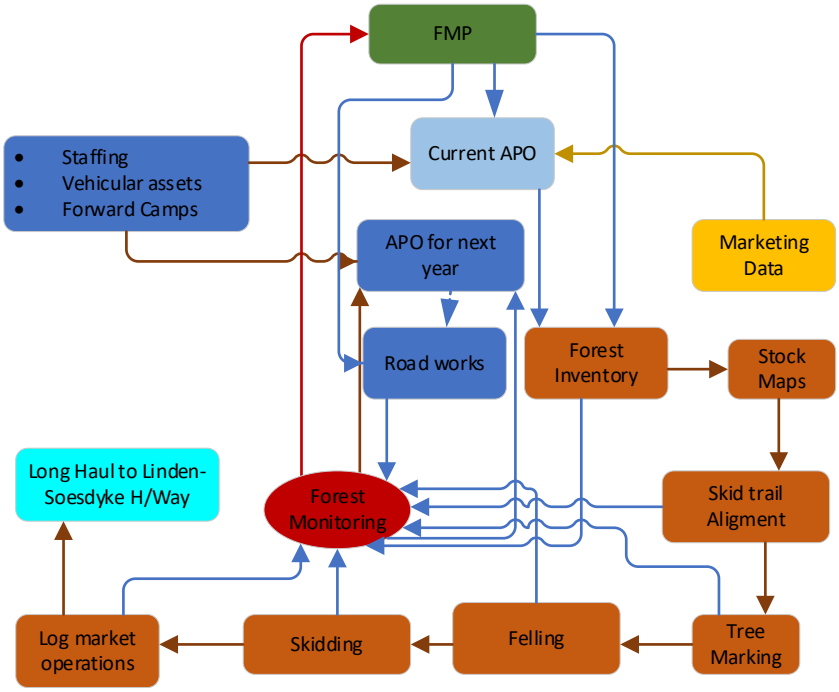

Figure 24: Chart illustrating GMSI annual cycle of events.

8.5 Log market operations

Logs extracted from stump by skidders are normally taken to log markets for grading and sorting as well as for GFC documentation requirements. Logs will then be transported by trucks from the log market on the concession area to GMSI's facility, Yarrowkabra, Linden-Soesdyke Highway.

8.6 Forest monitoring

A major field operation is forest monitoring. The company maintains a constant check as to whether filed operations are proceeding according to plan. A robust forest monitoring system is particularly important to ensuring due compliance with all applicable guidelines generally and environmental management in particular.

Forest monitoring is also critical for informing positive change for the years ahead. Therefore, feedback from forest monitoring is vital for altering content in the existing forest management plan as well as strategic planning.

8.7 Project Duration

This project is projected to last for twenty-five years with the option for renewal for another twenty-five years.

Annex 1: Copy of face page GMSI's Certificate of Incorporation

Annex II: Copy of GMSI's TIN Certificate

122699

Certificate of Registration

Taxpayer Identification Number (TIN)

Taxpayer Name:	**GANSHYAM MAHASE SAWMILLS, INC.**
Business Name:	**GANSHYAM MAHASE SAWMILLS, INC.**
Taxpayer Type:	**COMPANY**
Address:	**LOT 171 AGRICULTURE LAYOUT SOESDYKE LINDEN HIGHWAY**

Date Issued: **July 10, 2019**

This Taxpayer has been registered under the provisions of the Income Tax (Amendment) (No. 2) Act # 15 of 2006

Tax Office: **HEAD OFFICE**

TIN: 017197274

Commissioner General
Guyana Revenue Authority

GRA14042136

GUYANA FORESTRY COMMISSION

STATE FOREST AUTHORIZATION - STATE FOREST EXPLORATORY PERMIT

SFA-SFEP: 01/19

GANSHYAM MAHASE SAWMILLS INC.

gm JB

Reg 7. **SECOND SCHEDULE "A"**

(2 of 1979) **TIMBER SALES AGREEMENT**

TSA: 01/19

GUYANA

COUNTY OF DEMERARA

This AGREEMENT made the ...29th.....day of .....November.....2019 between the **GUYANA FORESTRY COMMISSION** having its registered office at **Lot 1 Water Street, Kingston, Georgetown, Guyana** (hereinafter referred to as "the Grantor" of the first part and **GANSHYAM MAHASE SAWMILLS INC.** A company registered under the companies Act of Guyana 1991 of **Lot GM, Public Road, Timehri, East Bank Demerara, Guyana** hereinafter referred to as "the grantee") of the second part.

