

20. Maringa-Lopori-Wamba Landscape



Figure 20.1. Map of Maringa-Lopori-Wamba Landscape (AWF-DRC, JRC, SRTM).

The Landscape in brief

Coordinates: 1°51'50"N – 0°26'28"N; 19°41'5"E – 23°32'43"E

Area: 74,544 km²

Elevation: 350-400 m

Terrestrial ecoregion: Ecoregion of the Central Congolese forests

Aquatic ecoregion: Central Basin ecoregion

Protected areas: Lomako-Yokokala Faunal Reserve (proposed, in process of designation)

Location and area

The operational limits of the Maringa-Lopori-Wamba Landscape have changed relative to the original limits identified within the framework of the CBFP (Figure 20.1). Today, the Landscape is limited to the basin of the Maringa and Lopori rivers and includes the administrative and territorial entities of Bongandanga, Basankusu, Befale and Djolu in the districts of Equateur, Mongala and Tshuapa in the province of Equateur. This change in the limits was based on ecological, socioeconomic and administrative realities. The Landscape covers 74,544 km² and is characterized by tropical forests and some inhabited strips along

the rivers. It is a very isolated enclave, especially since the deterioration of the road infrastructures in the 1980s and 1990s and the discontinuation of river transport since the war.

Physical environment

Relief and altitude

The Landscape is situated entirely on the alluvial plain of the central basin, at an altitude of 350-400 m.

Geology and soils

The soils are composed of coarse sand derived from a penplain dating from the Pleistocene.

Hydrology

The sources of the Maringa and Lopori rivers are in the southeast corner of the Landscape and encompass the whole of the Landscape with their tributaries: Lomako, Iyokokala and Bolombo. The Maringa and the Lopori join in the northwest at Basankusu in Lulonga. The high waters are from

October to December and the low waters last from February to August.

Climate

The Landscape has an equatorial-type climate with an average annual rainfall of around 2,000 mm with little seasonal variation. The wettest period is from August to October and the dry season (January-February) lasts less than two months.

Vegetation

The majority of the Landscape is covered by dense moist forests (Figure 20.2): 67% terra firma forests and 25% floodplain and/or swamp forests which stretch along the rivers and streams. The terra firma formations comprise semi-evergreen rainforests of *Scorodophloeus zenkeri* and evergreen rainforests with a monodominance of *Gilbertiodendron dewevrei* or *Brachystegia laurentii*. The edaphic formations include riparian forests of *Uapaca heudelotii*, floodplain forests of *Oubanguia africana* and swamp forests of *Entandrophragma palustre* and *Coelocaryon botryoides*.

The remainder (7%) is made up of degraded forests and cultivated areas for shifting agriculture. Forest plantations cover less than 1%. They are found primarily beside main roads and inhabited strips of land along the Maringa, the Lopor and the Bolombo, including the square formed by the roads linking Djolu, Lingomo, Mompono and Befori.

Fauna

Mammals

At least eleven species of diurnal primates have been observed. The dryas monkey *Cercopithecus dryas* is endemic to the basins of the Maringa and the Lopor and only two examples of the species are known¹. The bonobo *Pan paniscus*, Tholan's red colobus *Piliocolobus tholloni*, the golden-bellied mangabey *Cercocebus chrysogaster* and the black mangabey *Lophocebus aterrimus* are endemic to the central Congolese forests. Allen's swamp monkey *Allenopithecus nigroviridis* is endemic to the flooded or floodplain forests of the Central Basin and the Angolan colobus *Colobus angolensis* is only known in the Central Basin, the north-east of DRC and the Great Lakes region. Other large mammals include the elephant *Loxodonta africana*, the buffalo *Syncerus caffer*, the bongo *Tragelaphus euryceros*, the African golden cat *Felis aurata* and the leopard *Panthera pardus*.

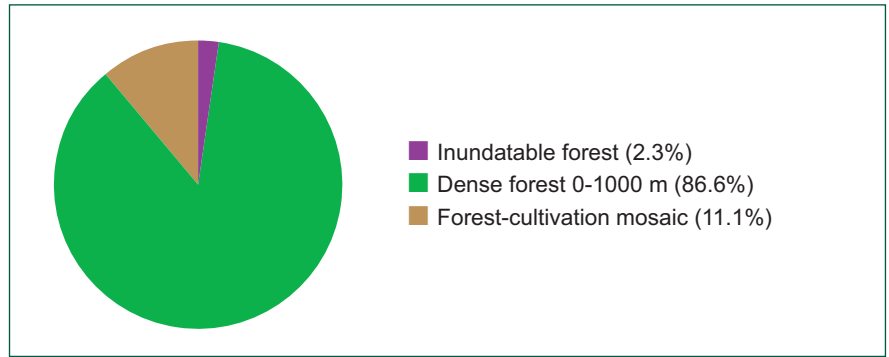


Figure 20.2. Main vegetation types (Source: JRC).

