

Master plan for Cameroon Estuary mangrove forests

An ITTO project has helped develop a plan to save a crucial forest ecosystem from destruction while improving local livelihoods

by **Cécile Ndjebet¹**
and **Patrice Ngokoy²**

¹National Coordinator for Cameroon Ecology
BP 791 EDEA, Région du Littoral,
Cameroon
(cndjebet@yahoo.com)

²Project manager
(p.ngokoy@yahoo.fr)



The beginning: A community organizer shows a mangrove propagule at a mangrove nursery at Londji, Cameroon. *Photo: P. Ngokoy*

Cameroon's mangrove forests in the vicinity of the Douala-Edéa Wildlife Reserve and related watersheds, including those of the Moungo, Wouri and Dibamba rivers, are known collectively as the Cameroon Estuary mangroves. They constitute an ecosystem of critical importance, but they are under pressure. Between 1985 and 2010, an estimated 20–25% of the area's mangrove forests was lost due to anthropogenic activities.

As a result, there has been a marked and accelerated degradation of the resource, leading to decreased productivity. Threats to the Cameroon Estuary mangroves include:

- urbanization and industrialization in large cities such as Edéa, Kribi, Tiko and Yabassi, and explosive population growth in Douala;
- the “global” nature of Cameroon's forest law, while issues specific to mangrove forest ecosystems are unaddressed;
- the expansion of agro-industrial plantations;
- the illegal logging of mangrove timber, which is used as fuelwood by 30% of households in large cities such as Douala and Tiko, and the high demand for construction poles;
- overfishing and illegal fishing;
- chemical pollution by industries and agro-industries, which discharge their wastes directly into mangrove forests;
- accelerated siltation caused by soil losses upstream of the mangrove forests;
- the construction of infrastructure such as ports and roads in coastal areas;

- oil and gas industries and other development projects; and
- the lack of environmental education among people in Douala, Tiko and other cities, who are generally unaware of the multiple functions of forests in general and mangrove forests in particular.

It is estimated that only 30–35% of the Cameroon Estuary mangrove ecosystem has adequate conservation status.

Pilot actions for developing a master plan for Cameroon Estuary mangrove forests

With assistance from an ITTO project, Cameroon's Ministry of Forestry and Wildlife (MINFOF) has developed the first master plan for the sustainable management of the Cameroon Estuary mangrove forests. Cam-Eco, a non-governmental organization based in Edéa, developed the project for the collaborative rehabilitation and



Ready to burn: A pile of mangrove fuelwood in a woodyard near the city of Tiko in Cameroon. Overharvesting is one of the threats facing Cameroon's mangrove forests. *Photo: P. Ngokoy*

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management of watersheds in the coastal areas of the Douala-Edéa Wildlife Reserve (the “Douala-Edéa mangrove project”). The Government of Cameroon subsequently submitted the proposal to ITTO, and the International Tropical Timber Council approved and funded the project in 2009 (as ITTO project PD 492/07 Rev.3 (F)).

The project was implemented through a collaborative process involving nearly 1600 people representing various social groups, such as traditional chieftains, local and indigenous communities, women, local officials, administrations, development-support organizations, experts and researchers. Its aim was to contribute to the management of mangrove ecosystems in the Douala-Edéa Wildlife Reserve and related watersheds. It had three major outputs:

1. A collaborative management plan for the mangrove ecosystems neighbouring the Douala-Edéa Wildlife Reserve.
2. The establishment or enhancement of 21 “common interest groups” (CIGs) involving more than 900 people, and their engagement in the development

of a range of income-generating activities (Table 1). Participating groups increased their revenue by an average of nearly 40%; they improved their living standards. As project implementation proceeded it became clear that women and men had different preferences regarding income-generating activities. For example, women favoured poultry and vegetable production, as well as nursery production for forest regeneration. Men focused predominantly on fish farming and honey production.

3. The establishment of three forest areas as community forests (Table 2), for which MINFOF issued three “interim management conventions”.

