Ministry of Agriculture, Livestock, Forest and Environment

Ministry of Finance, Economy and Planning

REDD+ Guinea Ecuatorial

REDD+ *National Investment Plan* FOR EQUATORIAL GUINEA

Ureka Falls, Bioko Island
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REDD+ NATIONAL INVESTMENT PLAN **FOR EQUATORIAL GUINEA**

REFERENCE:
MHEP and MAGBOMA. 2020.
REDD+ National Investment Plan for Equatorial Guinea

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LIST OF ABBREVIATIONS

AFOLU	Agriculture, Forestry and Other Land Use
ANDEGE	Friends of Nature and Development in Equatorial Guinea
CAFI	Central African Forest Initiative
CICTE	Scientific and Technological Research Council
CN-REDD+	REDD+ National Coordination
CONAMA	National Committee for the Environment
CP PNI-REDD+	National Steering Committee for developing the REDD+ National Investment Plan
CP-REDD+	REDD+ National Steering Committee
CUREF	Project for the Conservation and Rational Use of Forest Ecosystems in Equatorial Guinea
D.G.	Directorate-General
EN-REDD+	REDD+ National Strategy
FAO	Food and Agriculture Organization of the United Nations
FLEGT	Forest law enforcement, governance and trade
FONADEFO	National Forestry Development Fund
FONAMA	National Environment Fund
FREL/FRL	Forest Reference Emissions Level/Forest Reference Level
GCF	Green Climate Fund
GDP	Gross domestic product
GEF	Global Environment Facility
GHG	Greenhouse gas
ILO	International Labour Organization
INCOMA	National Institute for Environmental Conservation
INDEFOR	National Institute for Forestry Development
INDEFOR-AP	National Institute for Forestry Development and Protected Area Management
INEGE	Equatorial Guinea National Institute of Statistics
INPAGE	National Institute for the Promotion of Agriculture in Equatorial Guinea
IPCC	Intergovernmental Panel on Climate Change
IUCN	International Union for Conservation of Nature
MAB	Ministry of Agriculture and Forests
MAGBOMA / MAGBMA	Ministry of Agriculture, Livestock, Forests and Environment
MHEP	Ministry of Finance, Economy and Planning
MMH	Ministry of Mines and Hydrocarbons

NDC	Nationally determined contribution
PN	National programme
PNFS	National Programme for Food Security
OCIPEF	Office of Forest Species Control, Information and Promotion
PANA	National Action Plan for Adaptation to Climate Change
PIL	Local integrated programme
PN	National programme
PNAF	National Forestry Action Programme
PNDES	National Economic and Social Development Plan
PNDS	National Sustainable Development Plan
PNIASAN	National Plan for Agricultural Investment and Food and Nutritional Security
PNSA	National Programme for food security
PNI-REDD+	REDD+ National Investment Plan
PROFOR	Programme on Forests
REDD+	Reducing emissions from deforestation and forest degradation in developing countries, and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries
R-PIN	REDD+ readiness plan idea note
RPP	REDD+ Readiness preparation proposal
SEGESA	Equatorial Guinea Electricity Board
UNDAF	United Nations Development Assistance Framework
UNFCCC	United Nations Framework Convention on Climate Change
UNGE	National University of Equatorial Guinea
UN-REDD+	United Nations Programme for Reducing Emissions from Deforestation and Forest Degradation in Developing Countries
USDA	United States Department of Agriculture
WRI	World Resources Institute

LIST OF SYMBOLS AND UNITS

CO_2	carbon dioxide
CO_2eq	carbon dioxide equivalent
ha	hectare
kg	kilogram
km	kilometre
m	metre
mm	millimetre
MW	megawatt
N/A	not applicable
n.d.	no data
t	tonne
tCO_2eq	tonne of carbon dioxide equivalent
USD	United States dollar

