

# CHAPTER 7

## THE FORESTS OF THE DEMOCRATIC REPUBLIC OF CONGO IN 2008

*Richard Eba'a Atyi and Nicolas Bayol*

*With contributions from: Sébastien Malele Mbala, Jacques Tunguni, Philomène Mwamba Kyungu, and Franck Yata*

### Introduction: The Macro-Economic and Political Context

Forests cover 67 % of the Democratic Republic of Congo (DRC) with an estimated area of 155.5 million ha, 99 million of which are dense humid forests. These forests represent nearly half of Africa's rainforests. According to United Nations estimates (UNPP, 2006) the population of DRC was 59 million inhabitants in 2005 and should exceed 69 million in 2010 (25 inhabitants per km<sup>2</sup>) to reach over 93 million in 2020. This population is very unevenly distributed across the country. The highest densities (over 100 inhabitants per km<sup>2</sup>) are found in the east along the borders of Uganda, Rwanda and Burundi and in the south-west around the city-province of Kinshasa and the province of Bas-Congo. Regions with high population densities are also those where greater pressure on forest resources results in a loss or degradation of forest cover. Conversely, the central basin is largely covered by vast tracts of dense forests and is still characterized by very low population density. Despite the fact that Kinshasa, the capital of DRC, is the largest urban agglomeration in Central Africa (6 to 8 million inhabitants), DRC still has the highest rural population rate in the sub-region.

According to the projections of the Strategy Paper for Growth and Reduction of Poverty (DSCR) of DRC developed using data from 2005 (Anonyme, 2006), the Gross Domestic Product of DRC was about \$ 10.4 billion in 2008 for a nominal GDP of \$ 158.6 *per capita*, making DRC one of the poorest countries on the African continent. The economy is largely dominated by the primary sector (agriculture, forestry and other extractive industries), which represents nearly 53 % of GDP. According to national statistics from the *Direction générale des Recettes administratives, judiciaires, domaniales et de participation* (DGRAD), the formal forest sector contributed 1 % to GDP in 2007 with tax earnings of approximately \$ 4.6 million (MECNT-FORAF, 2008). However, this figure is based solely on taxes re-

lated to the surface area of concessions. The value of timber exports grew from more than € 6.9 million in 2002 to over € 35.3 million in 2006. The industrial forest sector had 15,000 jobs in 2007 according to the Federation of Industrial Timber in DRC.

Forest resource management in DRC takes place in a post-conflict socio-economic and political context, making it fragile and special in nature. After 30 years of questionable management of the public sector, the State almost collapsed in the 1990s. The 1990s were characterized by looting that occurred in 1991 and 1993, followed by two armed conflicts: one in 1997 and the other from 1998 to 2002. From 2003, the country moved into a period of political transition until 2006, with the first free and democratic elections since the country gained independence. State mismanagement of resources for 30 years and the ensuing armed conflict have had serious consequences for the country, which has experienced a reversing trend in development. Indeed, from \$ 380 in 1960, GDP *per capita* fell to \$ 96 in 2002. Infrastructure was destroyed and institutions collapsed. Characterized by widespread insecurity, this situation prompted most people to turn to subsistence and informal activities. Informal activities account for 80 % of the economy (Debroux *et al.*, 2007). Agriculture is mainly subsistence-oriented and households rely on forest products for energy, food and income.

With peace gradually returning, DRC has embarked upon a vast program of economic and institutional reforms in all sectors of activity since 2002, including the forest/environmental sector.

The forestry sector is thus entering a revival phase, and several companies that were temporarily unable to access their concessions are restarting activities in the provinces of Equateur and Orientale. The government has initiated an effort to clear up the forestry contract situation, with

the repeal in 2002 of 163 titles, representing 25.5 million ha for non-compliance of contractual obligations. However, political instability during the period of political transition (before the elections of June 2006) resulted in favorable conditions for the irregular allocation of forest titles despite the official moratorium on the granting of concessions agreed in May 2002. In January 2009, the Congolese government completed the process of converting old forest titles into concessions under the new forestry law. Conversion requests had

been filed for a little over 22 million ha of forest titles in January 2006. An Inter-ministerial Commission, working in consultation with civil society representatives and indigenous peoples, declared 65 forest titles as legally acquired, covering almost 10 million ha. In addition, a new 3-year moratorium for the allocation of new logging concessions was announced in October 2008 by the Minister for the Environment, Nature Conservation and Tourism (MECNT, 2008).

## Forest Resources and Land Cover Changes since 1990

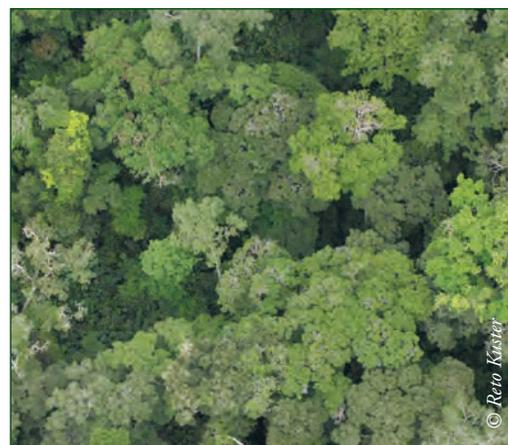
### Forest Areas

**Table 7.1: Forested area of DRC by land cover category**

Land cover	Area (ha)
Lowland dense forest	83,761,542
Sub-montane forest (900-1,500 m)	5,995,494
Mountain forest (>1,500 m)	955,071
Swamp forest	8,200,098
Mangrove	0
<b>Total area of dense forest</b>	<b>98,912,205</b>
Forest-cropland mosaic	21,144,384
Forest-savanna mosaic	28,592,334
Dense deciduous forest (Miombo)	28,023,714
Other plant formations	50,825,421
Cultivated land	825,390
Other land use (town, villages, industrial sites...)	4,613,904
<b>Total</b>	<b>232,937,352</b>

