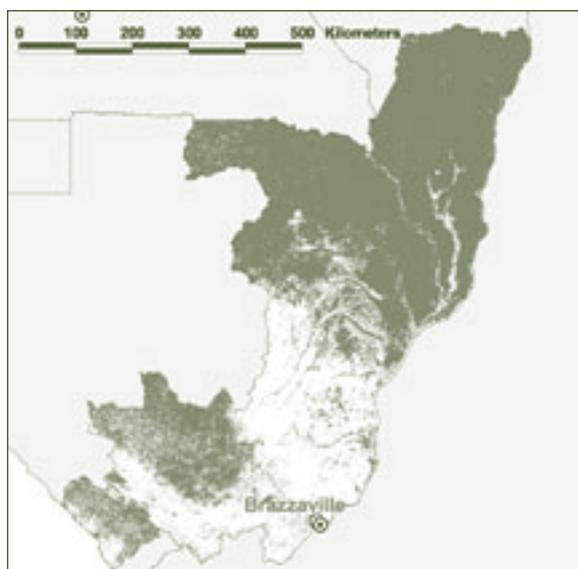


# REPUBLIC OF CONGO



\*For legend see page 58

## Forest resources

Congo has a land area of 34.2 million hectares and a population of 3.7 million people. Stretching from 3° north to 5° south, it can be divided into three broad biogeographical zones: the southern zone, which covers the forested Mayombe and Chaillu mountains and extensive grassland and savanna; the central zone, which consists of the Bateke Plateau highlands, wholly covered by grass or shrub savanna apart from gallery forests and scattered forest islands; and the northern zone, located mostly north of the equator, which consists of three subregions: the Cuvette, Likouala and Sangha, all mostly covered by intact closed forests. About half of the population lives in the two major cities in the south (Brazzaville and Pointe-Noire), whereas the rural population is concentrated in the southern and central parts of the country. The main forest zone, in northern Congo, is sparsely populated.

Estimates of total forest cover include 20.3 million hectares<sup>a</sup> and 22.1 million hectares (FAO 2005).

**Forest types.** The Mayombe forest, originally rich in *Aucoumea klaineana* (okoumé), has been heavily cleared due to the high population density along the road between Brazzaville and Pointe-Noire and repeated logging. It covers less than 1 million hectares, including extensive secondary forests<sup>c</sup>. The Chaillu forest area, covering 3.4 million hectares, is rich in okoumé, *Terminalia superba* (limba), *Pycnanthus angolensis* (ilomba) and *Entandrophragma utile* (sipo); it has been locally over-harvested and is increasingly encroached upon by farmers. Together, these two forest areas form the southern sector. The northern forests contain redwoods, especially sipo, *Entandrophragma cylindricum* (sapelli), and *Millettia laurentii* (wengé), as well as light hardwoods (eg *Triplochiton scleroxylon* – ayous); they cover 16.5 million hectares, about 40% of which is situated on soils that are flooded for a large part of the year.

**Dynamics of forest resource change.** The deforestation rate between 1990 and 2000 was about 17,000 hectares per year, or 0.1% of the total forest area (FAO 2005). For a long time, the northern forests remained almost untouched because of a lack of infrastructure and low population density. Over the past ten years, however, logging has started in these forests and there is now more in-migration from southern Congo and neighbouring countries. Uncontrolled forest fires occur regularly in the south at the end of the dry seasons.

**Permanent forest estate.** Virtually all the closed natural forest is contained within Congo's PFE (Table 1).

Table 1 PFE

Estimated total forest area, range (million hectares)	Total closed natural forest ('000 hectares) Source: FAO 2001	PFE ('000 hectares) <sup>a,c,d</sup>			
		Production		Protection	Total
		Natural	Planted		
20.3–22.1	22,000	18,400	72	2,860	21,332

**Planted forests.** The area of industrial forest plantations is variously estimated at 55,000 hectares<sup>b</sup>, 72,000 hectares<sup>a</sup> and 83,000 hectares (FAO 2005). About 10,000 hectares of timber plantations have been set up in the Mayombe region. Most of these have been established in order to develop low-fertility savannas by introducing eucalypts (mainly high-performance clones and hybrids). There are also some oil-palm and rubber plantations in southern Congo.

## Institutional arrangements

**Forest tenure.** According to the current (2000) forest law (see below), there are two types of forest ownership: state forest and private forest. State forest can belong to government, local councils (*collectivités locales*) and public bodies. Once declared, any community and communal forest is registered as the private domain of the relevant group. According to Law 32/82 of 1982, access is free and user rights are granted to local people in non-classified forests. Local people are also allowed to harvest palm trees, rattan, leaves of *Gnetum*, etc, as well as single trees for lumber and firewood – including for commercial use.

