

Forest Law Enforcement and Governance and Forest Practices in Guyana

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August, 2009

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Background

The Republic of Guyana is the only English speaking country in South America. Located on the Guianas Region of northeastern South America, it comprises about 215,000 km², with a population of 750,000. Tropical forests cover 18.6 million hectares or about 76 percent of its territory and represent a highly valuable asset. The deforestation rate is one of the lowest in the world, with no significant forest change evidenced for the 2000-2005 period (FAO 2005). Most of these forests have not been affected by extractive uses, and the vast majority of those woodlands that have had some harvest intervention, generally through selective logging methods, retain their productive capacity and other major ecosystem functions.

Guyana and Norway have agreed to work toward the establishment of a REDD (Reducing Emissions from Deforestation and Forest Degradation) mechanism. Within this context, the objective of this study is to arrive at an independent assessment of Forests Law Enforcement and Governance and forest practices in Guyana. The importance of this assessment stems from the significance of effective and legitimate governance of forest resources to achieving REDD.

In order to reach this objective, several aspects of the broad area of forest governance have to be considered. They include the state of forest policies and legislation, production and export of forest products and government revenue, border and trade issues, legal compliance in the forest sector, management of concessions and protected areas, status of land claims and demarcation of indigenous territories, and the participation of forest dependent populations in the design and implementation of forest policies. The assessment is based on information from existing sources, including governmental sources, NGOs and other relevant stakeholders. Gaps in information are identified, allowing for an evaluation of the robustness of the analysis. Both along the complete document and within individual sections, data and general descriptive aspects are for the most part introduced firstly. The discussion and analysis of issues is generally presented afterward.



Fig. 1: Map of Guyana (source: Office of the President, www.op.gov.gy/photos/mapofguyana.gif)

The forest sector in Guyana

Administration of the resource

Most of the land in Guyana is public land, and State Forests administered by the Guyana Forestry Commission (GFC) cover 13.67 million ha, or 63% of the total land area. Forests on other lands, including private and Amerindian lands, are not subjected to the control of the GFC, but regular control procedures by the GFC apply once timber leaves those lands.

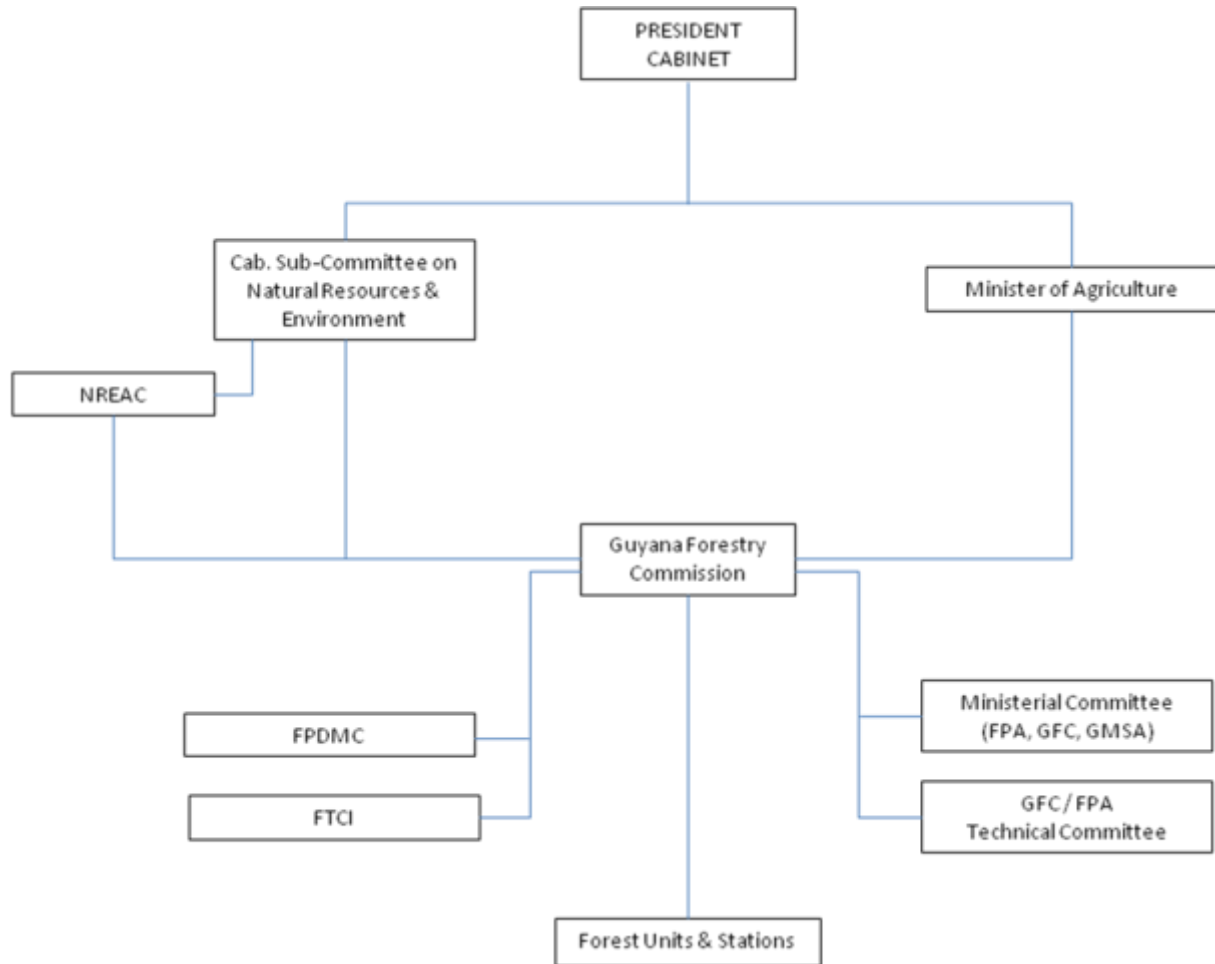
Amerindian lands legally owned by Amerindian communities represent some 3 million ha or 13.9% of the country area. The proportion of Amerindian land with commercial forest potential is estimated at 1.3 million ha (GFC, quoted by Clarke updated by Nokta 2008) or some 6% of the country area. The remaining 23.1% of the Guyanese territory comprises mainly public land administered by the Guyana Lands and Surveys Commission (GLSC), and also private and municipal land. Thus, the vast majority of the 18.6 million ha of tropical forests of Guyana are within State Forests administered by the GFC or on Amerindian lands.

The GFC is a semi-autonomous Government organization, governed by a board of directors comprising 12 persons. The President of Guyana is the Minister responsible for forestry and has delegated this responsibility to the Minister of Agriculture, although key decisions are taken by the Minister to the President and Cabinet. The GFC is represented on the Cabinet sub-committee on Natural Resources and the Environment, a body of policy and technical representatives which provide guidance and support to Cabinet on the management of natural resources. A Natural Resources and Environment Advisory Committee (NREAC), chaired by the Prime Minister and coordinated by the Adviser to the President on Sustainable Development, supports the work of the Cabinet sub-committee. GFC is a member of NREAC, together with other relevant Government entities. Within the Ministry of Agriculture there is a Technical Committee comprised by the GFC and the Forest Products Association (FPA), and a Ministerial Committee comprising the GFC, FPA and the Guyana Manufacturing and Services Association (GMSA). Both bodies provide mechanisms to address resource management issues.

The Forestry Training Centre Incorporated (FTCI) and the Forests Products Development and Marketing Council (FPDMC) are operational partners of the GFC. The FTCI was set up in 2002 as a result of a partnership between GFC, the FPA and the Tropical Forest Foundation, with core funding from the International Tropical Timber Organization (ITTO) and the GFC. It offers vocational training in timber harvesting and utilization. The FPDMC works since 1991 in promoting the competitiveness of the forest products industry through different development initiatives, including support in technological modernization and product development.

Chart 1 outlines the relationship between GFC and other official entities.

Chart 1. Forestry Institutional Framework (After Clarke updated by Nokta 2008)



There are other Government agencies whose activities impact on the forest resource in different ways. The Guyana Lands and Surveys Commission (GLSC) *inter alia* administers forests on those public lands not classed as State Forests. The Guyana Geology and Mines Commission (GGMC) regulates mining. Mining relates to subsoil rights, different from the surface rights involved in forest activities, but has significant impacts on the forest ecosystem. The Environmental Protection Agency (EPA) has a wide mandate on environmental and natural resource issues, from the assessment of development impacts to the control of pollution and the establishment of protected areas. Finally the Ministry of Amerindian Affairs (MoAA), has oversight over Amerindian matters and important powers on land and resource issues, not only on Amerindian lands but also on other areas where existing or proposed developments may affect Amerindian rights or interests. Several aspects of Amerindian life, including but not limited to their control over their natural resources, are relevant to an analysis of forest governance and are addressed in subsequent sections.

The GFC has 260 employees, of whom some 160 work in control and monitoring activities in the field. It has 23 field stations, plus 15 additional mobile stations located at specific concessions.

The issue, control and conditions of forest harvest licences are a major forest management tool in the hands of the State. There are four major categories of temporary concessions:

- Timber Sales Agreements (TSAs) are issued for concessions covering more than 24,000 ha and allocated for more than 20 years.
- Wood Cutting Licences (WCLs) comprise forest blocks of between 8,000 and 24,000 ha and are issued for 3 to 10 years. WCLs and TSAs are considered “larger concessions”, a term maintained in the New Draft Forest Act, and their requirements are different from those of smaller concessions. They include a previous exploratory permit, as well as management and annual operations plans.
- State Forest Permissions (SFPs) cover areas of less than 8,000 ha. They are given for two years, generally to community-based associations or small-scale operators.
- State Forest Exploratory Permits (SFEPs) are issued for undertaking exploratory operations such as inventories, environmental and social impact assessments and the preparation of management plans. SFEPs do not include commercial cutting rights. They are a pre-requirement for any large scale concession.

There are also specific activity licences, valid for only one calendar year and requiring annual renewals. They are issued for diverse activities within the sector such as charcoal and firewood production, timber depots, timber dealers, sawpits and sawmills.

Table 1 shows a breakdown of land allocation within the forest sector. It does not include private and Amerindian lands.

Table 1. *State Forest Allocations (at December 2008)*

Classification	Number	Area (ha)	% of area type	% of total allocated area	% of State Forest
Production area allocations					
Timber Sales Agreements (TSA)	25	4,237,570	64.6	52.7	31.0
Wood Cutting Leases (WCL)	4	70,889	1.1	0.9	0.5
State Forest Permissions (SFP)	358	1,148,046	17.5	14.3	8.4
SFP Conversion Areas*	21	497,846	7.6	6.2	3.6
State Forest Exploratory Permits (SFEP)	3	606,233	9.2	7.5	4.4
Total Production area allocations	411	6,560,584	100.0	81.5	48.0
Permanent Research & Reserve Areas					
Iwokrama Forest	1	371,592	25.0	4.6	2.7
GFC Forest Reserves	11	17,796	1.2	0.2	0.1
Other Research and Reserve Sites	3	1,095,955	73.8	13.6	8.0
Total Research and Reserve Areas	15	1,485,343	100.0	18.5	10.9
Total Forests Allocated	426	8,045,927		100.0	58.8
Unallocated Forests		5,632,689	41.2		41.2
Total State Forests		13,678,616			100.0

* Considered for conversion to TSA or WCL

Source: GFC

Unallocated forests are the largest forest category. Official sources say that there is pressure on unallocated forest areas, but there are no immediate plans for them. Areas specified as SFP

conversion areas are being considered for conversion to TSA or WCL, following standard arguments on the relationship between stable land rights and sustainable forest management.