Source: compilation of land cover data produced by UCL, JRC and SDSU.

Available data on forest resources in DRC covers only a portion of the Congolese territory. Until 2004, the only figures available came from



**Photo 7.1: Forest canopy in Ituri.**

national inventories or inventories carried out in areas with forest titles. These inventories covered around 20 million ha, but often with a low sampling rate. Since 2005, more exhaustive management inventories have been carried out on approximately 2 million ha.

These studies highlight the low volumes of regularly marketed species currently available, estimated between 1 and 3 m<sup>3</sup>/ha. These results are confirmed by production data. The prospects for production development are estimated at 0.2 to 0.4 m<sup>3</sup>/ha per year, or 2 to 3 times lower than other Congo Basin countries (Cassagne *et al.*, 2007). As a result, large areas of forest will be needed to make logging a successful economic activity in DRC.

The annual rate of deforestation is estimated at 0.20 % per annum (Duveiller *et al.*, 2008), which, despite being the highest among Congo Basin countries, remains relatively low. However, this figure masks the real threats to forest ecosystems in DRC. An extensive network of rural roads linking villages means the forest is fragmented and agricultural clearings several kilometers wide are gradually isolating forest blocks. The rate of deforestation is much higher than the national average in heavily populated regions with a strong agricultural sector and subsistence farming remains the primary cause of deforestation in DRC. The province of Bas-Congo, the territories of Bumba and Lisala in Equateur and the Great Lakes region in the east of the country are examples of this strong local dynamism. The dense humid forests are also very densely popu-

lated in some areas. For example, in the Tumba Mai-Ndombé forest, located between two lakes and straddling the provinces of Equateur (Bikoro territory) and Bandundu (Inongo territory), socio-economic studies (Bayol *et al.*, 2008) assessed population density at more than 30 inhabitants per km<sup>2</sup>. A high population growth rate of 2.4 % annually (Fa *et al.*, 2003), cf. above) and little support for modernizing food production raise fears of rapid deforestation in the future. The planned development of industrial plantations (palm oil in particular) constitutes a further threat to the forests in DRC.

Around major urban centers, the collection of fuelwood is an important cause of forest degradation and deforestation. Intensive wood collection in the province of Bas-Congo has contributed to forest degradation.

## Legal and Institutional Framework for Managing Biodiversity Resources

### Legal Framework

The main statute governing forest resource management in DRC is law 011/2002 pertaining to the Forest Code passed in August 2002 (Democratic Republic of Congo, 2002), which succeeded colonial legislation dating from April 11, 1949.

According to its introductory statement, the Forest Code of 2002 is "... in line with modern principles of management of forest resources and of international conventions on the environment." The objective of the Forest Code is to create "... a legal framework that allows the forest to both

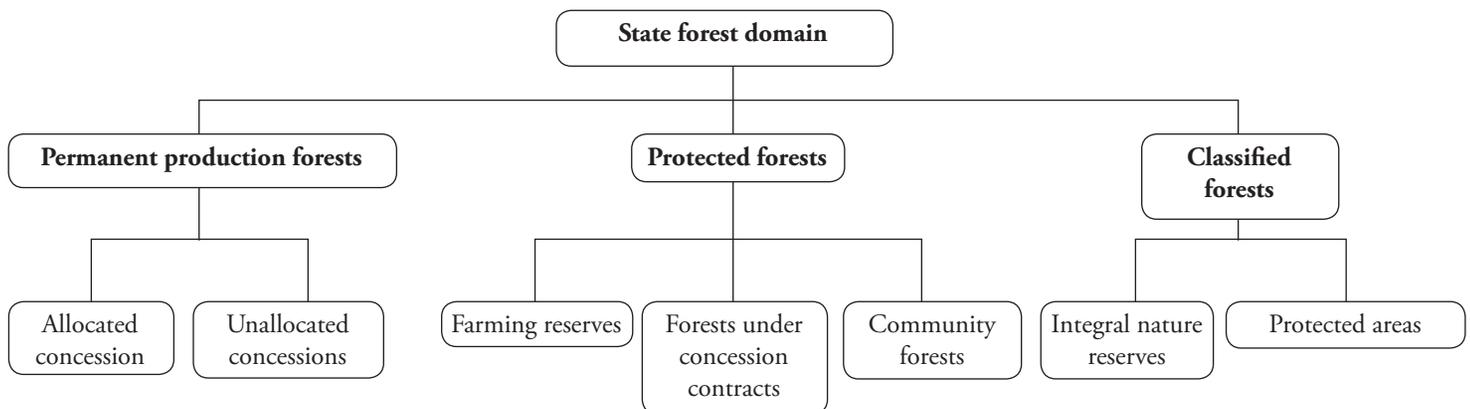


Figure 7.1: Legal forest classification in DRC according to the Forest Code of 2002 (Note: there are 9 types of classified forest; only those with the greatest and least restrictions are listed here)

fulfill its social and ecological roles in balance, the forest administration to contribute considerably to national development, and for local people to take an active part in forest management and be able to draw legitimate benefits.”

