

SURINAME



*For legend see page 58

Forest resources

The Republic of Suriname has a land area of 16.3 million hectares and an estimated population of 400,000 people. A lowland region and the southern highlands account for 80% of the land area and form part of the pre-Cambrian Guyana Shield that straddles Suriname, Guyana and French Guiana. In contrast to neighbouring Guyana, however, sandstone mountains are confined to a few areas and only rise as high as 1,280 m above sea level. Along the northern edge of the shield lies a savanna belt, beyond which is a narrow swampy coastal plain where 90% of the population is concentrated. Estimates of forest area include 14.1 million hectares (FAO 2005), 14.8 million hectares^b and 13.6 million hectares (UNEP-WCMC 2004).

Forest types. Three major forest types can be distinguished, corresponding to the three major biogeographical zones: (i) the hydrophytic forests in the north, which comprise swamp forests, mangroves and ridge and marsh forests; (ii) xerophytic savanna forests in the savanna belt; and (iii) the predominant mesophytic moist forest types of the Guyana Shield^b.

Dynamics of forest resource change. Suriname does not face the population and migration pressures that have led to deforestation in other countries; FAO (2005) estimated the rate of deforestation in 1990–2000 to be virtually zero. More than 400,000 hectares of swamp and savanna forests are degraded due to poor-quality logging and mining operations^b. Occasional forest fire is considered to be the main present threat to forest resources.

Permanent forest estate. A first attempt was made to establish a PFE (Table 1) following the enactment of the Forest Management Act in 1992; the total PFE is estimated to be 11.3 million hectares, of which 6.89 million is allocated to production. ITTO (2003), however, estimated the accessible production forest to be 4.5 million hectares^b.

Planted forests. An estimated 52,347 hectares of planted forest once existed in Suriname, but only about 7,000 hectares remain today^b.

Institutional arrangements

Forest tenure. According to the 1987 constitution, all forests, except those on privately owned land, belong to the state. The constitution does not provide for collective rights or the collective

Table 1 PFE

Estimated total forest area, range (million hectares)	Total closed natural forest ('000 hectares) Source: FAO 2001	PFE ('000 hectares) ^d			
		Production		Protection	Total
		Natural	Planted		
13.6–14.8	14,100	6,890*	7 ^b	4,430**	11,327

* Estimate based on Republic of Suriname (2000)

** The protection PFE includes protection forest, special protected forest and nature conservation forest. Not all this area has been formally designated^b

use of land, but Amerindian and Maroon people (the latter being descendants of slaves of African origin) claim these rights.

SFM policy framework. The Forest Management Act (1992) provides criteria for the sustainable use of forest resources. In addition, the government plans to develop national C&I for SFM as part of the Amazon Cooperation Treaty initiative. A recent ITTO diagnostic mission to Suriname proposed the establishment of a forestry database that would include: the classification of the potential of forest land; a national forest inventory; an assessment of forest industry with economic analyses; a survey of the wood-processing industry; and an update of the concession database^b.

Forest policy and legislation. The Forest Management Act covers the sustainable and rational use of forest resources, taking into account the interests of forest-dwellers and the conservation of nature and biological diversity. Its provisions cover: the classification of forests for production, protection and conservation; regulations for forest management and harvesting to stimulate the sustainable use of timber; and regulations for forest transport and the processing industry.

Rules for the implementation of the act were prepared between 1997 and 2000 with technical assistance from FAO and funding from the Netherlands^b. A new national forest policy was adopted in 2003 that lays down guidelines for achieving SFM. The Forest Management Act is now being revised to provide more coherence in the legislation, clearer management prescriptions for SFM and, eventually, to establish a single forest authority. The national forest policy has been described as a balanced policy conducive to achieving SFM, although in the view of two stakeholder groups it is not yet concrete enough and may leave too much room for manoeuvring^b.

A draft environmental act is also being discussed in Parliament. This will have important procedural consequences for the issuance of timber licences and the installation of timber-processing units. In the absence of agreed national C&I, the environmental impact assessments described in this act will be essential for monitoring progress towards SFM.

Institutions involved in forests. The semi-autonomous Foundation for Forest Management and Forest

Control (*Stichting voor Bosbeheer en Bostoezicht – SBB*), which was established in 2001, is responsible for forest management and the monitoring and control of logging; it derives its mandate from the forest service (*Lichtwet en BosBeheer – LBB*). The LBB is in charge of nature conservation and the management of nature reserves in collaboration with the Foundation for Nature Conservation (*STINASU*)^b. Preparations are now being made to establish a single forest authority (see above), which will also be responsible for nature conservation. Some research and development related to sustainable management is conducted by SBB, partly implemented with international support. This includes a study on the promotion of the efficient use of forest resources through management planning, the issuance of forest licences, guidelines for forest inventory, and the rehabilitation of the forestry training centre for vocational training.

National environmental NGOs are weak, but the influence of international environmental organizations in various aspects of natural resource management is high. The Amazon Conservation Team is working on the use of NWFPs and participatory land-use mapping involving local communities and the government (Tropenbos International 2004).