The summary of State Forest Allocations shows that the 32 large-scale concessions and future concessions (TSA, WCL and SFEP) represent 74.9% of the total land allocated for production purposes (Table 1). The area and number of large scale concessions has tended to increase since the early nineties. The concept of emphasizing economies of scale, operating extensively rather than intensively, with large areas required for implementing low-intensity selective logging in a context of long access routes and few roads, and consistent with the large investment required for road construction and heavy equipment, has been very influential in Guyanese forestry, beginning with the FAO Forest Industries Development Survey (FIDS) project in 1966-1970 (Bulkan 2009).

There is a tendency in the last years to renew large concessions for relatively short periods, of one to five years. Representatives of large firms indicate that this practice is becoming usual. For the GFC, those affected concessions were not displaying adequate productivity and performance. Some concessions were given one year to show improvements, and after no advance in productivity they were given five year extensions. The GFC says that after this period a review of performance will be done again, during which productivity and sustainable utilization will be evaluated.

The area allocated to smaller permits (SFP), did not change over time in the same proportion as the one assigned to larger concessions, and their number was diminishing for several years (Ibid.). In early 1993, 374 SFP covered 1.1 million ha (Colchester 1997, quoted by Bulkan 2009). Their number dropped to 263 in 2005 (Clarke 2006) before rebounding in the last few years to reach 379 and 1.15 million ha in 2008. One contributing factor for the recent increase is the promotion of community forestry by the GFC. Another very recent trend is the reduction in the percentage of allocated State Forest, 58.8% by December 2008 (Table 1), as a result of more strict rules regarding issuance and renewal of concessions.

The area assigned to small scale concessions has not increased through the years in consonance with the increase in the number of small loggers, some 18,500 people who make up 70% of the work force in the sector, and whose vast majority are chainsaw millers. The chainsaw miller is in Guyana the typical agent of small scale logging, who usually works for either a contractor or a forest concession owner. Chainsaw lumber production is an important source of livelihood for many Guyanese and is legal in the country, notwithstanding the difficulties for controlling this activity. Chainsawn lumber production has grown from an average of 0.5% of total primary timber production in the 1980s to approximately 40% in 2008 (Clarke 2009, based on GFC data).

Production and commercialization of timber products

Logging practices in Guyana are selective and generally of low intensity. Current guidelines stated in the Code of Practice for Timber Harvesting (GFC 2002) establish a maximum extraction of twenty cubic meters per hectare, based on a 60-year cycle. This represents less than ten trees per hectare harvested in each intervention. However, this harvest intensity is rarely achieved, for reasons of availability of individuals of desired or marketable species of minimum size and sound condition. Harvested forests generally retain their productive capacity, although forest productivity is commonly low, due to poor, infertile soils. Studies in different

areas of Guyana show that the effects of logging ranged from increased tree diversity (Arets et al., 2003; Verburg et al. 2003), to no measurable effect on tree diversity (ter Steege et al., 2003). The studies included areas of both conventional logging and reduced impact logging. A long term reduction in the numbers of greenheart (*Chlorocardium rodiei*), the most marketable species, was verified, though. Hans ter Steege et al. (Ibid.) addressed the issue of sustainability and greenheart sustainability. Quoting Zagt (1997), they remarked that greenheart is thought to have attained its dominance in the Guyanese forests most likely through a combination of shade tolerance of young individuals in the understory and a high longevity. This is a strategy that can only succeed in areas of low disturbance. As a result, greenheart is capable of enhanced growth in logged forests, both as a tree and as a sapling, but there is no evidence that suggests that this growth increase is higher than that of other species. One of the conclusions of that study of ter Steege et al. (2003) in the Bartica Triangle, North Central Guyana, was that when a broad concept of sustainability is applied, the emerging picture shows no detectable changes in tree diversity.

The selection of species for harvesting is highly influenced by market recognition and acceptance but remains limited. Greenheart and purpleheart (*Peltogyne venosa*) are largely favoured, although a few other species such as mora (*Mora excelsa*), kabukalli (*Goupia glabra*), shibadan (*Aspidosperma spp*) and tatabu (*Diplotropis purpurea*) are also exported as logs or sawn lumber. Baromalli (*Catostemma spp*) and other suitable species are harvested as peeler logs for the manufacture of plywood. A company uses locust (*Hymenaea courbaril*) for manufacturing garden furniture which is exported primarily to the British market. Other species are locally marketed as mixed hardwoods. The GFC has recently implemented a project for promoting the utilization of lesser known species, with ITTO support.

Log production has fluctuated considerably during the last decade, peaking in 1997 at 521,529 m³. In that year the Asian Financial Crisis, which started in July, depressed international timber markets and there was a shift in production to less value added products such as logs, away from products such as plywood. The 2008 production was a low 275,319 m³. There are no officially available data for the production of sawn lumber from static and mobile sawmills since 1997, when production was 56,604 m³. Only chainsawn lumber data are currently collected.

For purposes of estimating royalties for chainsawn lumber, the GFC assumes a 20% conversion from log to lumber, as lumber royalties are five times higher than log royalties. As royalties are applied upon initial declaration and for what is called “primary produce” (logs, chainsawn lumber, roundwood), this way of estimating lumber royalties only affects chainsawn millers. Mill-produced lumber comes from logs or chainsawn lumber for which royalties would have been already paid. According to Mendes and Macqueen (2006), recovery rates of 30-45% are “reported and corroborated” for chainsaw milling, depending mainly on log size and accuracy of the cuts, and range from less than 40% to 55% for portable mills, largely influenced by mill types and models. Clarke (2009) says that the few small-scale studies conducted in Guyana suggest that overall recovery in chainsaw milling is in the range of 19-41%. These differences in estimation led some to argue that GFC royalty charges discriminate against chainsawyers and small concessions (Hunter 2001, quoted by Bulkan 2009). Royalty charges range from US\$0.50 to US\$2.50/m³ for logs, depending on timber species. These and other timber charges are discussed below under Government Revenues.

Utilization factors for the timber of commercial trees are not high in Guyana. Utilization factors can be expressed as a percentage of the utilizable volume in logs of commercial size, and in Guyana they are mainly affected by decay (principally) and form, as well as by the processing technology. A volume and decay study on trees of commercial size in the Iwokrama Forest, a

primary forest of Central Guyana, found that 64% of them presented one or more external indicators of decay, such as rot or fungi among others, and that the average utilization factor for sawmill logs of commercial size was 71% (Trevin et al. 2008). Note that this is not a recovery rate, but a factor which tries to reflect the portion of the log which would be actually processed with the objective of obtaining a product (lumber in this case). However, as royalty rates are paid by extracted timber, loggers are highly selective when deciding on harvestable trees. This in turn affects productivity per hectare, which is regularly lower than planned, expected volumes.

Table 2 shows the official figures of forest production for 2007 and 2008.

Table 2. *Forest Production: Timber forest products**

Product	2007 Volume (m³)	2008 Volume (m³)	% Change
Logs	330,374	275,319	-16.7
Primary (chainsaw) lumber*	74,363	66,958	-10.0
Roundwood	20,864	18,722	-10.3
Splitwood	1,114	730	-34.5
Plywood	39,189	20,631	-47.4

* *Sawnwood production data from static and mobile sawmills is not officially available.*

Source: GFC

Approximately half of the timber volume production is exported, mainly to Asia (particularly logs), Europe (mainly sawnwood to the UK), the Caribbean and North America. It can be assumed that the remainder is locally consumed. There are no official figures for the domestic consumption of sawnwood. It was estimated at 35,000 m³ for 1997, the last year with data provided. Domestic consumption of chainsawn lumber was estimated at a little less than 30,000 m³ in 2000 (Thomas et al. 2003, quoted by Clarke 2006). This deficit of information is important, taking into account that data on sawnwood production from static and mobile sawmills is also unavailable, which does not allow to estimate local consumption of this product through the difference between production and exports.

The export volumes of timber forest products are shown in Table 3. There was a significant reduction in log exports during 2008 (41.2%). The issue of log exports was high in the sector and the Government agenda during 2007, and a public consultation process took place in February of that year. Local forest manufacturers complained about shortages in the supply of raw material. Strict measures including a total ban on log exports were considered as options by the Government. This possibility was a major concern for the large timber producers grouped in the FPA. Finally, the Government formulated a log export policy in July 2008, increasing log export commission rates since January 2009 from 2% to 7% of FOB value, with planned rate increases to 10% and 12% for 2010 and 2011 respectively, and exporters only allowed to export logs from their own concession.

Table 3. *Export Volume of Timber Forest Products*

Product	2007 Volume (m³)	2008 Volume (m³)	% Change
Logs	157,097	92,404	-41.2
Sawnwood	43,825	47,603	8.6
Roundwood	13,816	10,323	-25.3
Splitwood	3,093	3,415	10.4
Plywood	24,317	15,756	-35.2

Source: GFC

The total value of exported timber forest products was US\$ 53.3M in 2008, a 5.2% decrease from 2007, as shown in Table 4.

Table 4. *Export Value of Timber Forest Products*

Product	2007 Value (US\$M)	2008 Value (US\$M)	% Change
Logs	20.8	15.6	-25.3
Sawnwood	21.9	26.0	19.1
Roundwood	2.9	2.5	-13.6
Splitwood	1.7	2.6	51.5
Plywood	8.9	6.6	-25.9
Total	56.2	53.3	-5.2

Source: GFC

Table 5 shows average domestic and export prices for timber forest products.

Table 5. *Average Domestic and Export Prices for Timber Forest Products, Year 2008**

Product	Domestic price (US\$ equivalent)**	Export price (US\$, FOB)
Logs	140.65	168.56
Sawnwood	320.07	547.15
Dressed	350.39	630.36
Undressed	274.60	501.94
Roundwood	198.74	242.60
Splitwood	192.44	765.30
Fuelwood	21.69	22.04
Plywood	583.40	417.77

* In cubic meter units

** Exchange rate: G\$200=US\$1

Source: GFC

The number of persons employed in the production forestry sector of Guyana was 26,457 in 2008, as seen in Table 6. Although there is no breakdown by size of operation in the GFC data, it is estimated that 70% of the total (Clarke 2009), or some 18,500, are employed on SFPs, which shows the social importance of the chainsaw milling subsector. Forestry employment numbers in the last years are more directly related to the production and growth of the chainsaw milling subsector than to other production facts within the sector.