According to the Forest Code in DRC, forests are owned by the State. The Forest Code classifies the forests of DRC in three categories: 1) classified forests; 2) protected forests; and 3) permanent production forests.

Classified forests are assigned a particular vocation and are subject to legal restrictions regarding user and exploitation rights. In general, classified forests are designated for environmental protection and may include: nature reserves; forests located in national parks; botanical and zoological gardens; wildlife reserves and hunting areas; biosphere reserves; recreational forests; arboretums; urban forests; and protected areas. Although the management of classified forests is the responsibility of the Ministry in charge of forests (art. 24), the Ministry can delegate this management to public corporations or associations acknowledged to be of public benefit (art. 25).

Protected forests are subject to less restrictive legal regimes in terms of user and exploitation rights than classified forests. In practice, forests in this category are areas reserved for activities such as small-scale farming (art. 42). However, they may also be granted as concessions for logging with contracts not to exceed 25 years. Protected forests may serve as community forests as they can be granted to communities upon request (art. 22).

Permanent production forests include previously allocated concessions and forests already used for timber production, identified through a public survey process (art. 23), and designated for allocation via auction. These forests have commitments from industrial logging concessionaires to institute sustainable forest management.

Although the State owns the forest, the law details different procedures for its use by local people and private concessionaires (individuals or corporate entities). Local people may collect forest products within the framework of user rights to meet individual or community subsistence needs (art. 36). For protected forests, people may collect forest products for their needs (food, energy, construction, etc.) and also clear the forest for crops (art. 42). However, a permit issued by the provincial governor is required (art. 53) to deforest an area of more than two hectares.

Individuals or entities wishing to conduct industrial logging in DRC must obtain a forest con-

cession from the State. Concessions are awarded by tender (art. 83) or, in exceptional circumstances, by mutual agreement (art. 86). After allocation, the beneficiaries should sign concession contracts with technical and financial guarantees (art. 87). One of the requirements of the new Forest Code is the need to develop management plans for logging concessions (art. 99).

Apart from local communities, and private entities (individuals or corporations), the permanent production forests of DRC can also be used and regulated by the forestry administration and decentralized administrative entities or by a public body established for that purpose (art. 97).

To date, the Forest Code has been supplemented by 38 pieces of legislation including 3 ordinances, 5 decrees and 30 ministerial decrees<sup>37</sup>. In addition to these purely legal texts, the Ministry in charge of forests has issued operational guidelines to establish technical standards for implementing management work (inventories, mapping, low-impact logging, developing management plans etc.) in forest concessions.

Despite this volume of legislation, some say that this legal arsenal is not yet complete and that a total of 60 implementing provisions will be needed to make the Forest Code function satisfactorily (Mpoyi Mbunga and Way Nana, 2007).

Besides the Forest Code, DRC also has a law that regulates hunting activities<sup>38</sup> and an Ordinance on nature conservation<sup>39</sup>. These two legal texts are pre-forestry code, and are subject to revision projects.

DRC does not have an officially adopted national land use plan, which impedes the development of the forest sector.

Outside the forest/environment sector, other laws may affect the management of forest resources and biodiversity conservation, particularly in the case of mining<sup>40</sup>, land tenure<sup>41</sup> and the labor code<sup>42</sup>. It should also be noted that a duality exists between the different codes in force in DRC (Mining Code, Land Code, Forest Code), and customary law for the management of natural resources. Since customary law is most used by local people who often do not know the provisions of the Forest Code, there are potential conflicts between local stakeholders and forest concessionaires who act on the basis of the Forestry Code and modern law.

At the international level, DRC has signed and ratified 9 international agreements and conventions including the African Convention on the Conservation of Nature (Niger), the Convention on Wetlands of International Impor-

<sup>37</sup> The full list of these texts can be found at: [www.observatoire-comifac.net](http://www.observatoire-comifac.net)

<sup>38</sup> Law N° 82-002 of 28 May 1982

<sup>39</sup> Decree-law N° 69-041 of 22 August 1969.

<sup>40</sup> Law N° 007/2002 of 17 July 2002.

<sup>41</sup> Law N° 93-001 of 2 April 1993.

<sup>42</sup> Law N° 015/2002 of 16 October 2002.

tance (Ramsar), Convention on the Protection of World Heritage (UNESCO, Paris), the Convention on International Trade in Endangered Species (Washington), the Convention on Migratory Species (Bonn), the Convention on Biological Diversity (Rio de Janeiro), the Convention on

Climate Change (Rio de Janeiro), the Convention to Combat Desertification (Paris), and the agreement for the conservation of gorillas and their habitats. It should be noted that DRC has not yet ratified the Treaty of the *Commission des Forêts d'Afrique centrale* (COMIFAC).

