



FOREST  
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**National Initiative Cameroon  
FSC – CMR**

B.P.: 16 467 Yaoundé – Cameroon  
Tel.: +237 22 30 43 59-57/99 94 79 84

E-mail: [akung34@yahoo.fr](mailto:akung34@yahoo.fr)  
[noagody@yahoo.com](mailto:noagody@yahoo.com)  
[m.mbolo@fsc.org](mailto:m.mbolo@fsc.org)

Fax: +237 22 30 43 59

Website: [www.fsc.org](http://www.fsc.org)

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**GEF Project: Assessing HVC in SLIMF for certification purpose  
Cameroon Component**

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## **Biodiversity Management Plans of HCV in Coopérative des Paysans de la Lekié (Copal) Community Forest**

Prepared by:

Dr. Marie Mbolo & Parfait Mimbimi Esono, Project Coordinators

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### **Introduction**

The Copal community forest is located between Sa'a and Batschenga, Center Province. It has a total surface area of 4 800 ha. The Copal was created in June 21, 2001 and comprises 09 (nine) villages. Copal achieved the development of its Simple Management Plan in 2007 and signed the management agreement with the government in January 2008.

### **Baseline data**

#### **Map showing location of HCV within the community forest**

Within the framework of the Gef project implementation and in close collaboration with Copal project site, 10 sites have been identified within the Copal community forest as HCV sites: sacred forest, Nkolopia, Scientific reserve, wasps' site, snakes' site, bats' site, Rock, Womkoa, savannah and swamp forest. (Annex1).

#### **Vegetation types and ecosystems**

The following vegetation or ecosystems have been identified:

- Forests:
  - Old secondary forests
  - Riparian forests along Sanaga and Afamba rivers
  - Swampy forests
- Savannahs
- Fresh water ecosystems
- Rocky areas with a big rock covering more than 1ha
- Agri-areas dominated by cocoa plantations and crops
- Fallows

## Threatened and endemic species at local, national and regional levels

Species known to be endemic or under threat (rare, endangered and/or protected) and that have been identified within the BBCF are listed in the table I below.

Table I. Threatened and endangered species found in Copal. Classes are defined according to Cameroon regulation as follows: (A) integral protected animals; (B): protected animals hunted under license or permit.

Species types	Plants	Animals
<b>Regional level</b>		
<b>Threatened</b>	<i>Afzelia africana</i> , <i>Lophira alata</i> , <i>L. lanceolata</i> <i>Kaya</i> sp. <i>Triplochiton scleroxylon</i> <i>Diospyros crassiflora</i>	<i>Pan troglodytes</i> , <i>Python sebae</i> , <i>Gorilla gorilla</i> <i>Panthera pardus</i> <i>Syncerus caffer</i> <i>Manis gigantea</i> <i>Conruea goliath</i> <i>Chelonidae</i> sp. <i>Crocodilus</i> sp.
<b>National level</b>		
<b>Threatened</b>		<i>Pan troglodytes</i> (A) <i>Python sebae</i> (B) <i>Gorilla gorilla</i> (A) <i>Panthera pardus</i> (A) <i>Syncerus caffer</i> (A) <i>Manis gigantea</i> (A) <i>Conruea goliath</i> (A) <i>Chelonidae</i> sp. (A) <i>Crocodilus</i> sp. (B)
<b>Local level</b>		
<b>Endemic</b>	<i>Eulophia</i> sp.	
<b>Threatened at local level but not yet identified as under threats at national level</b>	<i>Gnetum africanum</i> <i>Milicia excelsa</i> <i>Halopegia azurea</i>	River carps

## Environmental services provided by the BBCF

Nkolopia is a hill name located on the Sanaga river side. For local communities Nkolopia is an ancient volcano. The hill is covered with and old secondary forest and from place to place one could find primary forest areas. Nkolopia forest is protecting the hill slopes from erosion. If the forest cover disappears, there's a high risk of erosion that will fill Sanaga River with eroded soil and lead to river ecosystem disturbance.

**Other services provided by the forest to the community: eg. employment generation, products used by community households (construction, consumption, medicine, fuelwood, recreation), income generation (sale of NTFPs, timber, hunting permits, ecotourism).**

The Copal community forest is a high sources or services for the communities.

Communities highly extract timber from the forest for construction purpose, commercialization and fuel wood. More 44 tree species are exploited for timber among those are: *Triplochyton scleroxylon*, *Lophira alata*, *Mansonia altissima*, *Lovoa Trichiloides*, *Strombosia grandiflora*, *Milicia excelsa*, *Ricinodendron heudelottii*,...