WITNESS AS FOLLOWS:

1. The grantor grants to the Grantee exclusive rights for a period of **Three (3) years** from the date of this Agreement to occupy the area of State Forest falling within the boundaries as described in Exhibit 1. hereto (hereinafter referred to as "the concession") for the purposes of cutting and taking or obtaining timber.

2. The Grantee shall upon the award of the concession, immediately demarcate the boundaries of the concession and shall place and maintain at the corners of the area and in such other places as the Commissioner of Forests (hereinafter referred to as the "Commissioner") may direct a board on which shall be painted in plain legible letters and figures the name of the Grantee and the number of this Agreement.

3. In the event of any doubt or disagreement arising as to the exact position of any of the above boundaries the decision of the Commissioner of Forests shall be final.

4. The Grantee shall be responsible for patrolling the boundaries of the concession and reporting any illegal activities to the Grantor.

5. This agreement shall convey to the Grantee the right to cut and remove timber from the area on payment of the prescribed fees and royalties, for the period described above and do such things as can reasonably be regarded as necessary for the purpose but shall convey no other rights whatsoever.

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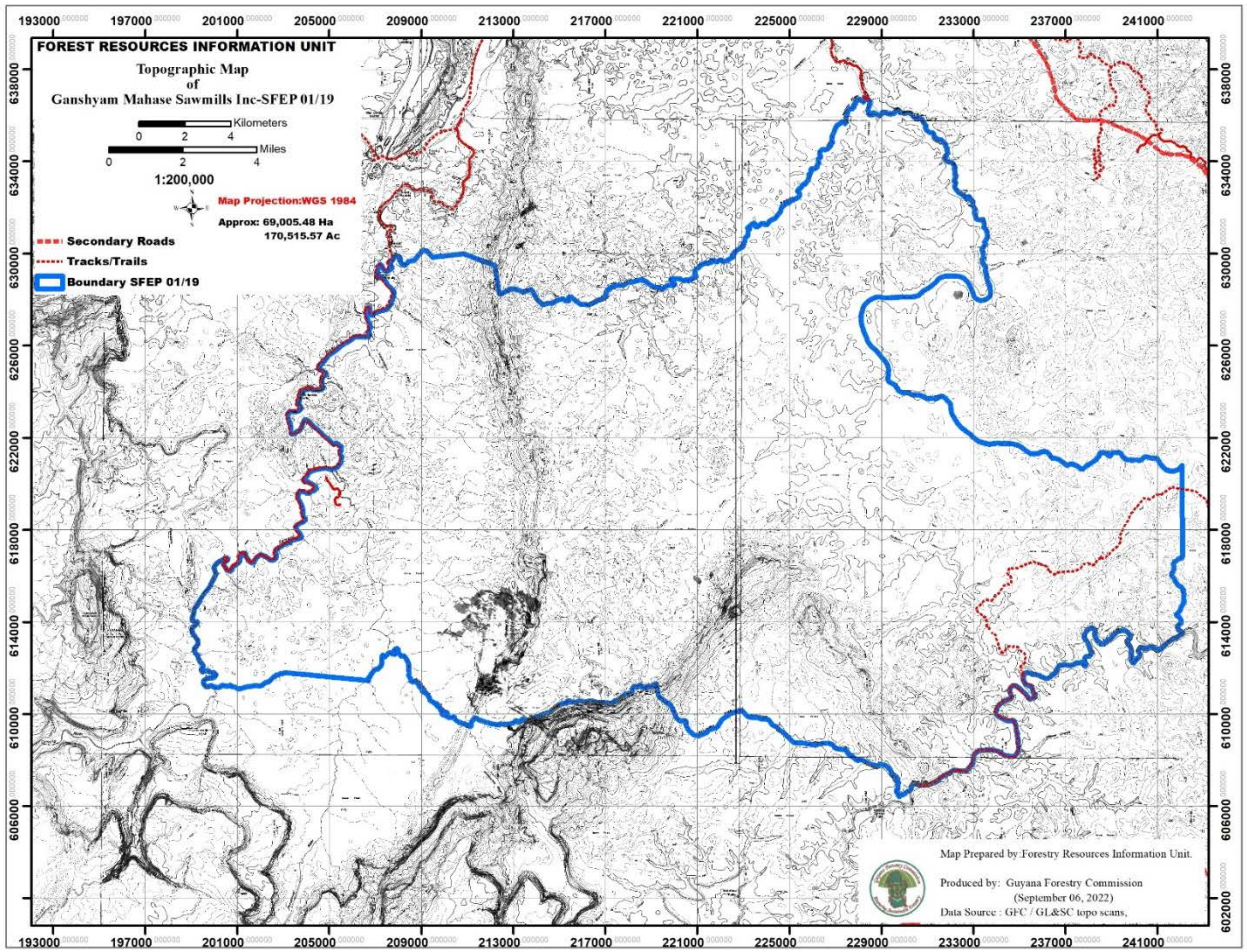
GM JS

Annex IV Topographic map of GMSI's SFEP 01/2019



Annex V: Description of Concession Area

Ghanshyam Mahase Sawmills Inc.-SFEP 02/19

Left Bank Kuribrong River, Right Bank Semang River, Left Bank Issano River.