## Institutions and Capacity

The Ministry of Environment, Nature Conservation and Tourism (MECNT) is the main State institution responsible for implementing government policy in the forest/environment sector. The Department has a geographical information system laboratory inside the permanent service for inventory and forest management (SPIAF) as well as three sub-divisions:

- The *Institut congolais pour la Conservation de la Nature* (ICCN), founded in 1975, which aims to: 1) ensure the protection of wildlife and flora in nature reserves or integral reserves; 2) promote scientific research and tourism in these environments in compliance with the basic principles of nature conservation; and 3) managing the so-called capture stations located in or outside of reserves. In 2007, the ICCN employed about 2,700 people (ICCN, 2008);

- The *Institut des Jardins zoologiques et botaniques du Congo* (IJZBC), which deals specifically with the conservation of wildlife and flora resources *ex-situ*;
- The *Fonds de Reconstitution du Capital forestier* (FRCF), should implement the State's re-forestation policy, but is no longer functional and should be restructured in the near future.

In terms of forest and environmental research and training, DRC has a research institute, the *Institut pour l'Étude et la Recherche agronomique* (INERA) established in 1948, and eight other major training institutions (table 7.2). There are numerous institutions in the provinces that are more or less functional, where the environment is featured in their training programs.



Photo 7.2: Part of the xylotheque in Yangambi (DRC).

**Table 7.2: Forestry and environmental training institutions in DRC**

Institution	Field	Level of training
University of Kisangani	Biology, wildlife, botany, forestry	Undergraduate and post-graduate
<i>Institut supérieur d'Études agronomiques (ISEA) Bengamissa</i>	Forestry, agronomy	Undergraduate
<i>École régionale post-universitaire d'Aménagement et de Gestion intégrés des Forêts et Territoires forestiers tropicaux (ERAIFT)</i>	Integrated management of tropical rural areas (basic forestry concepts)	Post-graduate
University of Kinshasa, Faculty of Science, Environmental Management Department	Environment, natural resource management	Undergraduate and post-graduate
<i>Institut technique agricole (ITA)/Bafwansende</i>	Agronomy	Secondary level (technical diploma)
<i>Institut technique agricole (ITA)/Seke-Banza</i>	Agronomy	Secondary level (technical diploma)

Source: RIFFEAC, 2006.

## Forest Logging and the Timber Sector

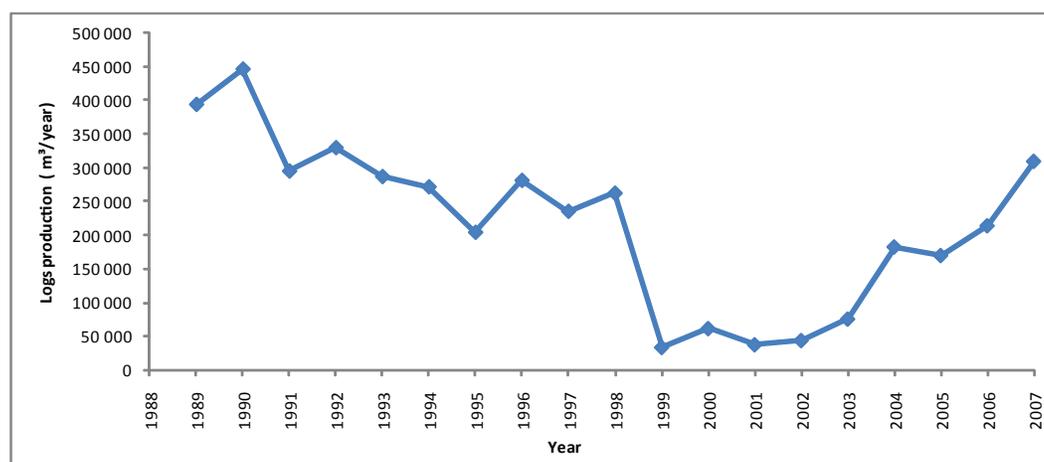
Recent developments in the sector have been strongly influenced by the unrest that has plagued DRC. Forest production fell between 1998 and 2003, to about 50,000 m<sup>3</sup> a year. Since then, strong growth has been observed and production has reached levels in 2007 of that before the war.

This growth is likely to stop in 2008 because of the impacts of the economic crisis on the market for tropical timber (ITTO, 2008) and the cancellation of some forest titles (conversion process, see above).

### Typology of Forestry Titles

DRC is currently transitioning towards the legislative framework described in the new Forest Code of 2002. The legislative framework of DRC provides for several types of logging titles: long-term titles for industrial purposes, and short-term titles for artisanal logging.

Long-term titles established under the former legislation are being converted to forest concessions, as provided for in the Forest Code. This conversion process incorporated a comprehensive review of existing titles to judge their legal valid-



Source: DGF

Figure 7.2: Change in log production from 1992 to 2007

ity. Conversion requests were introduced for 156 former forest titles in January 2006, covering just over 22 million ha. After review by the Inter-ministerial Commission appointed for this purpose,

46 titles have been converted for a total area of approximately 7 million ha.

This effort expands the repeal of 25.5 million ha (Debroux *et al.*, 2007) of forest titles in 2003 and 3 million ha in 2007.