Table 6. *Employment in the Forest Sector of Guyana, Years 2005 to 2008*

Activity	2005	2006	2007	2008
Logging	12,229	14,097	14,852	15,033
Sawmilling	4,051	4,241	4,330	3,819
Dealership (lumber yards)	1,647	1,825	2,037	1,907
Plywood mills	712	699	650	500
Manicole palm (palmheart)	658	658	658	698
Other*	4,340	4,369	4,500	4,500
Total	23,637	25,889	27,027	26,457

* "Other" includes activities in furniture, building components, craft, utensils/ornaments, firewood, charcoal and conservation.

Source: GFC

Employment in the chainsaw milling subsector has been growing despite the small changes in total area under SFPs. There are several factors influencing this. SFPs are awarded for specific areas rather than for permissible extraction volumes (Bulkan 2009), equipment for chainsaw

milling is relatively affordable (around US\$1,000) and can be financed through loans, operators may also use equipment owned by a contractor or a concession holder, and there is an important and diverse local market for chainsawn lumber. There are also chainsaw millers who work outside SFPs, either on larger concessions or on Amerindian lands whose titled area has grown in recent years. Besides, in the last years an increasing number of Small Logging Associations (SLAs) are operating SFPs, and workers in the communities have motivations to join the associations; this gives them the right to operate on the community's leased land, and conveys benefits such as access to authorities, technical advice, probable donor support, and access to markets (Clarke 2009). The role of the SLAs as private sector players in the timber industry is discussed in a subsequent section.

The total number of employed persons in Guyana was 232,409 or 88.3% of the labour force in 2002 (Private Sector Commission 2007). These data indicate that in recent years the forestry sector accounts for approximately ten percent of employment in the country.

Figure 2. *Recently sawn lumber, mobile sawmill at the back. Iwokrama Forest. Photo: J. Trevin*



The contribution of forestry to the Gross Domestic Product (GDP) of Guyana was 3.86% in 2007, with an all-time high of 4.93% in 1997. These figures are for production and primary processing only, and do not include secondary processing, plywood and furniture manufacture, which are statistically grouped into other industrial categories.

Government revenues

Government revenues are an important aspect to consider for the Guyanese forest sector, as the vast majority of the productive activities of the sector take place on State lands and utilize a public natural resource.

The GFC indicated that royalty received from forest products was US\$1 million in 2007 (Clarke updated by Nokta 2008). It also pointed out that small scale concessions (SFPs) contributed almost half of the revenue earned in total from all concessions in 2001 and 2002 (GFC 2003), even though occupying a low percentage of the production area. Their contribution is presently 40-45% of total royalty revenues according to GFC sources, while SFPs hold just 25.1% of the allocated production area. For Mendes and Macqueen (2006) these facts, together with the employment significance of small concessions, merit a shift in emphasis on strategic decisions regarding forest area allocation and technology. This has to be weighted against the alleged mentioned benefits of economies of scale for forest enterprises in the Guyanese context. It is clear, however, that in this case it has not been demonstrated that those benefits have extended to correlated government revenues. Other aspects are also relevant for this discussion; large concessions, which are assigned for longer periods, necessarily include a larger proportion of forest land which is not currently utilized, but on the other hand small concessions are given in many cases less productive forests.

Royalty rates for the logs of the most valuable timber species (“special category”), such as greenheart and purpleheart, reach US\$2.50 per cubic meter. Royalty charges as those used in Guyana subsist in the forest sector of many tropical countries. They are fixed timber charges paid on the basis of volume and species taken out. These charges are not specifically differentiated by other aspects of timber quality, location and difficulty of extraction, they are not responsive to market conditions and environmental costs, and perform poorly in capturing rents for the forest owner, in this case the State (Rusli et al. 2002). A valuation of the standing timber resource based on a stumpage system, taking into account market prices of product, cost of logging and manufacturing for the specific tract, and adequate margins for profit and risk, would be more appropriate. The stumpage model is a classic concept in forest valuation (Chapman and Meyer 1947), although it took decades to be implemented in many countries. The GFC is committed to the establishment of a stumpage system and anticipates a consultation process during 2010, with implementation expected in 2011.

Area fees are also applied annually to forest concessions in Guyana since 1985. They change according to type and size of concession. They were reduced in 1996 for large concessions, and the subsequent phased increase has not yet been implemented. They are applied on an “operational area” of the concession, which for large concessions averages around 83% of the whole concession area (Bulkan 2009) and is related to the effective productive area. Fees range in practice from US\$0.12 to US\$0.20/ha for most concessions. The largest concession holder, Barama Co., has been paying much lower rates, below one cent of a US dollar per hectare (GFC 2005, quoted by Bulkan 2009). It is not clear in which way these rates relate to relevant aspects such as the real value of the resource or logging costs. In forest administration, area fees generally seek revenue generation and penalize speculation and any intention of holding on to large tracts of underutilized forest land. On the other hand, in some countries they have been found to induce concessionaires to accelerate timber harvests beyond sustainability, and to

harvest more selectively (Boscolo and Vincent 2007). The low area fees being applied in Guyana seem to have as main effect adding to the complexity of the system of timber charges.

Export commissions are another source of Government revenues. Export commission for unprocessed logs is 7% of the FOB price, recently increased from 2%. For Palmer (2009), these and the other applied charges are low, do not reflect the value of the resource, are not related to the cost of administration, and together with “a plethora of minor taxes and charges” introduce transactions costs to both Government and companies which exceed nominal costs. He draws attention to the fact that area fee plus royalty plus export commission total just over US\$20/m³ for the best timber at declared FOB values (Ibid.).

Private sector players in the timber industry

The two largest sector players in the timber industry in Guyana are the Forest Products Association (FPA) and the Small Logging Associations (SLAs). The FPA, established in 1944, is seen as the organization representing the interests of the large forest companies. This is in spite of its expressed goal of representing a wide range of producers, “those who utilize the forest for an economic livelihood,” and a nominal membership of 59 entities. There have been public allegations stating that only a reduced number of members actually pay their dues to the Association (Stabroek News, 15 February 2008). The FPA has been lately active and vocal on issues related to the enforcement by the GFC of rules which the FPA considers as “major shift of policy” affecting ten major concessionaires (Ibid., Stabroek News 8 May 2008).

SLAs represent small producers, and all of them are involved in chainsaw milling, Some of them also have sawmills. There were 27 non-Amerindian and Amerindian SLAs in Guyana by December 2008, having access to 222,016 ha of State forest land. This represents 3.2% of the State forest allocated for production and 19.3% of the total SFP area over 52 SFPs, or 15% of the total number of SFPs (358). Each association has between 15 and 85 members, and more than 1,000 persons are members of SLAs. The associations are regularly involved in the production of roundwood (posts, poles, spars, piles) and chainsawn lumber. Production of chainsawn lumber by SLAs is estimated in 26,668 m³ for 2008, or 40% of the total production of chainsawn lumber. Generally, SLAs do not produce logs for the market (Clarke 2009). In the case of Amerindian SLAs, logging may be managed by the Village Council or the logging association. The Village Council generally manages logging taking place on titled Amerindian lands. There are also Amerindian SLAs operating on State forest lands. In this case, they have to pay royalties to the GFC, and depending on the agreement with the Village Council, the association may also have to pay royalties to the Council. There are also Amerindian loggers working on non-Amerindian SLAs.

The SLAs do not appear to be an influential force on resource policies. There are a number of factors which may be shaping this situation, but basically all of them relate to the general characteristics of the small logging sector in Guyana. Chainsaw milling is associated to an important number of conflicts, ranging from conflicts with the GFC on compliance with rules to disputes with other forest users on several aspects including use of roads, undercutting the market, poaching and others (Ibid.). They are underfunded, underequipped, and generally working in a difficult environment both in terms of infrastructure and resource availability. It has been said that small loggers often describe their predicament by quoting a local saying that translates “when your hand is in the jaguar’s mouth, you must pat him on the back” (Bulkan 2009).

Other private stakeholders in the timber industry are the Guyana Manufacturing and Services Association (GMSA) and the four Amerindian NGOs. The GMSA represents the manufacturing sector at large and the growing services sector. For several years, the GMSA and the FPA were the private sector representatives at the Board of Directors of the GFC, until the restructuring of the Board in 2007. They presently conform together with the GFC a Ministerial Committee within the Ministry of Agriculture. There are also four national Amerindian NGOs representing different Amerindian groups. With Amerindians holding legal title on 13.9% of the land in Guyana, they cannot be overlooked as stakeholders in the sector. These NGOs are the National Amerindian Development Foundation (NADF), the Amerindian Peoples' Association (APA), The Amerindian Action Movement of Guyana (TAAMOG) and the Guyana Organisation of Indigenous people (GOIP).

Forest legislation and policies

The current legal framework

The basis of the current forest law in Guyana is the Forest Act of 1953 and its subsequent amendments. The Act deals with the designation of State Forests and the award of forest concessions, sales of forest products, penalties and offenses, powers of forest officers and the protection of Amerindian rights, among other aspects. Forest harvest licences are issued under the Forest Act of 1953, its Regulations, and amendments through Acts passed in 1972, 1979 (establishment of the GFC), 1982 (introduction of TSAs), and 1996 (introduction of SFEPs).

The Forests (Amendment) (Exploratory Permits) Act 1996 was a major addition to the Forest Act of 1953. Exploratory permits (SFEPs) were introduced as an earlier requirement for accessing to large-scale concessions. During a maximum period of three years, the concessionaires have to do a forest inventory, an environmental and social impact assessment and a forest management plan. "State Forests Exploratory Permits were seen as a step-wise measure towards the achievement of SFM: to improve the rationality and quality of bids for large-scale concessions (TCAs and WCLs) and to provide the GFC with more and better pre-investment data." (Bulkan 2009).

The Mining Act (1989), The Environmental Protection Act (1996) and the Amerindian Act (2006) have effects on the forests and their use, management and protection in Guyana. Reference to these effects and to the implementation of these acts is made in other sections.

The policy framework

The policy framework for the forest sector of Guyana includes the relevant chapters of the National Development Strategy, the National Forest Policy Statement, the National Forest Plan, Forest Bill 2007 (the New Draft Forest Act) and the new Low-Carbon Development Strategy.

The National Development Strategy

The National Development Strategy (NDS) was the result of an extensive multi-stakeholder dialogue, implemented in 1995-1996. A draft was published in 1996, and revised in 2000 for the period 2001-2010. The NDS consists of 30 chapters, including chapters on the environment (Chapter 5), forestry (14), mining (16) and Amerindians (24). The NDS established ten major objectives. The eighth objective addresses environmental conservation through monitoring and control of the sustainability of resource use. Concerning specific forestry aspects, the NDS emphasises management plans for the utilization of both timber and non-timber forest products for public, Amerindian and private lands, with a key supporting function of the GFC.