**SFM policy framework.** The broad policies for SFM are set out in the Program of Social and Economic Development (2000–2003) and the National Forestry Action Plan. The objectives include: the adoption of a master plan for forest management in Congo, the creation and management of forest by appropriate silvicultural techniques, the adoption of agroforestry systems that provide sound soil and vegetation management, and the adding of value to wood and non-wood forest products. In 2001, Congo developed its own set of C&I based on those of ITTO and ATO; these were first tested with the private sector in 2002 and are expected to be used for monitoring SFM in FMUs.

**Forest policy and legislation.** Congo has important forest resources that have been relatively little used in the past. Nevertheless, the country has had a set of related laws and regulations for 30 years. A new forest code (Law 16/00) was adopted in November 2000 and new regulations and taxation systems are being prepared. Together, these will provide a legal framework that integrates all the principles of SFM. According to the new law, state forest is divided into permanent and non-permanent forest estates, the PFE comprising the state forest estate

(*le domaine forestier de l'état*), which is forest belonging to the state, local communities and public bodies. The non-permanent forest estate comprises the public forest estate (*le domaine public de l'état*), which is forest that has not yet been classified.

A fauna and protected-areas code and a land-use code are being drawn up to replace the Land Use and National Estate Code (Law 52/83), which has never been applied by decree.

**Institutions involved in forests.** The main institution in charge of forests is the Ministry of Forestry Economy and Environment (*Ministère de l'Economie Forestière et de l'Environnement* – MEFE). The 2000 forest code provides for the setting up of a forestry fund into which will be paid a proportion of the taxes levied in the sector. These will accrue to MEFE in order to facilitate its activities and consolidate its investments. New bodies and centres set up by the forest code include the General Forest Economy Inspectorate, responsible for internal auditing, inspection and control; the National Timber Trade Information and Statistics Centre; and the National Inventory and Forest Management Centre (*Centre National d'Inventaire et d'Aménagements des Ressources Forestières et Fauniques* – CNIAF), responsible as an independent body for all aspects related to forest management plans. There appears to be considerable political will to put in place an SFM regime<sup>b</sup>, but the institutional capacity to follow through on this is still very weak<sup>a</sup>.

The present governmental structure has evolved as a result of a military coup in 1997 followed by civil war until early 2000 and elections in 2002. The country's socioeconomic development is based on central planning and a strong public service including parastatal companies. The country is now moving towards privatization, but not yet the devolution of state functions.

Several international NGOs operate in Congo, including WCS and WRI.

## Status of forest management

### Forest for production

The production PFE is divided into 34 FMUs. All management, production, conservation, silviculture and infrastructure development is conducted

**Table 2 Some commonly harvested species for industrial roundwood<sup>c</sup>**

Timber species	Remarks
<i>Entandrophragma cylindricum</i> (sapelli)	30–60% of the total volume harvested, 100% for export
<i>Triplochiton scleroxylon</i> (ayous)	Light-colored timber, used in Europe to replace birch in sauna construction
<i>Entandrophragma utile</i> (sipo)	Decorative species, important for veneer
<i>Chlorophora excelsa</i> (iroko)	Traditionally one of the most popular dark hardwoods
<i>Millettia laurentii</i> (wengé)	Fine dark wood for multiple high-quality uses

at the level of these FMUs. In 2002, an area of about 8.5 million hectares was allocated to timber harvesting and required management plans. At the beginning of 2003, there were 50 forest concessions (of differing legal status) and 31 mostly smaller units (*unités d'exploitation* and 'lots') in the south and 19 forest concessions for production and protection in the north<sup>c</sup>. Expatriate enterprises, mainly from Europe but also from Malaysia, Hong Kong and the Middle East, are of great importance and account for more than 80% of national timber production.

Forest management is very different between the southern Mayombe and Chaillu regions and the northern part of Congo. Southern forests have been harvested for more than 50 years. Most of these forests are degraded, and current timber harvesting is often the third or fourth re-entry into logged-over forests<sup>c</sup>. In addition, the former larger FMUs have been subdivided into smaller logging units, allowing mainly national extractors access to the timber resources. In the last ten years, more than 1 million hectares of forest have been allocated in lots of about 50,000 hectares each. Many of these have been subcontracted to logging operators without knowledge of, interest in or capital for forest management, and damage is widespread<sup>c</sup>. The approach to forest management in northern Congo is different. The integrity of large FMUs has been maintained and concessions allocated to large industrial companies with an annual production capacity of over 100,000 m<sup>3</sup>, large enough to invest in wood-processing units.