## Formal Logging in Natural Forests

### *Current production*

The vast area of rainforest remains untapped and its timber resources very poorly developed. In comparison with other countries in the Congo Basin and the two other main rainforest blocks (the Amazon and Southeast Asia), formal production is negligible. With less than 300,000 m<sup>3</sup> of annual log production, DRC's forest resources are not threatened by industrial operations as currently practiced.

In addition to the fact that DRC's timber resources are considered of poorer quality, the low level of harvesting can be explained by the high

costs of evacuating products due to difficult access and transportation. The road network in the central basin, though dense, is impractical for trucks and timber can only be transported as far as Kinshasa (1,500 km of transport from Kisangani) by river. After Kinshasa, the Congo River is no longer navigable, and products must be transported by road to the port of Matadi, which does not have sufficient storage capacity and is frequently congested. At the moment, only the forests near waterways are developed. These forests should be the focus of land zoning, to develop new areas for timber production.

**Table 7.3: Main species logged by the industrial sector in DRC in 2007**

Species	Volume (m <sup>3</sup> )	%
1: Sapelli	60,910	19.6
2: Wenge	52,000	16.8
3: Afrormosia	31,140	10.0
4: Sipo	27,000	8.7
5: Tola	24,130	7.8
6: Iroko	24,040	7.8
7: Acajou	13,600	4.4
8: Bomanga	13,400	4.3
9: Tiama	11,000	3.5
10: Tchitola	9,400	3.0
11: Total other species (44)	43,510	14.0
<b>Total (54 species)</b>	<b>310,130</b>	<b>100.0</b>

Source: MECNT-FORAF, 2008.



**Photo 7.3: Dead trees can be used as bridges between banks of a river.**

Table 7.3 lists the most industrially harvested species in DRC. Sapelli (*Entandrophragma cylindricum*) is traditionally the main production species and grows throughout the rainforest. Since the end of the armed conflict, Wenge (*Millettia laurentii*) has taken the second place in national production after having been relatively unvalued in the past. Afrormosia (*Pericopsis elata*), third in species production, is found in dense, occasional

stands in the provinces of Equateur and Orientale. For the moment, production is not very diversified, especially further from Kinshasa. However, the logging of other species, such as Bomanga (*Brachystegia laurentii*), is growing.

The European Union remains the main timber market for DRC; Asia has only a small market share unlike in other countries in Central Africa.

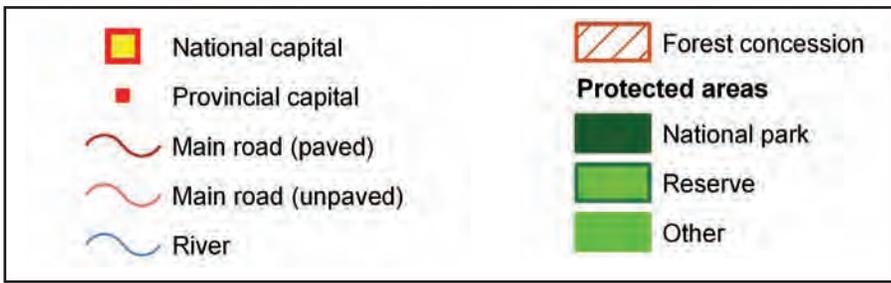
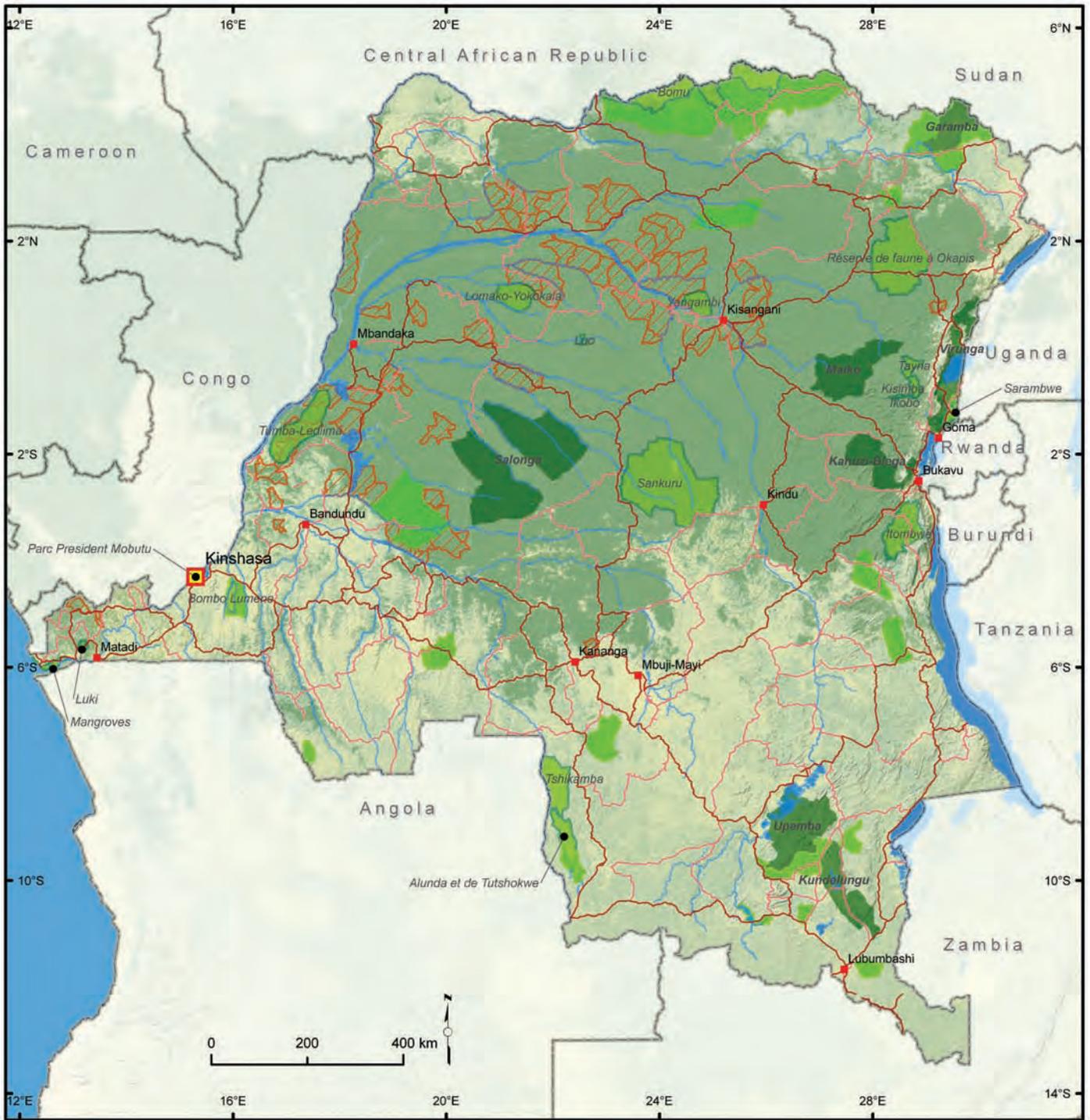
### *Main Producers*