More than 20 tree species (see Simple Management Plan) are used as NTFP for consumption as food: *Dacryodes edulis* (fruits), *Ricinodendron heudelotii* (seeds), *Piper guineensis* (leaves and fruits), *Tetrapleura tetrapleura* (fruits), *Irvingia gabonensis* (fruits and seeds), *Gnetum africanum* (leaves).

Many species are used by local communities for medicinal purpose: *Alstonia boonei*, *Enantia chlorantha*, *Pterorharchis zenkerii*, *sansevieria liberica*, *Ceiba pentandra*, *Cassia alata*, *Alchornia cordifolia*, *Morinda lucida*, *Fagara lepreuri*, ....

Wildlife is used by local communities as bush meat. Among others, the following species are hunted: Cane rat, Antelope , Pangolin, Viper, Squirrel, Mona monkey, Brush tail porcupine, monkeys. Sanaga and Afamba rivers are rich with fishes and fishing is a common activity for food and income generation.

### **Income generation**

Incomes are generated through fire wood exploitation, agriculture, fishing, timber exploitation, NTFP commercialization and hunting.

## **HCVF**

### **Indicators used for HCV identification**

Indicators used to define HCVF were those described in the “Toolkit for HCV for Cameroon community forest” whose development is ongoing. Among others these are:

- Presence of species defined at regional at national levels as threatened or endemic using IUCN regional or national red list, protected species at the national level;
- Presence of species identified by local communities themselves as rare, endangered or threatened.
- Presence of areas for special importance for local communities: ecological, cultural and historical
- Presence of NTFP
- Services provided by the forest as identified by local communities themselves

**Values identified within the Copal, and geographic area to which the value applies.**

### **Sacred forest**

This area is covered by an old secondary forest. According to local communities, the sacred forest in an area with concentrated ancestors’ spirits. They use this area for traditional rites, invocation of ancestors, history symbol and refugee for the community totem animal that is Panther (*Panthera pardus*). More than 56 plant species among those one finds:

- *Milicia excelsa* a threatened species at the local level;

- *Afzelia Africana*, *Triplochyton scleroxylon* and *Lophira alata* threatened species at regional level;
- *Alstonia boonei*, *Enantia chloranta* and *Pterorharchis zenkerii* used for medicine;
- *Ricinodendron heudelottii* a multipurpose species: wood, food, medicine.

### **Rocky site**

This rock with more than 1ha area is critical habitat for *Python sebae* a protected snake at national level as well as for many other animals. For local communities it has a cultural and historical significance: refuge for ancestors during wars periods, traditional rites. The rocky area hosts more than 50 plants species among others:

- *Afzelia Africana* and *Lophira alata* threatened species at regional level;
- *Eulophia* sp. An endemic Orchids species and *Nervilia bicarinata* another orchid species;
- *Sansevieria liberica* and *Aloes vera* species commonly used for medicinal purposes.

### **Womkoa Site**

The Womkoa site is covered by a secondary forest. For local communities this area is for cultural and historical significance: refuge for ancestors during wars periods, traditional rites. It's also a refuge for many animals and for the *Python sebae* a protected snake at national level in particular. More than 40 plants species have been identified in Womkoa site.

### **Nkolopia/Ngokbom**

Nkolopia is a hill name located on the Sanaga river side. For local communities Nkolopia is an ancient volcano. The hill is covered with an old secondary forest and from place to place one could find primary forest areas. Nkolopia forest is protecting the hill slopes from erosion. If the forest cover disappears, there's a high risk of erosion that will fill Sanaga River with eroded soil and lead to river ecosystem disturbance.

Nkolopia is for cultural and historical significance for local communities. Remained tools used for ancestors for traditional rites are found up the hill. The site hosts a high biodiversity in terms of plants and animals:

- More than 60 plants species (trees, shrubs and herbs);
- *Pan troglodytes* (A) , *Python sebae* (B), *Gorilla gorilla* (A), *Panthera pardus* (A), *Syncerus caffer* (A), *Manis gigantea* (A), *Conrua goliath* (A), *Chelonidae* sp. (A), *Crocodilus* sp. (B) animal protected species at national level ;
- *Afzelia afriacan*, *Lophira alata*, *Triplochiton scleroxylon*, *Khaya* sp., *Disopyros crassiflora* threatened plants species at regional level;
- *Alstonia boonei*, *Enantia chlorantha*, *Pterorharchis zenkeri*, *Ceiba pentandra*, *Cassia alata*, *Alchornea cordifolia*, *Morida lucida*, *Fagara leprieurii* medicinal plants;
- *Ricinodendron heudelottii* a multipurpose species;
- *Gnetum africanum* wick leaves are eaten as vegetable.