The 2000 forest code requires that FMUs have forest management plans. In theory, these plans are to be prepared by the forest administration in close collaboration with the forest concession-holders, but, in practice, the concession-holders

undertake most of the work. Some management plans were expected to be completed by mid 2004 and provide the basis for the first SFM units in the country. Inventories for commercial timber and regeneration have been carried out on at least 6.4 million hectares of forests of the PFE<sup>c</sup>. A new approach, recently applied in three FMUs in northern Congo, has integrated NWFPs as part of the resource inventory. On the basis of forest inventories carried out over the past 30 years, the annual potential sustainable timber yield from the forest is estimated to be about 2 million m<sup>3</sup>, based on a 40-year rotation<sup>c</sup>.

The allocation of concessions in the FMUs is attributed either through an industrial processing agreement (*convention de transformation industrielle*), a management and processing agreement (*convention d'aménagement et de transformation – CAT*) or a special permit (*permis special*). In addition to these, Article 65 of the 2000 forest code specifies another type (*les permis de coupe des bois de plantations*) for the harvesting of plantations. Enterprises that are candidates for the development of an FMU are selected by tender. Harvesting is carried out in designated areas according to an annual allowable cut (AAC), which corresponds to the maximum annual volume authorized by the forest administration. The AAC can only cover areas that have been subject to a full enumeration of all harvestable trees and the most sought-after species. Every year, concession-holders must submit a request for approval of the AAC, together with a map of tree enumeration (scale 1:20,000) and a map (1:50,000) indicating existing log yards, roads and skidding trails. Every three months the operator must submit to the forestry administration a summary account indicating the volume of production by species and destination.

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

Total	Natural			Planted		
	Allocated to concessions/ under licence	With management plans	Sustainably managed	Total	With management plans	Certified
18,400	8,440	1,300 <sup>c,*</sup>	0	72	45	0

\* Forest management plans are being prepared in most of the concessions in northern Congo; at the time of compilation one company, CIB, had submitted its plan for further consideration by the forest administration and two others were about to do so

**Silviculture and species selection.** Congo has a long tradition of forestry research and education, and there is broad scientific knowledge of silviculture and forest dynamics in natural and planted forests<sup>b</sup>. Under the 2000 forest code, management plans must specify the species selected for felling and for preservation, any silvicultural treatments including enrichment planting, and the silvicultural planning schedule for each harvesting plot. Felling cycles can vary between 25 and 50 years and harvestable diameters between 60 and 80 cm according to species. Harvesting in FMUs for which a management plan has not yet been approved should be preceded by a felling inventory for the specified area.

In northern Congo, 18 to 20 timber species are harvested, mainly for the export market. The five major timber species listed in Table 2 make up nearly 80% of total production. More species are used in southern Congo; the major species there are okoumé and *Gambeya africana* (longhi).

**Planted forest and trees outside the forest.** The most important industrial plantation species are clonal eucalypts, followed by various tropical pines. Limba has been planted extensively since 1949 with some success. There are some small-scale enrichment plantings using local species such as ayous, *Nauclea diderrichii* (bilinga) and *Entandrophragma angolense* (tiama). Okoumé has been planted or regenerated in southern Congo with limited success.

**Forest certification.** Congo is actively involved in the development of the Pan-African Certification Scheme based on the ATO/ITTO PCI. Foreign companies operating in northern Congo are showing some interest in forest management certification and at least one large operation is pursuing FSC certification.

**Estimate of the area of forest sustainably managed for production.** At least 1.3 million hectares of the natural-forest production PFE are thought to be under SFM (Table 3). This area comprises three FMUs located in northern Congo managed by *Congolaise Industrielle des Bois* (CIB). CIB, which has been in the region since 1959, applies – with the assistance of an ITTO project and WCS – high forest-management and social standards and is well advanced in a process of independent certification under the FSC scheme.

**Timber production and trade.** Total roundwood production was an estimated 2.45 million m<sup>3</sup> in 2003 (FAO 2005b), including an estimated 1.35 million m<sup>3</sup> of industrial roundwood (ITTO 2006 in prep.). Sawnwood production in that year was 168,000 m<sup>3</sup>, an increase over 1999 (74,000 m<sup>3</sup>) (ITTO 2004, ITTO 2006 in prep.). In 2003, Congo exported an estimated 738,000 m<sup>3</sup> of logs, 127,000 m<sup>3</sup> of sawnwood and 14,000 m<sup>3</sup> (almost all production) of veneer (ITTO 2006 in prep.). Production and transport costs for exporting timber are relatively high compared to other countries in the Congo Basin; labour costs are the second-highest in the region after Gabon<sup>c</sup>.

**Non-wood forest products.** Many foods, medicinal plants and condiments are collected in the closed forest area and savanna forests; these are mainly sold domestically. Fibres such as raphia and rônier leaves (*Borassus aethiopum*) are important products that are traded with neighbouring countries. Mammals (particularly antelopes), invertebrates, snails and fish are important sources of protein for forest-dwelling communities. The trade in wild meat now involves many species, including protected species such as apes and elephants in northern Congo; it has become a major problem since the opening-up of the forests to forest management<sup>c</sup>.