The forestry sector has grown more consolidated, with a reduction in the number of active companies, especially during the 1990s. Table 7.4 shows the 10 main timber-producing companies in DRC in 2007. The four largest producers accounted for more than two thirds of national production. The Danzer Group (currently known as SIFORCO in DRC) has dominated production since the 1970s. NST Group, through its 4 companies (SODEFOR, SOFORMA, FORABOLA and CFT) is second and is present in four provinces. Most logging sites achieve very low production, often less than 2,000 m<sup>3</sup> per month, for various reasons including artisanal production, lack of production means, lack of logistics and maintenance.

**Table 7.4: Log production of the 10 largest companies in DRC in 2007**

Company	Volume (m <sup>3</sup> )
1: SIFORCO	65,740
2: SODEFOR	48,699
3: TRANS M	48,442
4: ITB	36,259
5: SEDAF	18,794
6: FORABOLA	17,184
7: SAFBOIS	14,643
8: SOFORMA	14,417
9: BIMPE AGRO	13,794
10: SICOBOIS	8,063
<b>Total</b>	<b>286,035</b>

Source: MECNT-FORAF, 2008.



Sources: AWF, WWF, DFGFI, ICCN, SPIAF, UCL, RGC, and FORAF  
 Figure 7.3: Forest concessions and protected areas in DRC

## Collective Forests

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The Forest Code of 2002 does not provide for the creation of collective forests; however, it opens the possibility for decentralized adminis-

trative entities to manage permanent production forests (art. 97). Currently no production forest is managed in this manner.

## Community Forests

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The creation of community concessions, with the aim to develop permanent forest, is provided for in article 22 of the Forestry Code. Discussions on the management of these forests are underway, but so far there are no clear examples of effective development of community concessions. The

most advanced thinking is being done through an FAO project to develop and implement community forestry in DRC. The FAO project is working with eight communities in five provinces (Katanga, Equateur, Bas-Congo, Orientale, and Bandundu).

## Industrial Timber Processing

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Industrial timber processing in DRC can be described based on the following characteristics:

- timber processing is primarily located in Kinshasa, with the notable exception of a large industrial site in Bandundu.

- An important local market, in Kinshasa in particular, which significantly improves the yield of processing plants located there;

- Supply to urban centers outside of Kinshasa is heavily dominated by the informal sector.

- Processing facilities are largely outdated or operating at a very low level of production with many idled or halted timber processing plants.

The industry focuses on sawn timber production (33 sawmills listed, but many are not operational), flooring, peeled veneer (6 units listed), plywood and sliced veneer (2 units, only one of which is operational).

## Informal Sector

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The volume of timber produced by the informal sector is inherently difficult to quantify. It is considerable in DRC. While products from the industrial sector are generally intended for export, the informal sector is the main source of domestic timber. In addition, the informal sector exports

to neighboring countries such as Angola, Zambia, Burundi, Rwanda, and Sudan (Lumbwe, 2001, Baker *et. al.*, 2003; Djiré, 2003). Djiré (2003) found that artisanal loggers produced between 1.5 and 2.4 million m<sup>3</sup>, which is between five and eight times the production of the industrial sector.