PREFACE

The National Economic and Social Development Plan "*Horizonte 2020: Prosperidad para todos*" [Prosperity for all by 2020] (PNDES 2020) was adopted by the Republic of Equatorial Guinea in 2007. The Plan has guided the country's efforts towards a more diversified economy that is less dependent on hydrocarbons, promoted social cohesion, and improved the welfare of its people in order to keep the pledge to 'leave no one behind' that United Nations Member States made in adopting the 2030 Agenda for Sustainable Development. The Government has begun the process of redirecting the PNDES 2020, following the conclusion of its first stage, and is considering the achievements that have been made and the challenges that still need to be overcome in the light of the adoption of the Sustainable Development Goals, the ratification of the Paris Agreement on Climate change, and the Republic of Equatorial Guinea's inclusion in Agenda 2063 of the African Union.

The country's third National Economic Conference was held in May 2019 and was entitled 'Consolidating social equity and economic diversification'. The Conference was an opportunity to present, analyse and discuss the challenges facing the country, and establish the foundation for achieving sustainable and inclusive economic development that will diversify the motors for growth and improve social welfare. This Conference paved the way for redirecting PNDES 2020 towards a new National Sustainable Development Plan for Equatorial Guinea with a time frame of 2035 (PNDS 2035).

Within this context, the REDD+ National Investment Plan (PNI-REDD+) for Equatorial Guinea proposes a green economy model that breaks the dichotomy between economic development and national resource conservation, and contributes to the country's sustainable and equitable development. PNI-REDD+ aims to simultaneously protect the country's natural heritage, reduce forest loss and contribute to economic diversification.

PNI-REDD+ is an important planning tool. It is the outcome of the Republic of Equatorial Guinea's efforts and commitment to "reducing emissions from deforestation and forest degradation in developing countries, and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries", which is what REDD+ stands for. REDD+ represents an opportunity to improve the country's land management and maximize the value of its forests and land for the benefit of all Equatoguineans in ways that will contribute to a more diversified and sustainable economy.

The Government of Equatorial Guinea is adopting PNI-REDD+ as a tool to mobilize the resources necessary to implement the National REDD+ Strategy, which will allow for further progress towards national low-emission development, and support the global fight against climate change, for the good of the country, the region and our planet.

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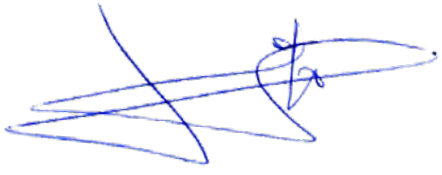

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City of Rebola, Bioko Norte
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EXECUTIVE SUMMARY

Equatorial Guinea is determined to halt and reverse greenhouse gas emissions linked to forest loss and improve the management of its land and forests. It will do this within the framework of national development objectives and their contribution to the global fight against climate change, particularly the drive to reduce emissions from deforestation and forest degradation in developing countries, and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries (REDD+). These efforts will contribute to sustainable development and the well-being of its people. Equatorial Guinea's vision for its National REDD+ Strategy (EN-REDD+) is to "contribute to the global fight against climate change and country development to achieve the well-being of the people of Equatorial Guinea through REDD+, with an approach based on competitiveness, sustainability, integrated land management, food security, and social and gender equality" (MAGBMA, 2019).

The REDD+ National Investment Plan (PNI-REDD+) sets out the EN-REDD+ implementation priorities for the next 10 years (2020–2030). PNI-REDD+ establishes the principle of orderly and sustainable economic growth that safeguards the country's valuable natural capital, promotes social participation and inclusion, and improves people's living conditions.

PNI-REDD+ proposes to implement the REDD+ vision through two actions that combine environmental and socio-economic benefits:

- reducing emissions in the country from the agriculture, forestry and other land use (AFOLU) sector; and
- improving people's living conditions through economic diversification using a sustainable and integrated land management approach.

In particular, PNI-REDD+ aims to reduce the country's emissions from the AFOLU sector by 40 million tonnes of carbon dixode equivalent (tCO_2eq) by 2040, which covers the periods of implementation (2020–2030) and capitalization (2030–2040). A total budget of USD 185 million is needed to achieve this goal.