Status of forest management

Forest for production

In 1993, Suriname invited international investors to establish logging concessions in the country. The requirements for management plans address criteria or methods for SFM in only a limited way, and management plans appear to serve as an administrative tool for charging levies and fees rather than providing guidance in SFM. There are several systems for timber licensing, including concessions, communal wood-cutting permits (*houtkapvergunningen – HKVs*) and 'incidental cutting licences' (ICLs). The procedures for granting concessions and licences were not transparent in the past. Concessions vary in length between one and 20 years, but it is now proposed by the forest authority that this should be increased to 25 years.

As of late 2003, 67 concessions had been allocated over a total area of 1.74 million hectares. Thirty-three licences are for areas smaller than

Table 2 Some commonly harvested species for industrial roundwood (2001-2003)^b

Timber species
<i>Dicorynia guianensis</i> (basralocus)
<i>Virola spp</i> (baboen)
<i>Qualea rosea</i> (gronfolo)
<i>Goupia glabra</i> (kopie)
<i>Ocotea rubra</i> (wana)

5,000 hectares in size, ten between 5,000 and 10,000 hectares, and eight are large, foreign-owned concessions between 100,000 and 150,000 hectares totalling 1.09 million hectares. Of the latter, 740,000 hectares have been considered idle or non-compliant and are waiting for final withdrawal notice^b. HKVs are granted to Amerindian or Maroon communities on state-owned lands; approximately 435,000 hectares of forests have either been granted as HKVs or, since the Forest Management Act of 1992, have been allocated as 'community forests' to such communities. Community forests are for local use only, and not for commercial purposes. ICLs are granted to individuals for subsistence purposes and are used generally for converting forest to subsistence agriculture. HKVs are usually negotiated between the community chief and a logging enterprise and may bring little benefit to the community as a whole. About 200 small- and medium-sized logging companies are active, with an annual production capacity of up to 500,000 m³ (with present equipment)^b. About 40% of logs come from regulated forest concessions; the remainder is derived from HKVs, ICLs and illegal sources^b. Budgetary constraints make it difficult for the government to fund law enforcement.

Planned oil-palm plantations and clearcutting for gold and bauxite mining (if continued) will lead to a substantial increase in salvage timber in competition with the output of selective logging, with the likely effect of depressing timber prices and decreasing the incentive to achieve SFM.

Silviculture and species selection. The forests are characterized by a high variety of species;

more than 600 tree species have been described. Some 50 species are known as class A commercial species and about 100 as class B. The species listed in Table 2 are harvested in the highest volumes. International markets particularly seek *Tabebuia serratifolia* (groenhart), *Peltogyne venosa* (purperhart), *Dicorynia guianensis* (basralocus), *Hymenae courbaril* (rode locus) and *Ocotea rubra* (wana)^b. The Celos Management System – an experiment in polycyclic silviculture to sustain timber production by RIL and post-harvesting silvicultural treatments – was applied in Suriname on a limited scale in the 1980s and 1990s.

Planted forest and trees outside the forest.

The predominant planted species for industrial purposes is *Pinus caribaea* – about 58% of the plantations. The rest are planted with broadleaved species and are more of an experimental nature. The principal indigenous species are *Cedrela spp*, *Cordia alliodora* and *Simaruba amara*; the main exotic species are eucalypts. Some of the forest plantations are mature enough to harvest, but many have not yet been thinned. There is little information about standing volume, growth rates or current condition.

Forest certification. There are no certified forests in Suriname. An FSC National Working Group was established in June 1998; this evolved into a working group on forest certification in 2002 under the auspices of SBB and WWF, which is an initiative to advance the institutional, policy and – if needed – legal framework in Suriname for the introduction of forest certification^b.

Estimate of the area of forest sustainably managed for production. The accessible productive forest area is about 4.5 million hectares; the present net productive area is considered to be 2.5 million hectares^b. Only one concession has a fully developed forest management plan. The total sustainably managed forest area is therefore probably close to zero.

Timber production and trade. The annual production of industrial roundwood increased from 183,000 m³ to 250,000 m³ between 1997 and 1999; sawnwood increased from 41,000 to 50,000 m³ and plywood from 7,800 to 8,000 m³ (ITTO 2003). Since 2000, official production has remained stable at about 160,000 m³ per year (ITTO 2005). There are 68

Table 3 Management of the production PFE ('000 hectares)

Total	Natural			Planted		
	Allocated to concessions/ under licence	With management plans	Certified	Sustainably managed	With management plans	Certified
6,890	1,740	73	0	0	7	0

sawmills with an estimated installed capacity of 500,000 m³ of roundwood; the present recovery rate is about 40%^b. The use of wood for fuel is negligible. Suriname is a net timber exporter but it also imports wood products such as particleboard, fibreboard and, to a certain extent, plywood. In 2003, Suriname exported logs and sawnwood valued at US\$495,000 and US\$1.89 million respectively (ITTO 2005).

Non-wood forest products. As in neighbouring Guyana, *Euterpe oleracea* (palm heart, manicole) is a major export. Nibi and cufa (rattan-like *Heteropsis flexuosa* and *Clusia* spp) are used locally for furniture-making and exported to the Caribbean. Fibres of *Mauritia flexuosa* (mauritia palm) are used to make baskets, mats and other items for export. Other products include latex from *Manilkara bidentata*, *Bixa orellana* (annatto dye) and *Carapa guianensis* (crabwood oil).