Birds

The avifauna comprises over 400 species. In certain places, the density of Congo peafowl *Afropavo congensis*, a species endemic to the center and the northeast of the Congolese forests and very sensitive to anthropogenic disturbances, is probably the highest in the country.

Ichthyofauna

The whole of the Landscape is situated in the Central Basin ecoregion, whose ichthyofauna comprises 240 identified species (probably 300-400 total species), with at least 12 endemic species. Few studies have been carried out since the 1960s (Thieme *et al.*, 2005).

Humans in the Landscape

Density and distribution

According to the data available (UNDP/ UNOPS, 1998; *Monographie de la Province de l'Equateur*, PNSAR 1997-200; *Institut national de la Statistique*, 1995, *Totaux définitifs*; *Direction d'Etudes et Planification du Ministère de la Santé*, 2003), the population density in the Landscape is estimated at about 3-6 inhabitants/km². This population is mainly concentrated along the main roads and in the towns of Basankusu, Befale, Bongandanga, Mompono, Djolu and Lingomo.

Ethnic groups

The Landscape is almost entirely within the territory of the Mongo (Mongo and Mongando). Over the last few decades, there has been new immigration, by Ngombe who are regarded as great hunters, from the north to the hunting forests. Limited populations of Pygmies are scattered around the central northeast. In the middle of the Landscape, between the Lomako and Yokokala

¹ A juvenile was described in 1932 and an adult in 1985.

ivers, towards Lingomo, there are thousands of Kitiwalists (Jehovah's witnesses) who withdrew into the forest in the 1960s and do not accept the State authority.

Activities

The populations, centered on the main roads, focus their activities on agriculture (Figure 20.3). However, due to the collapse of agriculture and the lack of market access, the populations are turning to the forest to live off its available natural resources: bushmeat (Figure 20.4), fish and non-timber forest products. It can be estimated that almost 100% of the Landscape is influenced by hunting.

Logging

Industrial logging in the Landscape began in the 1970s and stopped in 1998 because of the war. Although almost 100% of the Landscape had been allocated in concessions, logging remains very limited due to difficulties associated with access (Figure 20.5). Today, 32% of the Landscape is in the official production forest (Figure 20.6), awaiting the conversion process to turn logging rights into forest concessions. The most well known and active company is SIFORCO (Danzer group), with 725,068 hectares of concessions in the Landscape. The Trans-M company obtained 358,513 hectares in the south of the proposed Lomako-Yokokala Reserve following the moratorium of 2 July 2004 (Ministerial Order No 050/CAB/MIN/ECN-EF/2004).

Reasons for the identification of the Landscape

- (1) The main reason for the creation of this Landscape, which does not have a national park, was the fact that it had the richest history of scientific research on the bonobo. Primatologists have been working in the Wamba and Lomako forests since the 1970s. Over 90% of the scientific literature on bonobos in the wild comes from these two sites.
- (2) The Lomako-Yokokala forest was identified in the 1950s as an area of great importance for biodiversity and in the 1980s as an area deserving protection. It is considered by BirdLife International to be an Important Bird Area (Fishpool & Evans, 2001). Full protection of this forest of 3,625 km² is still a priority for ICCN.
- (3) Despite the biodiversity, most of the Landscape is covered by forest concessions and industrial forestry could endanger this richness. Developing partnerships with the private sector is one of the key objectives of the CARPE program and the Landscape provides ample opportunities for establishing such partnerships.

Conservation

History

The only protected zone in the Landscape is Luo Scientific Reserve, covering 22,700 hectares. This reserve is under the supervision of the Ministry for Scientific and Technological Research. The bonobos in the reserve are the subject of scientific



Figure 20.3. Shifting cultivation remains the main activity of human populations in the Landscape.



Figure 20.4. Smoked bushmeat.



Figure 20.5. Logging faces many problems because of the remoteness of the concessions.

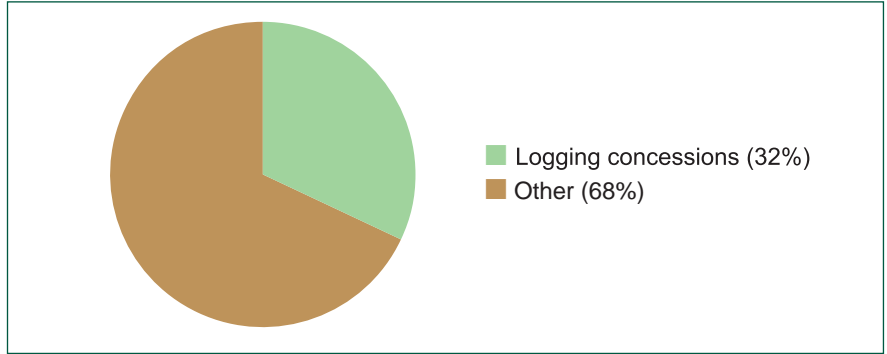


Figure 20.6. The main land use types.

studies by the University of Kyoto (WCBR) in collaboration with the *Centre de recherche en écologie et foresterie of Mabali* (CREF). At the beginning of the 1990s, a proposal for the creation of the Lomako Forest Reserve was submitted to the Ministry for the Environment, but because of political problems this proposal was never advanced. However, the creation of a protected area in the Lomako-Iyokokala forest, identified as a critical site for conservation (IUCN, 1990), is a priority for ICCN (2004) and measures for its creation are currently being facilitated by AWF.