### **Savannah**

The savannah area is for cultural and historical significance for local communities: ancestors' graves are located in this area. In terms of biodiversity the area is used by many animals and hosts more than 30 plants species and *Lophira lanceolata* a threatened species at regional level.

### **Scientific reserve**

This area is covered by a secondary forest. More than 90 plants species have been identified there. Three threatened animal species at regional and national species are found: *Pan troglodytes* (A), *Conrua goliath* (A), *Gorilla gorilla* (A) and *Manis gigantea* (A); threatened plants species at regional level: *Afzelia africana*, *Lophira alata*, *Triplochiton scleroxylon*, *Khaya* sp.; threatened species at local level: *Milicia excelsa*; plants species for NTFP: *Ricinodendron heudelotii*, *Irvingia gabonensis*, *Gnetum africanum*.

According to the SMP prescriptions, the scientific reserve is used for research and ecotourism purposes.

### **Swampy forest**

This area is closed to Sanaga River and covered by a temporary swamp forest. It is rich in *Maranthaceae* species mainly by *Halopogon azurea* a species which leaves are highly used by local communities to pack cassava sticks. The species is becoming more and more rare at local level in such a way that local community are now used to buy those leaves in Yaoundé that is about 60 km for Copal. Because of its richness in *Maranthaceae*, chimpanzees (*Pan troglodytes*) and gorillas (*Gorilla gorilla*) are found in this area. The area is used for fishing purposes.

### **Wasp' site**

The area is a rest of primary forest with more than 30 plants species. Local communities are preserving this area as it's used as fire barrier. It's also a habitat for wasps and *Python sebae* (B) a protected species at national level.

### **Boa Forest**

Like the wasp's site this is a rest of primary forest where more than 40 plants species have been identified. It's a habitat that *Python sebae* (B) a protected species at national level prefers. That is why its local name "site des boas" is referred to this snake. The area is also used as fire barrier.

### **Bats' site**

The area that is very rocky is colonized by a high population of bats. *Python sebae* (B) a protected species at national level also used this site as habitat. Local communities preserve it as fire barrier.

### **Threats - Management practices, techniques or strategies**

The most important threat for all 10 identified HCV site is the slash and burn agriculture. All threats, informal and proposed management strategies are found in table II below

Table II. Threats, informal and proposed management practices for identified HCV sites in Copal community forest.

HCV	Threats	Informal management practices	Proposed management practices/strategies
Sacred forest		Integral ban of any agricultural activities, hunting with guns, any clearing within identified	Development of simple parameters for the monitoring of biodiversity and HCV
Rocky site			
Womkoa site			
Nkolopia			Identification of conflicts

Savannah	Slash & burn agriculture Poaching Timber exploitation NTFP unsustainable harvesting techniques Unsustainable hunting and fishing techniques	HVC sites Integral ban of <i>Ricinodendron heudelottii</i> felling Integral ban of medicinal plants commercialization Integral ban of pesticides usage in fishing activities	related to the implementation of the SMP: solutions in close collaboration with all stakeholders Training, Sensitization and education of communities on: – SMP prescriptions, national and international regulations; – sustainable harvesting of NTFP; – domestication of wild plant species; – Agroforestry for fuel wood and other usages; – Identification of protected resources; – monitoring of biodiversity and HCV; – Environmental friendly and best yield charcoal production; – Collaboration with research institute; – Fund raising through projects drafting; – Markets research; – Organization (institutional framework) – Certification of Environmental services
Scientific reserve		Training, Sensitization and education of communities on: - SMP prescriptions - HCV and FSC certification - Climate change	
Swampy forest			
Wasps' site			
Boa site			
Bats site			

## Monitoring

The monitoring process is described in the following table III.

Table III. Monitoring process of identified HCV sites in Copal.

HCV type	What will be monitored	What for?	How?	Who will monitor?	How often?	Who is responsible for results analysis?	With whom will be monitoring results shared

HCV 1							
HCV 2							
HCV 3							
HCV 4							
HCV 5							
HCV 6							

***NB. The monitoring process should still be discussed by local community, mainly by the management community. Consultation process to fill the above table IV is ongoing.***

## **Annual updates**

*To be updated annually:*

- Results of monitoring
- Changes made to management practices in response to monitoring results.

# Annexes

## Annex1. Sketch map of Copal HCV location