PNI-REDD+ proposes a portfolio of REDD+ strategic interventions that includes five national programmes (PN) with enabling and sectoral cross-cutting actions (PN 1: land-use planning; PN 2: sustainable forest management; PN 3: agriculture and food security; PN 4: mining, energy and construction with REDD+; PN 5: governance for REDD+) and five local integrated programmes (PIL) with actions at the jurisdiction level (PIL I: province of Litoral, in the continental region; PIL II: municipality of Niefang, in the continental region; PIL III: province of Kie-Ntem, in the continental region; PIL IV: Bioko Island, and PIL V: Annobón Island).

PNI-REDD+ has been developed by national and international experts based on up-to-date data and studies, and participatory consultations with more than 450 people (63 percent men and 36 percent women). It has been supported financially by the Central African Forest Initiative (CAFI) and technically by the Food and Agriculture Organization of the United Nations (FAO).

The aim of this plan is to facilitate and guide the mobilization of multiple funding sources to meet Equatorial Guinea's REDD+ commitments. These commitments are ambitious, multisectoral and cross-cutting. They include the mobilization of national budgets, multilateral cooperation, bilateral cooperation and public and private investment. For the first investment cycle, during the period 2020–2030, the funding sources identified as priorities are CAFI, the Green Climate Fund (GCF), the Global Environment Facility (GEF) and the national budget.

Basilé Peak, Bioko Island
©FAO/Lorena Hojas Gascón

1. INTRODUCTION

In recent years, Equatorial Guinea has undergone a major transformation and economic development due to the exploitation of hydrocarbons. This allowed the gross domestic product (GDP) to increase from 232 million United States Dollars (USD) in 1996 to USD 22 400 million in 2012 (World Bank, 2018). The economic boom encouraged infrastructure development, improved basic services, reduced poverty levels and increased life expectancy. It also led to higher population growth (INEGE, 2016).

The national economy is highly dependent on oil exploitation and not sufficiently diversified. This makes it vulnerable to changes in external conditions. Since 2013, the country has been in economic recession due to a fall in hydrocarbon prices and production. To ensure the well-being of its people, the Government of Equatorial Guinea is promoting an economic diversification agenda designed to continue the work of the National Economic and Social Development Plan 'Horizonte 2020: Prosperity for all" (PNDES 2020) (RGE, 2007). PNDES 2020 is currently being revised in order to draw up and agree on a new plan with a time frame to 2035. This will be known as the National Sustainable Development Plan (PNDS 2035) of Equatorial Guinea and its motto will be 'Together we will move forward'.

PNDES 2020 identified the following priority sectors: energy and mining; fisheries and aquaculture; agriculture and food security; tourism and financial services. The ultimate aim was to achieve the following overarching objective: 'Equatorial Guinea, ecological model'. The country's commitment to the environment and the global fight against climate change was set out in strategic objective 18 of the PNDES 2020: 'Ensure protection of the environment and conservation of natural resources'. The third National Economic Conference was held in April and May 2019 to guide the work on PNDS 2035. The Conference was organized into four technical committees, including an Environmental Sustainability Committee, which marks a reaffirmation of the country's environmental priorities.

The forestry subsector has been one of the pillars of the economy. It provides a source of tax revenue and generates an influx of foreign currency. However, its relative importance has declined since the discovery of oil. As a potentially renewable natural resource, forests can continue to contribute significantly to Equatorial Guinea's economic growth, particularly considering their contribution to agriculture and food security, their potential for ecotourism, the business opportunities they offer for timber-based and non-timber-based forest enterprises that operate under sustainable standards, and their importance for rural development. These opportunities are viable and relevant in the framework of the production diversification agenda promoted by the Government.

In 2018, Equatorial Guinea ratified the Paris Agreement, demonstrating its commitment to contribute to global efforts against climate change in terms of both adaptation and mitigation. In 2013, Equatorial Guinea developed the National Action Plan for Adaptation to Climate Change to strengthen the country's resilience to the negative effects of climate change, which are already beginning to be felt by the people. In 2019, the Equatorial Guinea Country Programme was developed for the Green Climate Fund (GCF). This Programme establishes priority actions to address climate change.