## Progress Towards the Sustainable Management of Production Forests

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The management of production forests is described in the new Forestry Code of August 2002. For logging concessions, the preparation and implementation of the management plan are the responsibility of the concessionaire. In some cases the process of developing management plans has been delayed by the conversion process and the preparation of implementing provisions for the

Forestry Code. With the conversion process, a total of 46 titles were upheld, representing approximately 7 million ha. Companies managing these concessions now have the legal foundation to finalize management plans. Some of these companies had already begun preliminary studies to prepare management plans before the conversion process and five plans have been submitted for validation by the forest administration.



**Photo 7.4: Unmaintained tree nursery in the Mampu plantation.**

## Forest Plantations

Forest plantations are very poorly developed in DRC, with only 345 hectares planted in 2007 by the *Service national de Reboisement* (the national reforestation service). However, there are private or NGO initiatives to establish forest plantations. For example, the carbon sink proj-

ect IBI Batéké, under the Clean Development Mechanism (CDM), plans to plant 8,000 ha of eucalyptus and acacia between now and 2011, having planted 534 ha in 2007. Another example is a WWF project, which established 200 ha of forest plantations in Luki in Bas-Congo.

### **Box 7.1: World Heritage sites in Danger**

World Heritage sites in Sub-Saharan Africa represent nearly 40 % of properties on the List of World Heritage in Danger, with 12 out of 30 Sub-Saharan sites listed. Approximately 15 % of African properties are included on the List of World Heritage in Danger.

In the Democratic Republic of Congo, the state of conservation of the 5 properties listed as World Heritage has deteriorated from 1994 onwards, resulting in their classification as World Heritage in Danger. The massive surge of Rwandan refugees into Virunga National Park and the start of the conflict in the Great Lakes region in 1996 had considerable impact on the state of conservation of the Congolese sites, four of which are located in the eastern part of the country.

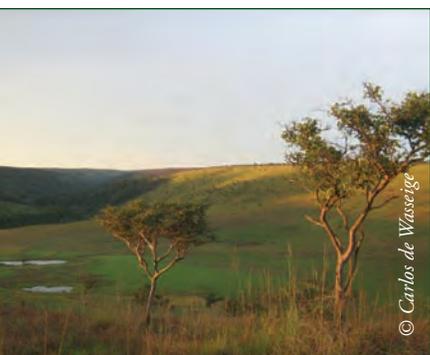
The UNESCO program “Biodiversity Conservation in Regions of Armed Conflict: Conserving World Heritage Sites in the DRC” began in 2000 with financial support from the United Nations Foundation, Belgium and Italy. UNESCO and its partners (ten international conservation NGOs) support the ICCN in preserving the “ecological capital” of natural sites in the DRC that have been identified as World Heritage.

The table below presents, by site, conservation difficulties in the DRC and the UNESCO-initiated solutions to tackle them within the framework of the program mentioned above.

Site	Conservation difficulties	UNESCO intervention
Garamba NP	No trace of the northern white rhinoceros Major circulation of weapons Intensive poaching by national and Sudanese poachers	« Conservation diplomacy » missions Direct support (paying bonuses to guards, buying equipment, etc.) Increased anti-poaching patrols Community conservation
Kahuzi-Biega NP	Presence of armed groups Mining Occupation of the « ecological corridor » Inaccurate site limits	« Conservation diplomacy » missions Direct support (paying bonuses to guards, buying equipment, etc.) Increased anti-poaching patrols... Community conservation
Salonga NP	Presence of armed groups involved in poaching Park/local community conflicts linked to natural resource access Impact of villages on the site	« Conservation diplomacy » missions Direct support (paying bonuses to guards, buying equipment, etc.) Socio-economic surveys Community conservation
Virunga NP	Impact of refugees Occupation of the gorilla sector by rebels Increase in poaching, deforestation and pressure from fisher villages in the park	« Conservation diplomacy » missions Direct support (paying bonuses to guards, buying equipment, etc.) Community conservation
Okapi Faunal Reserve	Population decline in flagship species (elephant, okapi, chimpanzee) Lack of control over migratory movements into the reserve Presence of armed groups Illegal artisanal mining operations	« Conservation diplomacy » missions Direct support (paying bonuses to guards, buying equipment, etc.) Community conservation

# Biodiversity Conservation and Development

## Biodiversity Components in DRC



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**Photo 7.5: Savanna landscapes are common in DRC.**

Given in part its size and location in the heart of tropical Africa, DRC exhibits high levels of biodiversity at both the ecosystem and species

level. The country is geographically located on both sides of the equator and enjoys a warm and humid equatorial climate.

### Ecosystems

At the ecosystem level, DRC has 19 major ecosystem types that can be grouped into three classes (Anonyme, 2000): forest ecosystems (11), mixed and savanna ecosystems (4) and aquatic ecosystems (4).

Forest ecosystems include: a) swamp forests; b) the Guinea-Congolese rainforests; c) the transition rainforests; d) the Afromontane forest; e) the Afromontane bamboo stands; f) the Zambezian dry forests; g) the Zambezian woodlands; h) the Sudano forest; i) bamboo with *Oxytenanthera abyssinica*; k) evergreen coastal forests; and l) mangroves.