Forest for protection

Soil and water. About 22% of the total forest area has been classified as protection forest and conservation areas (3.27 million hectares) to protect water and soils and to conserve biodiversity.

Suriname's forests are generally intact but threats do exist. For example, river pollution is a problem: some waterways are contaminated with mercury as a result of uncontrolled gold mining, and river siltation and soil erosion are prevalent^b.

Biological diversity. Suriname has large intact forest ecosystems of global significance and the forest area has extremely high conservation and ecological value, particularly in the swamps and on the Guyana Shield. No biological inventory was available for this report, but the richness of the forest is not in doubt and it is certain that much remains to be discovered. Twelve mammals, six

reptiles, two amphibians and 27 plants are listed as critically endangered, endangered or vulnerable on the IUCN red list of threatened species; of these, five mammals, two amphibians and one plant are found in forests (IUCN 2004). Suriname has listed two plant species in CITES Appendix I and 41 in Appendix II; none is a timber species (CITES 2005). The country has started to explore the possibility of biodiversity prospecting: a Surinamese pharmaceutical firm and the National Herbarium have established a partnership with Conservation International and others to look for anti-HIV and anti-cancer compounds^b.

Extent of protected areas. According to UNEP-WCMC (2004), an estimated 1.39 million hectares of forest are contained within protected areas classified in IUCN protected-area categories I-IV, including 1.15 million hectares of lowland evergreen broadleaved rainforest.

Estimate of the area of forest sustainably managed for protection. Insufficient data were available to estimate the area of protection PFE being managed sustainably. However, most of the protected area is intact due to a lack of development pressure.

Socioeconomic aspects

Economic aspects. Forest-based activities contributed 2.5% to GDP in 2000 and provided direct employment in logging and the wood-processing industry for around 4,500 people (4.5% of the entire work force)^b. There is also considerable informal and unrecorded employment and economic activity in the sector. Government revenue from forest concessions and other logging activities in the past was practically zero; an exception has been the revenue from export taxes on forest products. Stumpage fees and export fees recently increased significantly, and forest charges may be further

Table 4 Management of the protection PFE ('000 hectares)

Total	Attributed to IUCN categories I-IV	Allocated for soil and water	With management plans	Sustainably managed
4,430	1,390	1,160	n.d.	n.d.

increased under revisions of the Forest Management Act. Log production in Suriname is probably as much as 50% more costly than in Brazil (for example) due to low yields, poor access, a lack of management capacity and a shortage of trained people at all levels. Capital investment in forestry is low and interest rates are high (20% or more), making credit unobtainable for small- and medium-scale investors.

Livelihood values. Subsistence from the forest is a lifeline for most Amerindians and Maroons; about 40,000 people from these tribal communities make their living in the rainforest area^b. Forest resources are important to them for medicines, building materials and fibres, but particularly for wild animals, fruit, seeds and nuts, which are major food sources. More than a thousand plant and animal species are known to be used in one form or another (van Andel et al. 2003). Some communities have also undertaken small-scale timber extraction for commercial use.

Social relations. Suriname's people comprise a racial mix of Amerindians, Creoles, Hindus, Maroons, Javanese, Chinese and Caucasians. About 10% of the population is Amerindians and Maroons, who claim collective land-use rights, including to forests. Mechanisms for structured consultation and participation are urgently needed to resolve conflicts over land tenure, which occur particularly in the coastal zone and in the northern forest area. A recent report by the Inter-American Development Bank (IDB 2005) found that logging concessions have been granted on indigenous and community lands without prior consultation with the communities concerned.

Summary

Suriname has a large forest resource base that contains a sizeable growing stock of valuable hardwood timber. However, its forest-management institutions are not yet equipped to oversee the

introduction of SFM in a commercial sector that has materialized only in the last decade or so. In addition, insecure tenure and recent difficult economic circumstances jeopardize the implementation of SFM.

Key points

- More than 80% of Suriname is forested, and very little deforestation is taking place.
- The PFE comprises an estimated 6.89 million hectares of natural production forest and 4.43 million hectares of protection forest. A further 2.59 million hectares of forest have not yet been allocated.
- As of late 2003, 67 logging concessions had been allocated over a total area of 1.74 million hectares.
- A coherent forest policy and legislation is under development, and the 1992 forest law is currently being revised.
- Current requirements for forest management plans do not have a strong focus on SFM.
- No area of either production or protection PFE has been identified in this report as under sustainable management. Nevertheless, most of the PFE is intact due to a lack of development pressure.
- Suriname's forests produce an estimated 160,000 m³ of industrial roundwood per year; the sector is a significant employer.

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^b ITTO 2003. Achieving the Year 2000 Objective and Sustainable Forest Management in Suriname. Report of the Diagnostic Mission. Presented at the thirty-fifth session of the International Tropical Timber Council, November 2003. ITTO, Yokohama, Japan.

^d ITTO estimate

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