Commencing at the mouth of an unnamed tributary on the left bank Kuribrong River having approximate UTM geographic coordinates of 02 42 067 E, 06 13 574 N; thence up the left bank Kuribrong River for an approximate distance of 24.0 km to the mouth of the Kuritoma River having approximate UTM geographic coordinates of 02 30 193 E, 06 06 675 N; thence up the left bank Kuritoma River to a point near its source having approximate UTM geographic coordinates of 02 19 303 E, 06 10 818 N; thence by a cut line in Northerly direction for an approximate distance of 0.5 km to a point having approximate UTM geographic coordinates of 02 19 203 E, 06 11 305 N; thence along the escarpment in a South-westerly direction for an approximate distance of 6.4 km to a point on an unnamed tributary having approximate UTM geographic coordinates of 02 13 570 E, 06 09 657 N; thence down the right bank of this unnamed tributary to its mouth on left bank of an unnamed tributary of the Achipomu River having approximate UTM geographic coordinates of 02 12 429 E, 06 09 583 N; thence across and down the right bank of this unnamed tributary to its mouth on right bank Achipomu River having approximate UTM geographic coordinates of 02 11 004 E, 06 09 583 N; thence down the right bank Achipomu River to its mouth on right bank Purupuruni River having approximate UTM geographic coordinates of 02 07 821 E, 06 12 813 N; thence across and up the left bank Purupuruni River for an approximate distance of 2.2 km to a point having approximate UTM geographic coordinates of 02 06 702 E, 06 11 454 N; thence by a cut line in North-westerly direction for an approximate distance of 3.6 km to a point near the source of an unnamed tributary of the Semang River having approximate UTM geographic coordinates of 02 03 110 E, 06 11 800 N; thence down the right bank of this unnamed tributary to its mouth on right bank Semang River having approximate UTM geographic coordinates of 02 00 062 E, 06 11 143 N; thence down the right bank Semang River for an approximate distance of 36.6 km to the mouth of an unnamed tributary having approximate UTM geographic coordinates of 02 07 871 E, 06 29 933 N; thence up the left bank of this unnamed tributary for an approximate distance of 0.5 km to a point opposite the mouth of another unnamed tributary having approximate UTM geographic coordinates of 02 08 169 E, 06 29 574 N; thence across an up the left bank of this unnamed tributary to a point near its source having approximate UTM geographic coordinates of 02 09 460 E, 06 29 865 N; thence by a cut line in Easterly direction for an approximate distance of 1.4 km to a point on the Kangaroima Proposed Village Boundary having approximate UTM geographic coordinates of 02 10 838 E, 06 30 009 N; thence by a cut line in South-easterly direction for an approximate distance of 1.5 km to a point having approximate UTM geographic coordinates of 02 12 180 E, 06 29 488 N; thence by a cut line in Southerly direction for an approximate distance of 1.2 km to a point near the source of an unnamed tributary having approximate UTM geographic coordinates of 02 12 364 E, 06 28 265 N; thence down the right bank of this unnamed tributary to its mouth on right bank of a large unnamed tributary of the Waiamu River having approximate UTM geographic coordinates of 02 13 755 E, 06 28 433 N; thence down the right bank of this large unnamed tributary to its mouth on left bank Waiamu River having approximate UTM geographic coordinates of 02 19 407 E, 06 28 452 N; thence across and down the right bank Waiamu River to its mouth on left bank Issano River having approximate UTM geographic coordinates of 02 28 412 E, 06 36 704 N; thence up the left bank Issano River to a point near its source (these part being the boundary of the Kangaroima and Tassarene proposed shape) having approximate UTM geographic coordinates of 02 42 034 E, 06 20 819 N; thence by a cut line in Southerly direction for an approximate distance of 3.9 km to a point near the source of an unnamed tributary of the Kuribrong River having approximate UTM geographic coordinates of 02 42 060 E, 06 16 868 N; thence down the right bank of this unnamed tributary to its mouth on the left bank Kuribrong River, this being the point of commencement.

Save and except all lands legally held.

Coordinates have not been field-tested.

Description subject to change upon verification.

Approximante area : 69,005.48 Hectares (170, 516.25acres).

Map references : 34 SE, 35 NW, SW, 43 NW. WGS