The National Forest Policy Statement

The National Forest Policy Statement of 1997 was developed over a period of two years through a process that involved extensive consultation with stakeholders (Clarke 2006). The policy responds to the changes in the economic, social and political environment of Guyana in the last decades, and starts from describing the new context and defining the constraints to the development of the forest sector. Its objectives combine promoting the utilization of the broad range of forest resources, achieving sustainable yields and the conservation of the ecosystems, ensuring the protection of the resource, and preventing the degradation of forests, lands, soil and water. A part of the Statement addresses forest industry policies, asserting that the development of a financially and economically viable forest industry is a fundamental objective. Other relevant policy statements are the encouragement to the utilization of logs in downstream activities, the maximization of returns on exports, and the regular revisions of fees, taxes and charges, in order to reflect changes in production costs and selling prices.

The National Forest Plan was produced in 2001 after a period of consultation with stakeholders in the sector. The plan provides the framework and identifies the programmes for implementing the National Forest Policy. The Commissioner of Forests is responsible for the overall coordination of the Plan. The Planning and Development Division (PDD) of the GFC is responsible for monitoring progress and preparing updates as necessary.

The New Draft Forest Act

The New Draft Forest Act (Forest Bill 2007) has gone through a consultative process during several years. It was tabled in Parliament in 2006, was passed in 2008 and will become law when assented to by the President. It is included here as a policy document as it has guided forest policy in the last years and several features of this draft act, like the community forest management agreements, are being implemented in practice. The Act promotes the participation of Amerindians and local communities in the development and implementation of sustainable forestry, establishes a comprehensive regulation of the multiple uses of the forests including traditional uses, provides for the declaration of protected areas within a consultative process and in coordination with the Environmental Protection Agency (EPA), introduces the figure of Afforestation Agreement on State Forest between the CFC and any person, and defines procedures for the approval of codes of practice for forest operations. The Act deals separately with the granting and renewal of "larger concessions" (larger than 8,047 hectares) and of "smaller concessions", which is consistent with the current system, and maintains the exploratory permit concept.

The enactment of the New Draft Forest Act would be important for any REDD program in Guyana. Several features of the Act are expected to enhance the local mechanisms for supporting REDD. Particularly relevant are the provisions for forest conservation of areas of State Forest, the regulation of forest operations through a code of practice which could be

amended as required and would have legal status (“subsidiary legislation”), and the fire protection provisions. The new Act also establishes a requirement of consultation with the Commission before granting any licence for mineral prospecting, mining or petroleum prospecting or production.

The Low Carbon Development Strategy

The Low-Carbon Development Strategy (LCDS) was officially launched for consultation in June 2009. The LCDS is directed to develop a low-carbon economy by promoting investment in low-carbon economic activities and infrastructure, while improving conditions and creating new opportunities for forest-dependent communities (Office of the President 2009). It seeks the internalization of the large benefits provided by the Guyanese forests to the global environment and economy. This should be achieved by making use of the new arrangements and mechanisms which are being internationally developed to pay for the global benefits of tropical forests, as well as by directly pioneering the development of such arrangements and mechanisms. The World Bank approved in June the Guyana Readiness Plan for REDD at the third meeting of the Participants Committee of the Forest Carbon Partnership Facility (FCPF), a first step toward qualifying for payments under an FCPF REDD mechanism.

Forest policies and legislation: A short discussion of key issues in Guyana.

A detailed assessment of the forest policies and forest legislation in Guyana would be beyond the scope of this study. Some considerations are necessary, however, on the way they contribute to sustainable forest management and good forest governance. The following paragraphs address some identified problems:

Clarity and transparency of rules

Some requirements pertaining or related to the New Draft Forest Act, not enacted yet, are being currently implemented, totally or in part. The Code of Practice for Timber Harvesting (GFC November 2002) is a typical case. The New Draft Forest Act establishes a procedure for the approval and coming into force of codes of practice. Defined as “a voluntary guideline,” “effective in regulating all stakeholders in meeting SFM international best practices” (Clarke updated by Nokta 2008), the current Code of Practice is however considered as legally binding by GFC authorities. The latter regard its enforcement as “implementation of procedures”, “acting in keeping with the mandate of the GFC.” They claim concessionaires have to follow official guidelines as a matter of principle, and that this is stated in their permits. Further, explicit references to the Code were included in new permits and renewals.

Forest users do not totally share this view. One extensive complaint among managers of forest companies is the alleged “no legal basis” for many GFC requirements and guidelines. On the other side of the producer spectrum, chainsaw millers and small loggers insistently referred to “impromptu rules” and “new rules” by GFC in a stakeholder focus group meeting in Linden on June 5th when asked to enumerate their “fears” and “challenges”. Some private sector managers also question the legality of the GFC enforcing “compensations” above G\$750 (some US\$4), a limit stated in the Forest Act. According to the Forest Act of 1953, a compensation is a sum of money accepted on behalf of the State “in substitution for any proceedings” and “by way of compensation from any person reasonably suspected of a contravention of this Act not being an offence under Section 22.” (Section 22 deals with counterfeiting). The GFC applies

compensations on the basis of the estimated market value of the involved produce. Those company managers question a whole array of new procedures (“not gazetted”). While prompt approval of the new legislation may contribute to clarify the issues, and sensible arguments have been expressed by both sides, the current situation has persisted for some years. It creates unnecessary conflict fueled by uncertainty on rules and obligations.

Efficiency, equity and the collection of resource rent

Rent is a significant measure of the comparative advantage of natural resources relative to other economic sectors. The forest resources of the State Forests of Guyana have the potential to provide a significant comparative advantage by virtue of generating resource rent. This rent is a surplus above normal returns to other factors of production. The current royalty system, already discussed, fails to capture this rent. While the retention of rent by the public owner could result in the dissipation of rent in dubious public projects, the retention of rent by the private sector can also result in rent dissipation by providing excess returns, which also stimulate uneconomic investments and higher production costs (Gunton 2003). For areas where regional development is based on natural resources, successful management has to take into account the ability of the resource to generate rent, with the objective of recycling it back into the regional economy. The provisions of the New Draft Forest Act in the matter of “Regulations to prescribe fees, charges, levies” are flexible enough for making possible a change of the current system. It is important to note that rent or stumpage appraisals based exclusively on costs under current conditions would result in deficient assessments, due to the inefficiencies associated to rent dissipation within the private sector.

Capturing the rent of the forest resource has management, economic and social implications and is important within a REDD mechanism. Guyana requires investment in several areas affecting human development, and social and equity aspects are transversal issues which are considered within the UNFCCC and other international agreements. Also, the development of an adequate monitoring capacity on carbon stocks and forest area change would benefit from fresh financial resources. Finally, a proper valuation of the standing timber resource is required for making informed decisions on land allocation and for assessing the opportunity costs of alternative uses.

Intersectoral issues: Mining

In an already classical article, Gillis and Repetto (1993) discussed how in many countries extra-sectoral policies have caused greater forest destruction than misdirected and misapplied forestry policies. The forest resources of Guyana are still largely healthy and productive. Some threats are already visible, though, and they may be expected to increase, unless properly managed, with economic development and increased links with regional partners, particularly Brazil. Mining is one of these threats. Many forest users perceive mining as functioning without any rules. They resent what appear to be significant differences in control with their activity. Small loggers would say “miners enter the concession and do whatever they want, and the concessionaire is charged.” A community forestry association representative ironically suggested “We should all shift to mining and then ask permission to sell the trees.” Mining is described as “big problem” by forest company managers. “Some TSA covered in ninety percent by mining rights.” Mining has also been recognized as an obstacle for forest certification. The establishment of two bodies for coordinating developments in the resource sector, the Cabinet Subcommittee on Natural Resources and the Environment, and the Natural Resources and Environment Advisory Committee (NREAC), already mentioned, is a good step toward inter-sectoral coordination. Government officers have indicated that the issue of forest multiple use, and particularly the

relationships between forestry, mining and agriculture, are being addressed under the recommendations of the National Development Strategy and through the elaboration of land use plans.

Loose or inadequate control of mining activities on forest lands has the potential to negatively affect a REDD program. It would have the direct effect of producing forest degradation and even deforestation, and it would also impact on monitoring costs.

Development assistance in the forest sector

The FAO Forest Industries Development Survey (FIDS) in the sixties was influential in Guyanese forestry, as discussed before. It rationalized the concept of emphasizing economies of scale as appropriate for the Guyanese context. FAO also promoted the role of forests as providers of raw material for domestically manufactured value-added products, an area where there is still much to be done.

The Canadian International Development Agency (CIDA) funded a program of technical assistance and credit for the forest industry between 1976 and 1982. It had a practical focus on field-based projects, as recommended by the previous FIDS project. The major forest industries benefitted largely from the project in terms of access to heavy equipment in very convenient terms.

In 1989 Guyana initiated a transition from a centrally planned economy, which up to that time had characterized the post-Independence period (1966-), to a market-oriented economy. Rapid changes took place in the sector, with Asian companies becoming new and important players. In the late eighties, and within very difficult economic times for the country, external donor support included British aid for the forest sector. A British forester acted as Commissioner of Forests between 1992 and 1994. During this period and the following years the bases for the current concession policies were set, including the exploratory permit concept established by law in 1996. The British Department for International Development (DFID) funded between 1996 and 2002 a project to support institutional reform of the GFC, which included the objective of developing a capacity for policy and legal reform in the GFC. Consultations for the new Forest Act started in this period (Bulkan 2009).

The Guyana National Initiative for Forest Certification was launched in 2000, with support by the World Wildlife Fund (WWF) and the European Commission (EC). The initiative has not resulted in a finalized national certification standard. An elaborated draft exists, however, which has been used in the case of the certification of the Iwokrama Forest for developing an FSC-approved local standard in combination with an international FSC standard.

The Tropenbos-Guyana Program, financed with Dutch aid between 1990 and 2002, was a highly productive research project which covered ecological and forest utilization aspects. The Code of Practice for Timber Harvesting has adopted conclusions of the Program. However, some important results have not been mainstreamed yet in operational Guyanese forestry.

On the conservation side, starting in the eighties several NGOs set up programs in the Guianas, including the Smithsonian Institution, the WWF, Conservation International (CI) and IUCN.

The Smithsonian Institution “Biological Diversity of the Guyana Shield“ (BDG) Program has been operating in Guyana since 1983, and with US funding since 1987. The BDG works in cooperation with the University of Guyana (UG). Collections are deposited at the Center for the Study of Biological Diversity on the UG campus. Additional sets are exported to institutions around the world. Doubts on whether this information is being fully used as input into biodiversity policy have been raised (Ibid.).

Conservation International (CI) holds since 2002 a TSA on State Forests as a conservation area, although paying all expected forest charges of a regular timber concession on it. It also supports a 617,000 ha Community Owned Conservation Area (COCA) on Amerindian land, Konashen, in Southern Guyana. Management aspects of these undertakings by CI and other conservation initiatives by WWF are discussed below in the section on conservation areas, together with the particular case of the Iwokrama Forest and the Iwokrama International Centre.