In 2012, Equatorial Guinea began the readiness process for reducing emissions from deforestation and forest degradation, and on the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries (REDD+). The country acknowledges the importance of forests in mitigating climate change and the need to halt and reverse greenhouse gas emissions linked to forest loss.

Since then, significant progress has been made in REDD+ analysis and planning. This is reflected in the following country reports:

- REDD+ readiness plan idea note or R-PIN (MPMA, 2008);
- REDD+ readiness preparation proposal or RPP (MPMA, 2014);
- Study on drivers of deforestation and forest degradation in Equatorial Guinea 2004–2014 (MAGBMA and FAO, 2018);
- Historical analysis of deforestation and forest degradation in Equatorial Guinea 2004–2014 (MAGBMA and FAO, 2019); and
- REDD+ National Strategy for Equatorial Guinea (MAGBMA, 2019).

The REDD+ National Investment Plan (PNI-REDD+) is an instrument for implementing the REDD+ National Strategy (EN-REDD+) for the next 10 years (2020–2030). Its aim is to contribute to the fight against climate change by reducing greenhouse gas emissions associated with forest loss and, in parallel, by supporting a green economy[1] and a productive diversification process. PNI-REDD+ establishes the principle of orderly and sustainable economic growth that safeguards the country's valuable natural capital, promotes social participation and inclusion, improves people's living conditions, and reduces existing inequalities.

PNI-REDD+ combines national investment programmes that are driving reforms that are cross-cutting (land-use planning, governance) and sectoral (forest management, agriculture, mining, energy and construction sectors) with local integrated programmes in which investments address the drivers of forest loss within a specific jurisdiction in an intersectoral and synergistic manner. National programmes aim to create a political, institutional and technical climate conducive to reducing forest loss and encouraging and facilitating investments from local integrated programmes for specific territorial actions.

Social housing in Buena Esperanza 1, Malabo
©FAO/María Vidal Rigo

This Plan has been developed by national and international experts in conjunction with multiple stakeholders in the country through participatory consultations with more than 450 people (63 percent men and 37 percent women) (see Annex IV) and based on up-to-date data and studies. PNI-REDD+ will enable the country to mobilize multiple sources of funding (public, private, multilateral and bilateral) to meet its REDD+ commitments and address current economic and social challenges.

[1] At the United Nations Conference on Sustainable Development (Río +20), the green economy, in the context of sustainable development and poverty eradication, was recognized as a useful tool to achieve sustainable social, economic and environmental development. UN Environment defines the green economy as "one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities". In its simplest form, a green economy may be considered an economy that is low-carbon, resource-efficient and socially inclusive (https://www.unenvironment.org/explore-topics/green-economy)

2. FORESTS IN EQUATORIAL GUINEA

Equatorial Guinea is a highly forested country. Its estimated forest cover of 2.5 million ha represents more than 90 percent of its land area (MAGBMA and FAO, 2018; MAGBOMA and FAO, 2020). The country has an important role to play in the global fight against climate change. The first Forest Emission Reference Level submitted by Equatorial Guinea to the United Nations Framework Convention on Climate Change (UNFCCC) in 2020 estimated forest-related annual emissions to be 8.6 million tonnes of carbon dixode equivalent (tCO_2eq), revealing the country's high potential for contributing to climate change mitigation (MAGBOMA and FAO, 2020). The country's first national communication to the UNFCCC estimates that annual emissions from the agriculture, forestry and other land use (AFOLU) sector to be 10 million tCO_2eq.

Equatoguinean forests feature great plant and animal biodiversity. They include a range of different ecosystems including humid tropical forests (tropical rain forests), Afromontane forests, swampy and floodplain forests, mangroves, subalpine formations and high grasslands.