Vision and strategic pillars of the master plan

The Master Plan for the Cameroon Estuary Mangrove Forests, which was developed under the project, introduces a global vision for the management of mangrove forests and watersheds in the Douala-Edéa Wildlife Reserve to 2035. The vision is:

“Productivity is stable in the mangrove forests in the coastal area of the Douala-Edéa Wildlife Reserve,

Table 1: Major income-generating activities conducted with the 21 common interest groups through PD 492/07 Rev.3 (F)

CIG	No. of CIG members	% of CIG members who are women	Major income-generating activities conducted
Dibeng Community Forest	135	31	• Use and sale of timber products • Use and sale of non-timber forest products • Beekeeping
Bessombè Community Forest	88	10	
Mossé Community Forest (Nyoko Nè Kom)	82	55	
Bopo Community Forest	119	48	
Mbanda Community Forest	58	16	
Kopongo Community Forest	72	19	
Ndokohi Community Forest Le Progrès des femmes	60	100	• Food crops (cassava, macabo, plantains, tomatoes) • Small-scale breeding (broilers, cockerel) • Beekeeping
Espoir de Ndogbé	22	12	
Les Débrouillards de Dibeng	45	31	
Secours de Ndogbé	18	16	
Agropastoral du Nkam	25	40	
Dynamique de Yabassi	12	25	
Femmes Rurales de Ndoktock	17	100	
Femmes Actives de Mbengue	22	100	
“AGECO” de Mouanko	32	85	• Fish-farming • Small-scale breeding (broilers, cockerel) • Beekeeping
“APJN” de Mouanko	14	18	
Manoka Fishermen Association	19	0	• Responsible fishing
Mbwang Fishermen Association	13	0	
CIG for the Protection and Regeneration of Londji Mangrove	23	52	• Reforestation of degraded mangrove forest areas
“IVAHA”	18	48	• Beekeeping
Douala “VA-Mangroves”	39	24	

Table 2: Community forests established as a result of PD 492/07 Rev.3 (F)

Name of community forest	Land area (ha)	Associated villages	Main objective
Dibeng	5000	Dibeng village/Yabassi district	Promote community-based sustainable management of community forest resources
Bessombè	2500	Bessombè village/Dibamba district	
Mossé (Nyoko Nè Kom)	2000	Mossé village/Yingui district	

which supports rich biodiversity and provides environmental, social and economic goods and services for the wellbeing of existing and future coastal and indigenous people.”

The Master Plan has seven strategic pillars, as follows.

- *Strategic pillar 1* (“law, regulation and institution-related components”) aims to establish a specific legal and regulatory framework for the management of mangrove forest ecosystems.
- *Strategic pillar 2* (“conservation and sustainable management”) aims to rehabilitate degraded areas and maintain or increase existing conservation areas in the Cameroon Estuary (parks, reserves, etc.).
- *Strategic pillar 3* (“collaborative and fair management”) aims to involve people who neighbour mangrove forests, as well as other stakeholders, in management activities through the establishment and management of community forests, including mangroves and watershed uplands, and in the development of detailed maps through a collaborative process. Such maps will serve to demarcate the limits of “village mangroves” between mangrove forest communities and fishing camps, etc.
- *Strategic pillar 4* (“sustainable development of infrastructure projects”) requires large economic and agro-industrial development projects to take into account the vulnerability of mangrove ecosystems and mitigate their negative impacts (e.g. through environmental and social impact surveys).
- *Strategic pillar 5* (“sustainable fishing and development of other environmentally friendly socioeconomic activities”) aims to promote income-generating activities for mangrove-resource-dependent people and to ensure that the regulations in place for responsible fishing in the mangrove forest areas are observed.
- *Strategic pillar 6* (“climate and sustainable energy”) aims to mobilize funds through REDD+ and the Clean Development Mechanism for the development of alternative energy sources to avoid the over-harvesting of mangroves for woodfuel.
- *Strategic pillar 7* (“continuous environmental monitoring, pollution monitoring and establishment of a mangrove observatory”) aims to implement a continuous pollution-monitoring system in the coastal zone and to establish a mangrove observatory involving all stakeholders.



Restoration: Strategic pillar 2 of the Master Plan aims to rehabilitate degraded areas and maintain or increase existing conservation areas in the Cameroon Estuary, such as here in Londji. *Photo: P. Ngokoy*

Prospects for the Master Plan

The Minister of Forestry and Wildlife has recognized that one of its major challenges is to “ensure the sustainability of the coastal zone in the future for economic and community growth”. The project clearly showed that, if appropriate measures and related activities are not taken to reverse the current rate of degradation, all mangrove forests in the Cameroon Estuary will lose their productive, environmental and sociocultural production capacity by 2035. The following actions are planned:

- the dissemination of the Master Plan and extension among all stakeholders and the wider public; and
- the mobilization of financing and materials for implementing the management measures specified in the Master Plan.

At the regional level, Cameroon’s efforts could inspire other Congo Basin countries and beyond because the threats faced by mangroves are similar in most countries. A regional project may be an appropriate approach to the sustainable and collaborative management of mangrove ecosystems, the environmental, economic and social importance of which is acknowledged by all.