The Guyana Shield Initiative was launched by IUCN Netherlands in 1996. A second phase has recently started, aimed at setting up financial mechanisms for rewarding the people and the governments of the Region for conserving the environment.

In the last years, there were several internationally supported projects dealing with small producers. The International Institute of Environment and Development (IIED) funded research in small and medium forest enterprises (SMFEs). Some of these IIED-funded studies, such as the study by Mendes and Macqueen (2006), criticized the prevalent “economy of scale” concept and promoted small scale logging and utilization approaches. More recently, the FTCI in collaboration with Tropenbos and Iwokrama has begun the implementation of the Guyana component of the EU funded project “Developing Alternatives for Illegal Chainsaw Lumbering through Multi-Stakeholder Dialogue (MSD) in Ghana and Guyana.”

The European Commission and the ACP Secretariat, in collaboration with the Center for International Forestry Research (CIFOR) is facilitating the establishment of a Forestry Research Network (FORENET) in the African, Caribbean and Pacific Regions. The Iwokrama International Centre is the focal point organization for the Commonwealth. The two major research domains are tropical forests and climate change and the sustainable use of forest goods and services.

The GFC is working with ITTO since 2006 in improving the log tracking system in use since 2000 (Singh 2007). This activity is discussed below in the section on addressing illegality.

Hence, development assistance in the sixties and seventies to the Guyanese forest sector focused on forest production aspects and forest industries. Guyana became an important objective for several international conservation NGOs in the eighties, and during the nineties the Tropenbos program was important for strengthening the scientific foundations of forestry in the country. In the same decade, forest institutional development was a target. The recent years have seen a focus of diverse small international projects on small producers and the social aspects of forestry, and other projects exploring and researching new aspects of interest, particularly environmental benefits and forests and climate change relationships.

An analysis of the impacts of the different projects and aid programs would be beyond the scope of this document. However, the industrial forestry projects of the 1960's-1970's did not materialize through the years in an efficient local forest production sector, notwithstanding the existence of a few interesting small industrial developments, in furniture making for example. The sector has largely failed in adding value to its primary production, in spite of high quality woods and very low timber charges (or because of it?). The drastic post-Independence political

changes which affected the country until the nineties did not help to provide adequate stability. The migration of many educated Guyanese sets limitations for capacity development projects in general. The scientific biological basis for the appropriate management of the forests of Guyana exists notwithstanding the continuous need of improvement in this field, and international cooperation has been very important for achieving this objective.

Current management of forest concessions

The silvicultural system applied in the Guyanese forests is a simple system consisting of selecting only a few trees above a minimum cutting diameter at a time for removal, allowing natural regeneration to fill in the gaps created, and maintaining standing volumes of all tree species. It may be called “selective cutting” or “selection system”. It falls within the “polycyclic systems” of forest management and regeneration. The resulting forest contains trees in different stages of their growth cycles, and maintains the uneven-age characteristic of the original forest.

The Code of Practice for Timber Harvesting sets the guidelines for forest management in concessions. It is intended to be applied by the large concessions (TSAs and WCLs). Prescriptions of the Code are in line with modern concepts of sustainable tropical forest management, including the preparation of management plans, the protection of environmentally sensitive areas and the application of reduced impact logging (RIL) techniques. Smaller concessions (SFPs) are required to respect an annual allowable cut, the 20 m³/ha extraction limit, protection of water bodies and buffer areas, and health and safety standards.

The New Draft Forest Act, once adopted into law, will facilitate making the Code mandatory, but up to now an already discussed controversy subsists on the subject. New concession agreements include the obligation to follow the Code. It is not clear which percentage of concessions currently comply with all the provisions. The GFC claims that all the large concessions must comply, and monitoring is carried out for the implementation of the Code requirements. The ITTO *Status of Forest Management 2005* report (ITTO 2006) informed that at that time “few if any companies” fully conformed to the Code. Nevertheless, Guyana was ranked 6th worldwide for its sustainable forest practices by ITTO (Clarke 2006). An FSC (ASI) audit in 2006 to the largest forest concession in Guyana, Barama Co Ltd. (BCL), verified major non-compliances with certification criteria which also represented non-compliances with the Code, including the lack of a management plan for one of the forest compartments (ASI 2006). Eventually, the company lost its certification. There is currently only one FSC-certified forest area in Guyana, the Iwokrama Forest (371,681 ha), a reserve area with special status sanctioned by the Iwokrama Act.

The fifteen mobile field stations of the GFC located at specific major concessions perform volume checks and control the application of Code guidelines. A separate GFC unit specifically carries out monitoring work. This would represent a second level of supervision, counteracting problems which may appear when controllers share a working and living space with those who are controlled. Also, routine volume checks occupy much of the time of officers at the concessions. Forest company managers complain on irregularities reported by the monitoring unit while they had passed unnoticed by other GFC officers at the concession. They claim local officers should provide advice. It can be assumed that all large concessions are currently applying efforts to comply with the Code, as a result of GFC monitoring pressure and the imminent enactment and practical implementation of Forest Bill 2007, which would end controversies over the Code legal condition.

It is recognized that forest utilization in smaller concessions (SFPs) has a number of deficiencies. There are many reasons for this. Although it is not always the case, they frequently cover areas which have been overharvested or degraded. Lack of access to merchantable trees within small permission areas has been identified as a driver of forest violations and illegalities (Clarke 2006, Bulkan 2009). In some cases they are areas to be converted to other uses. Planning and management requirements are largely limited to respecting the quota system (based on 20 m³/ha extraction for a 60-year cycle), but there is little or no emphasis on the spatial allocation of the harvest, therefore sustainable forest management is not expected. Agricultural tractors are generally used in SFP logging operations, and the capacity for transporting timber is always limited, therefore harvesting systematically takes place on the most accessible and convenient sites and concerns only the highest valued species.

From a REDD perspective, there is a need of transparent reporting on the implementation of the Code in all concessions, and for increasing sustainability of operations on small concessions. At the same time, it is worth to note that management rules and harvest rates in Guyana are strongly influenced by utilization practices focused on a few commercial species, as well as by the goal of ensuring the sustainable yield of those species. They do not entirely reflect the growth of a wider range of commercial species or total forest growth. In fact, studies on permanent sample plots indicate that the official harvest rate of 20 m³/ha for a 60-year cycle, applied as a rule of thumb for most sites, underestimates forest growth and yield in commercial forests. Data from permanent plots assessed by the Tropenbos program on different sites indicate that a weighted average mean increment in diameter of 0.313 cm/year is possible, which would represent a gross annual increment in volume of 1.5 m³/ha/year. Over a 60-year felling cycle the total gross increment could be about 90 m³/ha, several times the Code-approved harvest rate (Iwokrama Timber Inc. 2009). Even applying conservative residual damage factors, like a 100% factor (this is, assuming equal harvested and damaged volumes), the volume of the applied allowable cut plus related allowances is much lower than actual forest growth in most cases. This suggests that, while certain on-the-ground departures from established guidelines could reduce the harvestable volumes of particular species for future cycles, the long term recovery and integrity of forest carbon stocks might not be always affected. This would be consistent with the conclusions of the study of ter Steege et al. (2003) in the Bartica Triangle, North Central Guyana, in which after different periods following harvest with traditional and modern logging techniques, “the conservation value of these unique forests can still be considered high” and no detectable changes in tree diversity were found.

Management of protected areas

Three areas in Guyana have official protected area status: the Kaieteur National Park, the Iwokrama Forest and the Konashen Community Owned Conservation Area (COCA).

The Kaieteur National Park, home to Kaieteur Falls, 63,000 ha in size, had been established by the British Colonial Administration as a National Park in 1929, and is managed by the Kaieteur National Park Board under the Kaieteur National Park Act (1930). The National Parks Commission has also responsibilities on the Park.

The Iwokrama Forest is a primary forest of 371,000 ha in Central Guyana, managed by the Iwokrama Centre for Rain Forest Conservation and Development under the Iwokrama Act (1996). The Centre undertakes research, training and the development and dissemination of technologies of resource use and conservation. Half of the area of the Iwokrama Forest has

been set aside as a Wilderness Preserve, and the other half is managed for sustainable use and forest protection. Iwokrama has received support from many international organizations, and has more than sixty “contributors and partners” listed in its web page. The Commonwealth Secretariat, CIDA, USAID, ITTO, IADB, UNDP, EU and WWF are among the historical supporters of the activities of the Centre.

Iwokrama is currently working toward fulfilling its original mission of demonstrating the possibilities of sustainable and equitable use of tropical rainforests. After limiting to a large extent its initial activities to conservation and research, the balanced pursuit of its original objectives was reinforced in the last years. Commercial timber harvesting started in 2007 and the whole forest has FSC certification since January 2008. Research objectives have been widened taking into account the opportunities presented by the increasing possibilities of marketing global environmental benefits. The initial emphasis in participatory approaches has not changed, and joint decision making with local communities is exercised in resource management decisions. This represents the highest level of public participation in resource management in Guyana, and it requires overcoming obstacles which are a result of the lack of local experience in these practices. The Iwokrama experiment should be utilized in Guyana and the Region for improving public participation, taking it beyond the regular levels of information and consultation. On the technical aspects of forest management and utilization, having already demonstrated the capacity to run a sustainable operation by applying the best known technologies, Iwokrama should venture into novel approaches. These might probably include creative approaches in the area of small scale logging and processing, making full use of the rich joint experience with Amerindian communities. The oligotrophic character and other conditions of the Iwokrama Forest and the forests of the Guiana Shield show many similarities with the vast forests of the Amazon Basin, for which the capacity for being an international testing ground of sustainable forest methodologies does not have substantial environmental limitations.

A Community Owned Conservation Area (COCA), Konashen, was established under the Amerindian Act (2006) by an Amerindian community, the Wai Wai people, in the extreme south of the country in 2007. It covers 617,000 ha and receives support from Conservation International (CI).

These three areas have protection measures implemented on the ground. They have guards or rangers, and Konashen and Iwokrama have management plans. A management plan for Kaieteur is under preparation.

As a result of Guyana commitment to the UN Convention on Biological Diversity in the 1990s, an objective to establish a National Protected Areas System (NPAS) was developed. As a Government initiative, and within a stakeholder consultation process, several areas were “designated for protection.” The process was counting on international financial support, which did not materialize in the following years. Subsequently, some international and local NGOs started to cooperate for the protection and conservation of these areas. They include 600,000 ha in the Kanuku Mountains, where a draft management plan is being completed with the support of CI, Shell Beach where the Guyana Marine Turtle Conservation Society is working, Mount Roraima where WWF is collaborating and initial work for a management plan has started, and Orinduik Falls in the southwest. These designated areas have certain official protection through a moratorium for new commercial activities, but effective on-the-ground protection needs additional resources for materializing.