With an area covering most of the country, Equatorial Guinea's forests have historically been one of the main contributors to the economy. Large-scale commercial timber harvesting in particular has been a significant source of tax income and incoming foreign currency. The rural people of Equatorial Guinea consider the forest an integral part of their lives; a source of food, medicine, construction materials, household goods and income, as well as a means of protecting their homes and crops from wind damage. However, the people realize that the country's forests are highly degraded (MAGBMA and FAO, 2018).

Men and women play very important roles in the conservation and management of ecosystems and biodiversity. They each have specific knowledge that influences their priorities and strategies for natural resource management. Traditionally, women do most of the work in small-scale farming: planting crops, selecting and improving local varieties, exchanging and conserving seeds and marketing products. They are also the main foragers for wild foods, which provide important dietary micronutrients that can be essential for household survival during food shortages. An increasing number of women are participating in green value chains. Men traditionally carry out logging to clear agricultural land and engage in hunting activities. They also make wooden handicrafts. It is essential to strengthen the resilience of both women and men, so that they can cope with climate change, contribute to climate change adaptation and mitigation, and benefit equally from improved conditions.

Given the socio-economic and environmental importance of forests, forest loss is an issue that must be addressed. Estimated deforestation and forest degradation for the periods 2004–2014 and 2014–2018 reveals a pattern of forest disturbance that is sustained over time at constant order of magnitude. There is a clear increasing trend in forest disturbance (deforestation plus forest degradation) between the two periods, but this is not statistically significant when the confidence intervals are considered (see Table 1 and Figure 1). The area of forest degradation was much greater than the area of deforestation during the two periods analysed (MAGBOMA and FAO, 2020; MAGBMA and FAO, 2018).

Despite its status as a protected area, Annobón Island is the area of the country subject to the highest rate of deforestation and degradation. Bioko Island has the second highest deforestation rate, while degradation is more significant in the continental region (Figures 2 and 3).

Due to the absence of a recent forest inventory, no data are available on the total percentage of forests that are degraded. However, it is estimated that a significant proportion may be degraded considering the distribution of forest harvesting

contracts throughout the continental region (MAB and WRI, 2013; 2016) and forest harvesting practices observed in the field; the methodology used to estimate the degraded forest area through remotely observable canopy gaps, which does not allow identification of degradation relating to changes in forest structure under canopy cover or in forest functions (Lindquist, 2014); and the high level of forest degradation reported by local people and logging companies consulted in 2017, 2018 and 2019.

TABLE 1. ANNUAL DEFORESTATION AND FOREST DEGRADATION IN THE PERIODS 2004–2014 AND 2014–2018

IN HA/YEAR AND ANNUAL PERCENTAGE	ANNOBÓN ISLAND	BIOKO ISLAND	CONTINENTAL REGION	EQUATORIAL GUINEA
Annual deforestation 2004–2014	11 (0,67%)	953 ± 189 (0,53%)	7 711 ± 877 (0,32%)	8 676 ± 897 (0,3%)
Annual degradation 2004–2014	23 (1,4%)	635 ± 545 (0,35%)	22 352 ± 4 571 (0,93%)	23 010 ± 4 603 (0,9%)
Annual deforestation 2014–2018*	11**	456 ± 245	4 698 ± 3 094	5 165 ± 3 104 (0,2%)
Annual degradation 2014–2018	23**	1 390 ± 478	29 166 ± 8 517	30 579 ± 8 530 (1,2%)

* The 2004–2014 study on the drivers of deforestation and degradation analyses a 10-year period, between December 2004 and December 2015. The Forest Reference Emission Levels analysis covers a five-year period, from January 2004 to December 2018 because a minimum period of five years is required if Equatorial Guinea decides to access performance payments. Both analyses use the same methodology: stratified area estimation, based on sampling that uses a map to stratify the samples (i.e. the map helps focus on areas affected by deforestation and forest degradation, which are uncommon characteristics in this area).