**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
2,860	2,860	3,660 <sup>a</sup>	380 <sup>a,d</sup>	380 <sup>a,d</sup>

## Forest for protection

**Soil and water.** According to MEFE, 3.66 million hectares of forests are managed primarily for soil and water protection<sup>a</sup>.

**Biological diversity.** Congo is host to more than 6,500 plant species, 200 mammal species and 500 bird species (government of Congo 2000). Fourteen mammals, four birds, two reptiles and 36 plants are listed as critically endangered, endangered or vulnerable on the IUCN red list of threatened species; of these, ten mammals, one bird and six plants are found in forests (IUCN 2004). Fifteen plant species are listed in CITES Appendix II, including one hardwood timber species, *Pericopsis elata* (CITES 2005).

**Protective measures in production forests.** Forest management plans are now compulsory for concession-holders. They prescribe measures to protect water flows, biodiversity and soils. Specific provision is to be made to preserve wildlife in production forests<sup>a</sup>.

**Extent of protected areas.** The first national park (Odzala) dates from 1935, and the second, Nouabale-Ndoki, was created in 1993. According to the government of Congo, three national parks have protected-area status equivalent to IUCN categories I and II covering a total area of nearly 2.3 million hectares, and eleven protected areas covering 1.4 million hectares are classified in IUCN categories III to VI<sup>a</sup>. Of the 14 protected areas, twelve (86%) are linked by forest corridors. According to UNEP-WCMC (2004), 2.86 million hectares of forest are in protected areas conforming to IUCN protected-area categories I-IV, including 2.07 million hectares of lowland evergreen broad-leaved rainforest.

**Estimate of the area of forest sustainably managed for protection.** The Nouabale-Ndoki National Park (380,000 hectares) is covered by a fully-fledged management plan that is being implemented effectively; CIB is harvesting timber in its buffer zone and implementing measures to

further protect the integrity of the park. The park is therefore considered to be under SFM<sup>a,d</sup> (Table 4).

## Socioeconomic aspects

**Economic aspects.** In 2002, the forest industry contributed about 2% of GDP<sup>b</sup>. It is estimated that more than 8,000 people are employed in the forestry sector<sup>c</sup>; forestry is a particularly important employer in northern Congo.

**Livelihood values.** Wild meat and the gathering of edible fruits, nuts and roots are of great importance for forest-dependent local communities, particularly Pygmies in the closed forest. Leaves of *Gnetum* spp are widely used as vegetables. Fruits of *Irvingia gabonensis*, *Gambeya africana* and others are collected and eaten. The government's new procedures for forest management plans contain provisions for the local use of NWFPs.

**Social relations.** Communities living in or near primary forests rely heavily on hunting for subsistence, but this is often affected by logging and particularly the presence of logging camps. Over-hunting occurs in areas with rapid population growth caused by the opening-up of the forest frontier. Indeed, the wild-meat question and social relations between indigenous forest dwellers and migrants are possibly the biggest constraints to SFM in northern Congo<sup>b</sup>. Local populations often benefit from the long-term presence of forest industries, which construct roads that can be used for the transport of goods. Forest industries also establish medical services and schools and, to some extent, provide services that normally are the responsibility of government<sup>b</sup>.

## Summary

The Republic of Congo has a large forest resource, supportive government policies, little population pressure, and at least one large concessionaire well advanced along the path to SFM. The stage therefore seems set for the forestry sector – particularly in northern Congo – to expand the area of forest

under SFM, provided that issues related to local communities and the over-hunting of certain mammal species can be addressed.

### Key points

- The Republic of Congo has a large resource of closed tropical forests, particularly in the north, and a relatively low level of conversion to other uses, although there is significant encroachment in the southern forests.
- The PFE is an estimated 21.3 million hectares, comprising 18.4 million hectares of production forest, 2.86 million hectares of protection forest and 72,000 hectares of industrial timber plantations.
- At least 1.30 million hectares of the natural-forest production PFE, comprising the concession areas of CIB in northern Congo, are thought to be under SFM. Some 380,000 hectares of protection PFE are deemed to be so managed.
- The over-hunting of wild meat within concessions, and social relations between indigenous forest dwellers and migrants, are possibly the biggest constraints to SFM in northern Congo.
- Forestry administration is the responsibility of the Ministry of Forest Economy and the Environment (MEFE). Institutional capacity remains relatively weak.
- In the south, more than 1 million hectares of forest have been allocated for harvesting in lots of about 50,000 hectares to operators largely unskilled in forest management.
- In the north, concession-holders are expected to collaborate with MEFE in the development of forest management plans; inventories have been carried out on at least 6.4 million hectares.

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