The problems for materializing the NPAS in the 1990's, which finally affected international funding, included conflicts with local Amerindian organizations and some allied NGOs on the subject of unsettled land claims. The Government intention of working on both issues simultaneously was not accepted by Amerindian groups, and this damaged an already initiated process in which time was of the essence. The situation has changed in recent years, as the land demarcation process is advanced and new participation mechanisms have been institutionalized. However, the experience has to be taken into account in future processes.

CI also manages a conservation concession of 80,000 ha since 2002. The NGO pays all royalties as expected from a timber concession, following TSA rules. Other ecological reserves in Guyana are Mabura Hill (1,800 ha) and Moraballi Reserve (7,700 ha), protected by the GFC.

There is no protected areas legislation in Guyana, except provisions in the New Draft Forest Act and in the Amerindian Act (2006). Draft legislation on protected areas, including financial mechanisms which would include a trust fund, has been prepared and is being reviewed by Cabinet. It is important to note that all large forest concessions (TSAs and WCLs) are required to set aside 4.5% of their area as a biodiversity reserve. These biodiversity reserves are representative of the ecosystem in each area, and are reserved with purposes of conservation and potential research and sampling work.

Non-timber forest products (NTFP)

NTFP have always been very important for the Amerindian peoples of Guyana, who still rely heavily on their surrounding forests for subsistence.

Marketing of NTFP can increase the substantial value of the forests and provide economic incentives for their conservation and sustainable management. Taking into account that the annual world trade in NTFP is estimated at several billion dollars, it can be considered that NTFP still remain a neglected natural resource in Guyana. Nevertheless, some NTFPs are important in the Guyanese economy and already account for a share in the country exports, with an average annual export value for the group of around US\$4M.

From a commercial perspective the two most important NTFPs in Guyana are wildlife and palm heart. Other products rank lower in comparative importance, and include kufa and nibi, two hemi-epiphytes that provide the raw materials for a furniture industry, mangrove bark, medicinal plants, and fibers and plant parts like tibusiri (fiber obtained from the young leaves of the ité palm, *Mauritia flexuosa*), mokru (stem fibers from two species of Marantaceae), and palm leaves.

Palm heart is harvested from the manicole palm, *Euterpe oleracea*, in the Guyana Northwest. The production is bought by a French company, Amazon Caribbean (Guyana) Ltd. (AMCAR), canned and exported. The domestic market is negligible. The GFC has developed a Code of Practice for manicole harvesting, as well as for kufa and nibi. Studies on the palm heart industry in Guyana have observed resource sustainability problems as well as both positive and negative socioeconomic effects on the local Amerindian communities, and emphasized the need of management plans and support to communities (van Andel 2000, Allan et al. 2002). The Ministry of Amerindian Affairs, in collaboration with AMCAR, UNDP and several Amerindian communities, has started a plantation project of manicole palms in the region. The GFC annually reports the productions of manicole palm heart and mangrove bark. For manicole, 2.7 million

pieces (palm-hearts or “stems”) were produced in 2008, as well as 12,619 pieces of mangrove bark.

Wildlife trade is registered and monitored by the Wildlife Division, which reports directly to the Office of the President. Quotas are set for all species legally exported, although their scientific basis is lacking. Guyana is a signatory to the CITES Convention.

Figure 3. *NTFP*. Pieces of kufa and nibi ready to be transported (nibi in the bag). Iwokrama Forest. Photo: J. Trevin



The prevailing concept in Guyana is that NTFP should not compete with timber industries. A more integrated approach is favored. In a recent case, a manicole palm concession and a timber concession share the same forest area. Taking into account that logging does not necessarily lead to deforestation in Guyana and can be compatible with the conservation of biodiversity and other values, timber and NTFP may be seen as complementary aspects of sustainable forest utilization within a multiple-use approach.

The main obstacles for the marketing of NTFP in Guyana have been identified as the poor infrastructure, resulting in high transport costs, the low prices paid for the raw material, and the lack of information on market opportunities and sustainable management systems (van Andel 2000). Some basic recommendations are focusing on those products which have already shown to be economically viable, without ignoring those which may now only be harvested for

subsistence, research growth rates and optimum harvest levels, as well as community management systems, and consider attaining sustainability certification for the products (Ibid.).

In principle, and in comparison with other resource aspects, NTFP may not appear as a major factor to influence a REDD program in Guyana. However, the integration of REDD with local livelihoods and priorities requires taking into consideration the uses and availability of NTFP. The effect of REDD on NTFP is expected to be neutral or positive.

Border and trade issues

Any reference to illegal movement of timber on Guyana borders generally alludes to the border with Suriname, the Corentyne River, on the east. There are currently no forest concessions operating on the border with Venezuela, and no large scale logging in the area bordering Brazil.

The new bridge across the Takutu River, on the Brazilian boundary, provides Guyana with its first land border with any of its neighbors. This bridge, together with the future completion of the Lethem-Georgetown road, raises concerns as a threat to biodiversity and forest conservation and management (Grimes et al. 2008). This infrastructure should not originate by itself a timber smuggling problem in the area, due to the controls at the border and the volume and characteristics of timber trade products. Nevertheless, that region of Southern Guyana will suffer a highly increased pressure on timber, gold, wildlife, pastures and other resources, and this will demand an important investment in monitoring and control activities. The GFC established in 2008 a field station at Lethem.

On the Suriname border area, the GFC highlights that it has controlling stations in Orealla, Scatterrock and Springlands, and a future control post is planned at Wanatoba. There is dialogue with the forestry counterpart at Suriname (the SBB), and the GFC considers that there is not a significant problem in the border. It contends that the level of illegal forest produce entering Guyana from Suriname is minimal, and mentions the documentary requirements, including log tagging and verification of source of origin, needed for transporting and exporting timber in Guyana (presently, no economic incentives exist for illegal timber trade the other way around, from Guyana to Suriname). There is no road access on the Guyana side and the river has difficult waters, with the first rapids at Orealla, 70 km from its mouth on the Atlantic Ocean, making it semi-navigable for wood transportation. This does not help the movement of logs and timber barges, but does not totally prevent it either.

Recent assessments in Guyana (Clarke 2006, Clarke updated by Nokta 2008) refer to the rather porous river border, and point to the relatively high rates of royalty and export tax imposed by the Surinamese authorities as incentives for the illegal entering of Surinamese timber into Guyana. However, they mention expert opinion suggesting that the volumes involved are minimal.

An assessment of law compliance in the forest sector of Suriname (Playfair 2007) portrays a more complicated scenario. A great deal of log transport along the Corentyne River between Suriname and Guyana is described, with important production forests around the middle and upper stretches of the river in Suriname, and to a lesser extent in Guyana. A number of sawmills are located along the river in both countries. The Surinamese area adjacent to the border is scarcely populated, with only one population center in Apoera and two indigenous villages. The Surinamese forestry post in Apoera, as well as the police, lacks the proper means to patrol the

river. Economic incentives and the weak presence of law enforcement institutions in these remote areas of the interior of Suriname “facilitate illegal logging, which is done by loggers from both countries.” The wood would be harvested in the Surinamese forests and transported to sawmills along the riverbanks in Guyana. No reports are mentioned of timber entering Suriname from Guyana (Ibid.).

Forest sector sources in Guyana say that when prices become differential between Guyana and Suriname, smuggling takes place. The fact that in some cases there are the same Guyanese owners or operators working on both sides was mentioned. They also point to different protection regulations for certain timber species in both countries as a secondary factor.

Guyana and Suriname still have some unresolved boundary disputes. They affect jurisdiction aspects on the Corentyne River, and have been mentioned by Guyanese official sources as affecting the successful control of illegal trade on the border, although not referring specifically to timber trade (Stabroek News, 2 June 2009).

These accounts imply that a certain amount of illegal timber enters Guyana from Suriname. This is fueled by economic incentives, and mainly facilitated by the presence of processing facilities on the border itself, the Corentyne River, institutional and logistical difficulties for controlling activities on the river, and weak controls particularly in Suriname, where the harvest and land transport of logs takes place. Official Surinamese forestry sources cited by Playfair (2007) think that sawmills on the Corentyne River bank could process 50,000 cubic meters annually. Any estimation of illegal trade at the border would be a fraction of this volume.

The challenge of preventing undue deforestation and forest degradation in the South as a result of the new bridge on the Takutu River and the development of the Lethem-Georgetown road presents, at the same time, the need and the opportunity for assessing risk and the additionality involved in a REDD program for that region. The Government of Guyana has started this analysis by charting what would be an “economically rational deforestation path” (Office of the President 2009). The situation on the Corentyne River on the border with Suriname presents a potential leakage problem which should be considered in a REDD initiative.

Illegal logging and legal compliance in the forest sector

Forms of illegal activities and noncompliance

The International Tropical Timber Organization (ITTO), of which Guyana is a member, defines illegal logging as the removal, transportation, processing, buying or selling of wood in a manner that is against the provision of relevant laws of the particular country. The context of the application of these laws, in this case the laws of Guyana, is sustainable forest management, a principal goal of most national forest legislations.

Brack (2003, quoted by Clarke 2006) provides a useful synopsis of illegal timber trade activities.

- Illegal logging
- Timber smuggling
- Misclassification
- Transfer pricing

- Illegal processing
- Grand corruption
- Petty corruption

Clarke (2006) and Clarke updated by Nokta (2008) enumerate a number of illegal activities that take place in the forest sector of Guyana, on the basis of the detection of those activities and from anecdotal evidence of people involved in the sector. They state that typical activities occurring in Guyana in contravention of laws, regulations and procedures are:

- Poaching from other concessions, non-allocated state forest, private property or reserves.
- Encroachment and logging on neighboring concessions, either knowingly or not.
- Smuggling produce past forest stations, avoiding declaration and forest charges.
- False declarations (also known as “laundering” or “legalizing”)
- Produce as originating from private lands with falsely obtained removal permits.
- Misuse of tags, such as purchasing tags from another concession holder, wrongly locating stump tags.
- Under-declaring volume of loads and falsely declaring species.
- Logging of restricted species.
- Operating or processing without appropriate licenses, such as sawmill or chainsaw license.
- Logging in contravention of the Code of Practice.

Official records of illegal activities show that noncompliance is perpetrated by both small and large operators, and by operators along the whole supply chain. The GFC is developing a database on detection records. Aggregate data for 2008 was however unavailable. During the first six months of 2006, some 285 cases of noncompliance were detected and monetary penalties imposed. Around thirty percent of them may have involved timber theft, like unlicensed logging and removal without a permit (Clarke updated by Nokta 2008).