### Flora

The State of Biodiversity in the Democratic Republic of Congo Report (MECNEF, 1997) explains that, while not all of the broad taxonomic flora groups of DRC have been described, current knowledge shows a minimum of 10,531 flora species in DRC (including 8,867 spermatophyte species) of which 1,337 are endemic.

### Wildlife

Table 7.5 presents a summary of the 4,758 known wildlife species in DRC.

**Table 7.5: Wildlife species in DRC**

Category	Number of species
Land invertebrates	456
Aquatic invertebrates	1,782 (1,596 freshwater)
Freshwater fish	1,000
Birds	1,099
Mammals	421
<b>Total</b>	<b>4,758</b>

Source: MECNEF, 1997 and Christy and Vandeweghe, 1999.



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**Photo 7.6: Demidoff's Bushbaby (*Galago demidavii*) in the Ituri forest.**

Table 7.6 provides a list of mammals endangered in DRC (Anonyme, 2000). Moreover, according to the previous source, we observe that some species that used to exist in the country have disappeared. This is the case with *Diceros bicornis* (black rhinoceros), *Lycaon pictus* (lycaon) and the Cape Eland. Other species have disappeared locally from natural biotopes, such as the cheetah (*Acinonix jubatus*), who disappeared from the hunting reserve of Swa Kibula and from Virunga National Park, and the African elephant (*Loxodonta africana*) who disappeared from the forests of Mayumbe.

**Table 7.6: Species of endangered mammals in DRC**

Species	English name
<i>Ceratotherium simum</i>	White Rhinoceros
<i>Cercopithecus hamlyni</i>	Hamlyn's monkey (Owl-faced Monkey)
<i>Cercocebus galeritus</i>	Tana River mangabay
<i>Colobus badius</i>	Red Colobus
<i>Galago demidovi</i>	Dwarf bushbaby
<i>Galago elegantulus</i>	Western needle-clawed bushbaby
<i>Gorilla gorilla berengei</i>	Mountain or eastern gorilla
<i>Gorilla gorilla graueri</i>	Western lowland gorilla
<i>Kobus leche</i>	Lechwe
<i>Leptailurus serval</i>	Serval
<i>Manis gigantea</i>	Giant pangolin
<i>Orycteropus afer</i>	Aardvark
<i>Pan paniscus</i>	Bonobo
<i>Pan troglodytes</i>	Chimpanzee
<i>Panthera pardus</i>	Leopard
<i>Perodicticus potto</i>	Potto
<i>Tragelaphus scriptus</i>	Bushbuck
<i>Tragelaphus spekei</i>	Sitatunga
<i>Taurotragus derbianus</i>	Giant eland
<i>Loxodonta africana</i>	African elephant
<i>Trichechus senegalensis</i>	West African manatee

Source: Anonyme, 2000.

## Formal Management of Biodiversity

The formal and institutionalized management of biodiversity in DRC is mainly done through protected areas, which are the focus of efforts from the government, development partners and the national and international public. While the law provides for about ten types of protected area, DRC only had four types of officially classified protected areas as of 2008, covering a total area of nearly 26,314,300 ha (ICCN and WWF-RDC,

2008). Table 7.7 shows the break-down of this area by type of protected area. These protected areas account for more than 11 % of the national territory, close to the objective of 15 % set by the Forest Code (art. 14). None of these protected areas has an officially adopted management plan that could be used as a technical and legal framework to implement activities.

**Table 7.7: Protected areas in DRC**

Type	IUCN Category	Number	Area (ha)
Integral natural reserve (wildlife reserve, forest reserve, scientific reserve)	I	14	7,679,100
National park, botanical and zoological gardens	II	14	8,618,230
Hunting reserve	VI	22	10,017,000
<b>Total</b>		<b>50</b>	<b>26,314,330</b>

Source: MECNT-FORAF, 2008.

In addition to protected areas, forest concessions should represent areas where biodiversity is managed in a formal fashion, however, at present

the forest concession management process has not yet really started in DRC.

At present, there is no system in DRC for collecting data on ecotourism. Nevertheless, a 2007 ICCN report stated that ICCN had collected earnings of 65,222,711 FC (about \$ 118,600)

that year (ICCN, 2008). These earnings were slightly below the previous year owing to the worsening security situation in the provinces of North and South Kivu.

## Conclusions

The Democratic Republic of Congo has great potential to develop its forest/environment sector. This potential involves both sustainable logging and biodiversity conservation. However, the post-conflict context in DRC makes it impossible to realize this potential at this time. The conflicts of the 1990s led to a collapse of government institutions, which are currently in a mode of restructuring. The legal framework still needs to be finalized and the institutional reforms in the forest/environment sector are not yet complete.

The implementation of sustainable management has not really begun on the ground and DRC is still one of the smallest timber exporters in Central Africa. Likewise, despite major progress in the classification of protected areas, none

of the protected areas have officially adopted a management plan. Furthermore, tourism and trophy hunting only make a token contribution to the national economy. Even if infrastructure remains inadequate, DRC will most likely play a growing role in forest resource management at the sub-regional level in the next five to ten years and the end of the conversion process for forestry titles means sustainable management will be able to make quantifiable progress in industrial forest concessions. Similarly, the potential existing in DRC should enable it to take a leadership role in processes linked to climate change during negotiations such as REDD (Reduced Emissions from Deforestation and Degradation).