Players

Very few conservation players are active in the Landscape. Representatives of the Ministry for Development are present in Basankusu, Bongandanga, Befale and Djolu, but have no resources or program of activities. The creation of the Luo Scientific Reserve around 1994 was initiated by the University of Kyoto, which still has a team working in Wamba. The NGO Bonobo Conservation Initiatives is working in collaboration with the local NGO *Vie sauvage* around Kokolopori and in Lonua with a view to creating community reserves. However, there are no official reports available as of yet.

Finally, AWF has been working throughout the Landscape since the beginning of 2004 in conjunction with five local NGOs based in Bongandanga, Basankusu, Befale, Mompono and Djolu. The latter have received development support in conjunction with some precise conservation objectives. In addition, a growing number of local NGOs are prepared to launch consciousness-raising activities for conservation, and have already achieved palpable results on the ground, in return for development support.

Direct threats

(1) Shifting agriculture

This form of agriculture gradually turns the primary forests into agricultural land and secondary forests.

(2) Hunting

Whether it is subsistence or commercial hunting, it contributes towards the disappearance of certain endemic animal species.

(3) Industrial logging

This changes the abundance and the specific composition of forests, the structure of their populations and the behavior of animal populations. Although it has not been developed to any great extent, it also indirectly causes social disturbances and encourages hunting.

Indirect threats

(1) Demography

Population growth, through a rising birth rate or immigration, places increasing pressure on resources.

(2) Economic collapse

The disappearance of infrastructure and the collapse of an economy essentially based on agriculture have caused a migration of populations towards what used to be undisturbed forests. Analyses of satellite photos by the University of Maryland clearly show this exodus to the forest and the creation of a growing number of small hamlets, which serve as bases for hunting.

(3) Loss of cultural values

This is leading to non-development of the original assets and the destabilization or degradation of a system that worked in the past.

State of the vegetation

The majority of the landscape is covered with virtually intact forest. Deforestation and degradation are limited. Nevertheless, satellite photos show an increase in destruction of the canopy in the middle of the Landscape. This destruction is far from the strips inhabited by humans and confirms the fact that populations are moving into these areas.

State of the fauna

Recent censuses (AWF, 2004) confirm the richness of the fauna in the Landscape, as well as the disappearance of fauna in specific areas. Between the years 1970 and 1980, poachers equipped with military weapons had already exterminated the large populations of elephants and hippopotamuses along the rivers, not only the Maringa and the Lopori but also along remote rivers like the Lomako and the Iyokokala. Over the last few years, however, traces of elephants have returned and there have been new observations of hippopotamuses. This can be explained by the difficulty that villagers have in gaining access to heavy arms and munitions.

Financing and conservation

Financing comes from USAID/CARPE and AWF, but FFEM, the Arcus Foundation, Columbus Zoo (USA), the Abraham Foundation and *Kreditanstalt für Wiederaufbau* (KfW) all show an interest in financing the Maringa-Lopori-Wamba Project. DGIS has obtained some indirect financing.

Management and governance in the field of renewable natural resources

(1) At the Landscape level

The AWF program is aimed at indicative zoning of the Landscape. This zoning is being organized in a participatory manner. The different zones identified, in particular the protected area being proposed, community-managed forests, logging areas and areas being used for silvicultural-agricultural-pastoral purposes, are covered by a participatory process to formulate a management plan. This management plan will contain management and follow-up elements and establish cooperation with the State's supervisory bodies. At the very beginning of 2006, a mission with USFWS experts was scheduled to lay the first foundations for planning and utilization of land throughout

the Landscape. However, AWF stresses that these areas must be subject to not only precise management, they must also be discussed beforehand with the real parties concerned in the Landscape.

(2) In the protected areas

As of yet there are no protected areas in the Landscape, but the AWF program supports the creation of such areas.

(3) In the extraction areas

Given the absence of governance and conservation players, logging companies have free scope for anarchic logging. Some logging companies have, however, expressed interest in being involved in the process of sustainable management of the forests through the development of a management plan and obtaining certification (particularly SIFORCO). Loggers admit that the lack of governance is a handicap when it comes to implementing a management plan. AWF aims to establish a partnership with a logging company, preferably within the proposed protected area. The area concerned would cover approximately 1,700,000 hectares.

(4) In the rural areas

The AWF's Maringa-Lopori-Wamba Project is involved in three community-management areas.

Monitoring of natural resources

As activities have just begun in the Landscape, no monitoring arrangements have been defined or implemented, but this will form part of the Landscape planning.