An illegal forest activity which has captured the attention of authorities and received much interest lately in the media has been the illegal renting of concessions by a large operator (Stabroek News 9 and 23 October 2007, Guyana Chronicle 9 October 2007). The company involved in the deals with other forest firms was the largest forest concessionaire in Guyana, Barama Co Ltd. While the breach may be described in different forms, such as harvesting and removal without GFC permission, misuse of tags, or false declaration with respect to the origin of the logs harvested (Ibid.), a more clarifying description is “renting”, which was actually the term used by the President when commenting on the case (Ibid.), or “landlording” (Bulkan 2009). The current low royalty rates, already discussed in a previous section, are a major incentive for the renting, or contracting-out of managerial control, of concessions, which is illegal. In this context of low timber charges, the mere holding of a concession is a big asset which may induce renting or trading, particularly to a more efficient or wealthier operator. For this reason, the detected cases may not be the only ones. In recent times, the GFC has stepped up its policing of these activities, and fines have been imposed on several operators.

Smaller operators in Guyana, specifically chainsaw loggers and SFP holders, have particular incentives for engaging in non-legal activities. Some of these incentives were mentioned when discussing the forest management of small concessions. They are the lack of access to merchantable trees, the poor stocking of some small concessions, and the lack of appropriate logging equipment. The difficulties for controlling this activity add to the incentives. This has created the perception that small operators, and particularly chainsaw loggers, are responsible

for the vast majority of the illegalities in the forest sector, or that most of them operate partially or totally against the law. These statements are not correctly justified, and, in agreement with Clarke (2006), it has become clear that the issues of that sub-sector are closely tied with logging economics, land and resource accessibility, appropriate processing technologies and rural livelihoods. While illegalities do exist in this sub-sector, addressing the underlying issues can go a long way toward preventing them.

Corruption in the forest sector in Guyana is widely considered to exist at a “petty” level (Clarke updated by Nokta 2008), typically involving grafts given to or solicited by junior officials for overlooking infringements. Under-the-table deals at the checking stations between offenders and officers are reported as common by Bulkan and Palmer (2008), commenting on illegalities in small-scale logging in Guyana. “Arbitrary penalties” on errors in (or the lack of) timber tags or removal permits would promote these situations (Ibid.). The rotation of personnel at the stations would be utilized by GFC for counteracting or preventing these problems. This in turn may create other problems related to lack of training or experience, also reported by people in the sector.

Worldwide, the award of forest concessions is considered as an area which may provide opportunities for illicit activities and corruption (The World Bank 2006). The GFC procedures, stated in the 1993 procedures manual and the procedures for awarding SFEPs, prescribe an open, transparent, equitable and verifiable process for the award of concessions opened for tender. The TSA/WCL allocation procedure involves 19 steps and the intervention of several committees or Government bodies at different levels. Some critics say that the fact that large concessions are not advertised internationally limits open competition, and point to several cases of single applicants for specific SFEPs. For small concessions, there have been complaints by small-scale loggers on the centralization of the allocation process which would discriminate against loggers in certain areas. They claim they have to travel to Georgetown for knowing which concessions are available.

Volume of illegal logging

Illegal logging can go recorded or unrecorded. Unrecorded logging comprises wood that is never detected through the system. People involved in the sector declared that most illegal timber is “legalized” at some stage in the supply chain. The proportion of illegal timber that does not enter the official system at some point is minimal.

By definition, illegal logging is difficult to quantify. Official records of detections may be good for obtaining a perspective of the type of illegal activities and their relative incidence. However, they are difficult to relate to actual illegal volumes or the number of illegal actions. A low level of detections may be related to high level of compliance or to inefficacy in the controls. A high level of detections may denote controlling efficacy or rampant illegality.

In the absence of hard data on illegal activities or other satisfactory methods for their estimation, the opinion of people involved in the sector on the volume of illegal timber was solicited. Most of the people put the figure within the 15%-20% range, with GFC officers evenly declaring 5% as the upper range of the estimation, in what would be an officially recognized magnitude.

For comparative purposes, a publication of the World Bank (2006) may be quoted on indicative estimates of illegal logging in selected countries. Illegal logging as a percentage of total

production in the five South American countries listed in the document was 80% for Bolivia and Peru, 70% for Ecuador, 42% for Colombia and 20-47% for Brazil. Other large tropical timber producers outside South America included Indonesia (70-80% of illegal logging), Malaysia (up to 35%), Papua New Guinea (70%) and Ghana (60%).

Addressing illegality

The GFC devotes sixty percent of its resources to forest monitoring. Its 260 employees include 45 professionals with tertiary degrees and 160 technicians. It has an annual budget of approximately US\$3.5M, and twenty seven vehicles in operational condition (P. Bholanath, pers. comm.). These numbers do not suggest in principle a capacity problem. However, monitoring and control in the interior regions of Guyana have singular demands. Time for accessing some areas is still measured in several days. There is a need to develop a capacity to utilize remote sensing data in these and other functions. A prevalent opinion in the sector is that control within forest concessions is not significantly affected by lack of resources, but control of other forest areas is affected. Thus, violations of forest management rules by concessionaires would have better chances of being detected than illegal logging. Areas outside concessions might be patrolled once a year, and this would not be enough for adequate control. Most units of the GFC, including monitoring, experience a high turnover rate, and this affects efficiency according to people in the sector. In some cases this responds to internal decisions, but the emigration rate of the educated population of Guyana, one of the highest in the world, is an influential factor. The emigration factor affects particularly the permanence and availability of highly trained and specialized personnel.

The log tracking system, initiated in 2000, is a GFC program directly aimed to address illegal logging. A current project implemented with ITTO integrates bar code tracking technology into log tracking currently implemented in Guyana. Log tracking has largely been done in a manual way which has its constraints. Six stations are on a Wide Area Network to allow for information transfer to facilitate the linking of the divisional stations in an improved electronic system. The rest of the 23 stations will have the technology available in the future. It is also planned to use it at processing operations, stump inspections, transportation ways and export points.

Experts and other people in the sector consider that the current capacity to check origin of tags at the forest stations is limited, except for those six pilot stations. The high turnover of personnel at the stations does not help. In some cases the use of mobile phones may allow for consultation to GFC central office.

A Chainsaw Milling Project, financed by the European Commission and implemented by Tropenbos International with local partners (FTCI and Iwokrama), works in the development of alternatives for illegal chainsaw lumbering. The project aims to address strategic matters of chainsaw milling by local communities. A landscape level approach has been adopted as a guiding principle for implementation; the approach aligns livelihoods analysis with community based initiatives in wide national or regional perspectives. The project commenced in 2007 and will run until March 2012.

The GFC has also started to pursue the implementation of a legal verification system (LVS) together with the Forest Products Marketing Council of Guyana, and 17 auditors from the private and public sectors have been already trained by ProForest, an English consulting company. Once the process is complete, the Council will serve as the coordinator of the system for the forest sector. This can be a stepping stone towards forest certification for some companies. As

mentioned before, the Iwokrama Forest was certified by FSC in January 2008, and at that time it was the only FSC-certified operation in the Guiana Region. Other forest companies have been pursuing other forms of certification such as compliance with forest governance requirements of the Environment Agency of the UK.

Certain important actions for addressing illegality are not necessarily related to typical policing and monitoring activities. Regarding illegalities by small loggers and chainsaw millers, the problems of land and resource availability and processing technologies have been mentioned and should be addressed. The Chainsaw Milling Project and the promotion of community forestry are steps in that direction. Illegalities by large concessionaires seem to be better controlled, but are nevertheless encouraged by a system of timber charges which are, at the same time, low and complex. Complexity encourages non-compliance. Royalties which fail to reflect the approximate value of the standing timber promote inefficiencies which may approach illegality in some cases. They have been a key factor in the discussed case of “rented” concessions. Differential levels of timber charges between concessionaires are likely to produce similar effects, as they result in different costs for the same production processes, which may induce covert deals for taking advantage of those differences.

Amerindian claims and land tenure

The Amerindians in Guyana

Amerindians represent approximately 9.1% of the population in Guyana, some 68,000 people. The Amerindian peoples of Guyana, in approximate decreasing order of population size, are the Arawaks, Makushi, Wapishana, Patamona, Akawaio, Warau, Caribs, Arekuna and Wai Wai. More than 80% of the Amerindian population lives in five of the ten administrative regions of Guyana, regions 1, 9, 2, 7 and 8. They are the most western regions of the country. Different Amerindian peoples originally lived in distinct environments, also separated by different languages. This is the case in most areas, except on coastal Amerindian villages of Region 1, where Arawaks, Waraus and Caribs live in some cases in the same village. Amerindian communities are regularly organized through an elected Village Council and an elected captain or *Toshau*. Under the provisions of Section 5 of the Amerindian Act 2006, Village Councils have authority to manage natural resource access and use on their titled lands.

Amerindians have the largest proportion of poor among all ethnic groups in Guyana. Most of their communities are undergoing a process toward a cash economy which is disrupting the traditional dynamics of village life. Social relationships are transformed by the placement of monetary values on goods and services, and by younger community members becoming more skilled in dealing with the rest of the society, among other factors. Mining was probably the first activity having an important impact in this direction, and large scale commercial timber harvesting has similar effects in some areas. However, subsistence activities like agriculture, hunting and fishing are still very important in village life.

Education and health problems are important issues. Remoteness and difficult access to some areas are obstacles for many actions. Lately, gender and other social issues have gained recognition within and outside the communities, and this has resulted in the involvement of NGOs and the conformation of very active young and women groups in several areas including environmental and resource areas.

Dealing with extractive industries, like mining and timber harvesting, is a challenge for many Amerindian communities. Mining has produced environmental and health problems in some areas. Even when these activities take place on Amerindian lands and under some type of agreement with the community, the lack of skills and administrative capacities for dealing with these new situations puts the communities at a clear disadvantage.

In the last years Amerindians have had good numerical representation in the Government, both at the executive and legislative levels. However, Amerindians as a group never had historically a big capacity for lobby. The party is a very strong concept in Guyanese politics. There are regional Amerindian organizations and four centrally-based organizations.

Amerindian titles to the land have been recognized from the early colonial times by the Dutch and subsequently by the British who occupied Guyana after the Napoleonic Wars. As stated in the National Development Strategy of 1996, the Government of Guyana has never extinguished Amerindian aboriginal title at Common Law, and it continues as a legitimate Amerindian interest in land. The Amerindian Lands Commission Report, published in June 1969, had identified 128 Amerindian communities in the country, and requests for land titles were made by 116 of them, although the commission recommended granting of titles to all the communities. The Government of Guyana has advanced in the last fifteen years in a process of providing formal title to Amerindian communities.

Land claims and demarcation of Amerindian territories

Land ownership by Amerindian communities has doubled in the last fifteen years as a result of the official "titling" process. It currently amounts to close to 3 million hectares or 13.9% of the country area. Ninety three Amerindian communities have already formal title. From these communities, eight were granted an extension of their lands, and other nine communities have requested extensions. Three more communities will get the title very soon as the required process has been completed. According to official sources, nine communities eligible under the Act expect to have title in the near future, and nineteen other small communities with significant Amerindian population are eligible for title under the Act.

These totalize 124 communities. Given the some 155 existing Amerindian communities according to the Government, this means that 80% of the Amerindian communities in Guyana either have title to their lands or are in the way to obtain it. However, the number of communities can be larger if smaller communities are considered. The Amerindian Act (2006) establishes a minimum population of 150 persons for granting State lands to Amerindian communities.

The introduction of this numerical criterion in the practice of granting land titles to Amerindian communities in Guyana has been criticized by the Committee on the Elimination of Racial Discrimination, of the UN International Convention on the Elimination of all Forms of Racial Discrimination. For the Committee, these criteria are "not necessary in accordance with the traditions of indigenous communities concerned, thereby depriving untitled and ineligible communities of rights to lands they traditionally occupy" (UN CERD 3 June 2008). The Committee has also objected to the limitations in those titles to subsoil rights, which remain in the domain of the State (Ibid.). In fact, Amerindians have veto power over small and medium scale mining on their lands, a capacity that other Guyanese do not have, but this does not apply to cases of large scale mining which the Government may consider in the public interest. In such

cases, requirements of consultation and negotiation apply. Limitations to subsoil rights on the property of both indigenous and non-indigenous lands are common around the world in developed as well as less developed countries, as it is the case in Canada, United States, Sweden, Australia and many other states.

The Government admits that the “titling” process with those communities with which it has reached agreement is suffering from budgetary problems. It argues that some GUY\$37 million (approximately US\$185,000) is the average cost of land demarcation for an Amerindian community. Amerindian representatives resent the influence of budget limitations on this exercise.

Participation of forest dependent populations, including indigenous peoples, in design and implementation of forest policies

Public participation in forest planning processes in Guyana regularly reaches levels of information and consultation. The GFC implements consultation processes for new policies, norms and guidelines, including the New Draft Forest Act. However, participant satisfaction levels are mixed. Some say that “GFC already has the answers”, and Amerindians generally indicate on this and other matters their “very little power” to influence decisions. The consultative model of public input, with not enough emphasis on shared decision-making, frequently creates a situation in which the public perceives that the agency has its mind made up on the proposed action prior to soliciting public comment. This has also been verified in the United States, where despite efforts by the US Forest Service to improve modes of public involvement through consultation, conflicts continued to escalate (Germain et al. 2001).

Nevertheless, collaborative approaches to decision-making are being explored and implemented by the GFC through “community forest initiatives” which provide to communities management rights over areas of local forests. Also, the advance in the processes of granting titles and land demarcation for Amerindian communities is a significant step toward direct control by the communities over their resources. “Perhaps the most important indication of empowerment of peasant communities and indigenous groups in Latin America has been the granting or clarification of land tenure in forested areas and the provision of long-term use rights” (Galloway et al. 2005).

As stated in the new forest legislation to be enacted, community forest management agreements are intended to provide communities with a means of acquiring secure rights to manage their local forests in order to help meet local needs. The GFC has advanced in this purpose before the enactment of the new Forest Act through “community forest initiatives.” Under this program there are currently twenty seven community associations which, under agreements with the GFC, manage areas of State forest or Amerindian lands. Eleven of them are Amerindian associations, which work on Amerindian lands and State forest lands. Other associations also include Amerindian population.

Amerindian Village Councils can pass by-laws controlling forest access and use on their lands, subject to Ministerial approval (Amerindian Act 2006). Although secure land tenure is essential for sustainable forestry development, it is no guarantee to improvements in forest management and the success of community-based forest enterprises. Many problems make the establishment and operation of these enterprises particularly difficult. The Government is addressing the development of local capacities through training programs with the participation of the Guyana

Forestry Training Centre Inc. (FTCI) in diverse areas such as forest laws, forest inventory, management, and chainsaw use and maintenance. Training has largely relied on foreign aid, though. Weak internal organizations with little capacity for business administration, poor availability of technical and financial services, inadequate infrastructure and road networks and high transport costs are some of the problems that confront the development of community forest organizations in Guyana.

Economic considerations also seem to affect effective participation in consultation processes. Amerindian representatives mentioned at least one case in which participation was affected by lack of funding for meetings, to cover regular costs of mobilization, transportation, lodging, etc. Government officers assert that the Government normally provides funding in these cases. From the conversations with both parties, it may be inferred that funding may not cover the participation costs for the totality of those who are interested in the processes.

In general, Amerindians appear more concerned with their capacity to control activities on their lands, including both “titled” lands and lands under some form of claim. On lands with Amerindian title, any conflict on forest use should be promptly solved. In some cases, as a step in the process of granting titles, the Government has excised lands from forest concessions. Problems appear mainly in lands subjected to unresolved claims. Some Amerindian leaders argue that as a result of the demarcation process, Amerindian communities have lost any control to what happens to adjacent lands, such as logging and mining activities. They say that the old legislation gave them a stronger voice in these matters, which they would not have with the new legislation. In these cases (permissions on contiguous State forests), the Amerindian Act (2006) just requests the GFC to “first consider the impact on the village.” According to the Forests (Amendment) (Exploratory Permits) Act of 1996, no exploratory permit shall be issued for any area that is occupied, claimed or used by Amerindians, but in some cases the very existence of a claim is a matter of disagreement.

The Environmental Protection Act (1996) is a modern piece of legislation, which establishes several instances of public participation in the environmental impact assessment (EIA) of any project which may significantly affect the environment. The “harvesting and utilization of forest resources” is specifically listed as an activity that requires an EIA. The Act makes public participation possible from the beginning of every process, prior to the scoping stage of the project.

Conservation experts interviewed have commented that the Act is not always well applied. A recent study (Bynoe 2006) affirms that the participation process under the Act remains weak in Guyana for rural and indigenous communities. Some issues, such as difficulties for accessing information due to remoteness of areas and the fact that the Environmental Protection Agency does not have regional offices arise. Cultural problems limit the effectiveness of the use of newspapers in communication, and internet is not available in many hinterland communities (Ibid.). The Act appears as a tool that might cover many of the basic participation requirements in those aspects related to Amerindians and other forest dependent populations in their relationship with natural resources, not only forests, and their utilization. Structural problems, however, are likely to continue affecting the full implementation of this and other modern legal instruments and policies governing natural resources in Guyana in the near future.

Conclusion

Guyana, like many other developing countries, has limited resources, but has developed a forest legal system for the management of its forests, coupled with other basic governance requirements, such as forest monitoring and incipient mechanisms of public participation.

The enactment of the New Draft Forest Act will contribute to clarify some regulatory aspects which still remain controversial. The resource policy and legislation produced in the last years is for the most part conceptually modern, and in line with the internationally accepted social and environmental requirements of sustainable resource management. The practical implementation of these legal instruments and policies suffers from the problems of underdevelopment, such as poor infrastructure, shortage of skilled specialists and limited financial resources. The particular Guyanese context makes difficult the direct adoption of certain mechanisms and procedures, therefore all these “modern” rules and institutions have to go through adaptation processes which require ingenuity and time, and where resources are also important.

This report has identified a number of difficulties related to the main subject of forest governance. Most of them were expected, many were already discussed locally with different levels of interest or intensity, and a few of them were even the subject of international articles. All of them refer to aspects in which Guyanese public and official institutions show a genuine interest in advancing.

An aboriginal lands issue that has been addressed, with substantial advances in the definition of tenure rights and land demarcation, is a favorable condition for REDD. Likewise, consultation mechanisms and processes are legally established, and while problems may subsist in their implementation, no new structures may be necessary in this area. The scientific basis for the sustainable management of the Guyanese forests exists as a result of local work and good international cooperation. A combination of a gradual implementation of this knowledge and what has been historically a conservative and highly selective approach to timber harvesting resulted in a well preserved forest resource. The deforestation rate is among the lowest in the world. These are valuable attributes for REDD.

From a REDD perspective, there is a need of developing adequate monitoring capabilities. The same factors which make Guyana an attractive REDD participant, vast natural forests barely affected by development and infrastructure, increase monitoring demands in different ways. Extra-sectoral issues may become critical, particularly mining and the new pressures expected from increased communication and trade with the largest neighbor Brazil, and some decisions on land use planning will be required at the national level in response to these challenges.

In forest policy aspects, there is a significant margin for increasing the benefits provided by the traditional uses of the forest, such as the production of timber and wood products. The critical decisions to be taken in the short term and the next years require the development of valuation systems for determining the costs and benefits of different alternatives and courses of action on the forest resource. These valuation systems are related to environmental benefits and new alternative uses of forests, but also to more classical uses and standing timber values. There would be clear advantages in simplifying timber charges and making them more consistent with actual resource values.

There is a level of illegality in the forest sector of Guyana. This level is significant although it has been shown as lower than in several other major tropical timber producing countries in South America and around the world. Improvement of the monitoring capabilities of the GFC and the regular use of remote sensing data are required to address this problem. However, some roots of illegality have to do with social and land and resource tenure aspects in the case of small

loggers, and with the system of timber charges and other contractual arrangements in the case of large concessionaires. Forest users will have to become REDD partners in any probable arrangement, and this is particularly important for the case of small loggers and community forestry groups. Critical geographical areas such as the region bordering with Brazil on the South and the border with Suriname on the East should be particularly taken into account in REDD initiatives, due to risks and potential leakages, as well as for the probable increased additionality involved in emission reduction efforts.

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ANNEX I: Acronyms

APA	Amerindian Peoples' Association
CERD	UN Committee on the Elimination of Racial Discrimination
CI	Conservation International
CIDA	Canadian International Development Agency
CIFOR	Center for International Forestry Research
CITES	Convention on the Trade in Endangered Species
COCA	Community Owned Conservation Area
COP	Code of Practice for Timber Harvesting
EIA	Environmental Impact Assessment
EPA	Environmental Protection Agency of Guyana
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FCPF	Forest Carbon Partnership Facility
FIDS	FAO Forest Industries Development Survey
FPA	Forest Products Association of Guyana
FPDMC	Forest Products Development and Marketing Council
FSC	Forest Stewardship Council
FTCI	Forestry Training Centre Incorporated
GFC	Guyana Forestry Commission
GGMC	Guyana Geology and Mines Commission
GLSC	Guyana Lands and Surveys Commission
GMSA	Guyana Manufacturing and Services Association
GOIP	Guyana Organisation of Indigenous People
IADB	Inter-American Development Bank
IEED	International Institute of Environment and Development
ITTO	International Tropical Timber Organization
IUCN	International Union for Conservation of Nature
LCDS	Low-Carbon Development Strategy
NADF	National Amerindian Development Foundation
NREAC	Natural Resources and Environment Advisory Committee
NTFP	Non-timber Forest Products
PDD	Planning and Development Division, GFC
REDD	Reducing Emissions from Deforestation and Forest Degradation
SFEP	State Forest Exploratory Permit
SFM	Sustainable Forest Management
SFP	State Forest Permit
SLA	Small Logging Association
TAAMOG	The Amerindian Action Movement of Guyana
TSA	Timber Sales Agreement
UG	University of Guyana
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change
WCL	Wood Cutting Lease
WWF	World Wildlife Fund