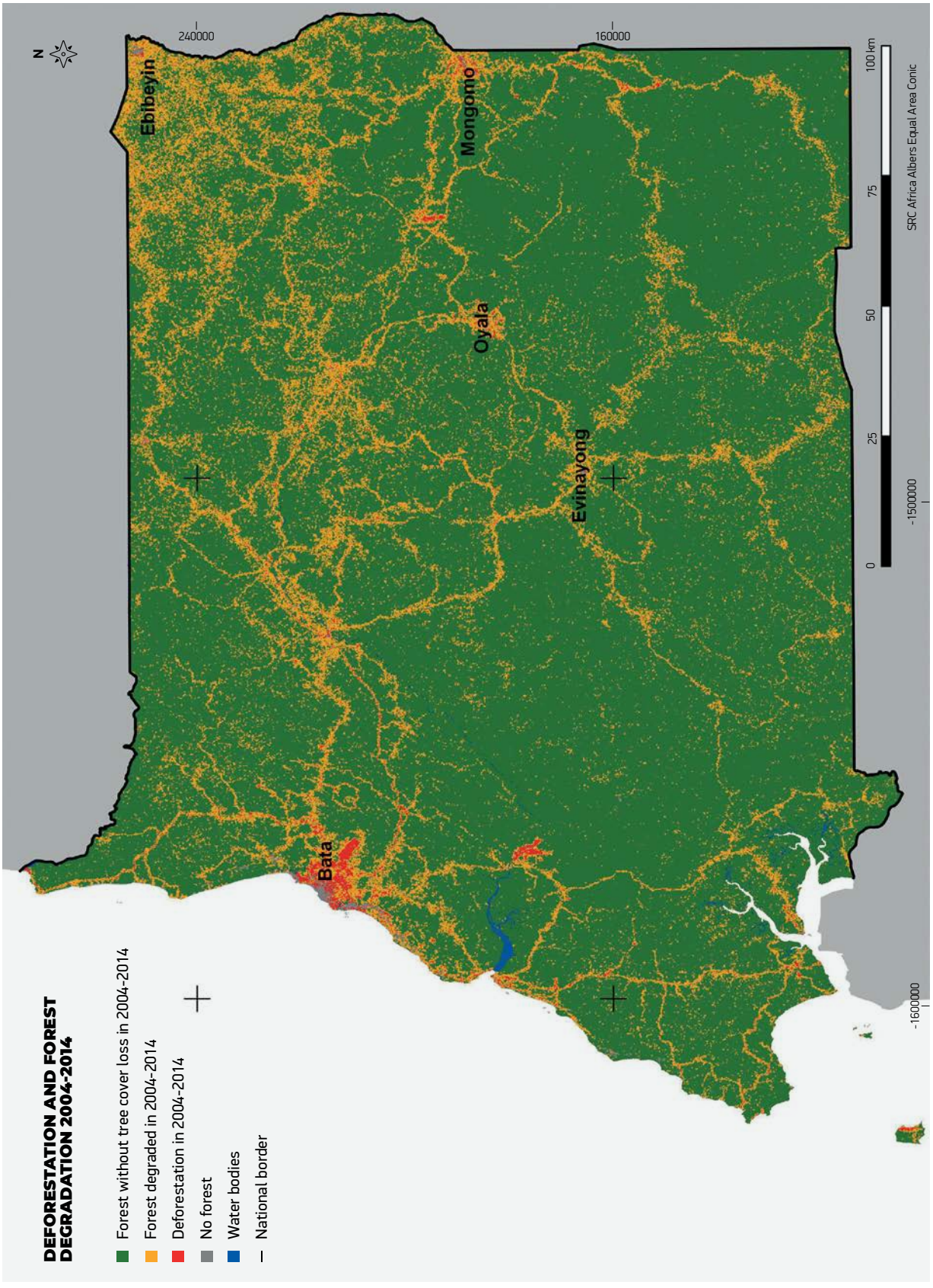
** Estimated deforestation and forest degradation on Annobón Island during the period 2014–2018 are extrapolated from the estimate carried out in 2004–2014 for the study of drivers.

Source: MAGBMA and FAO, 2018. MAGBOMA and FAO, 2020.

FIGURE 1. DEFORESTATION AND FOREST DEGRADATION IN THE PERIODS 2004–2014 AND 2014–2018

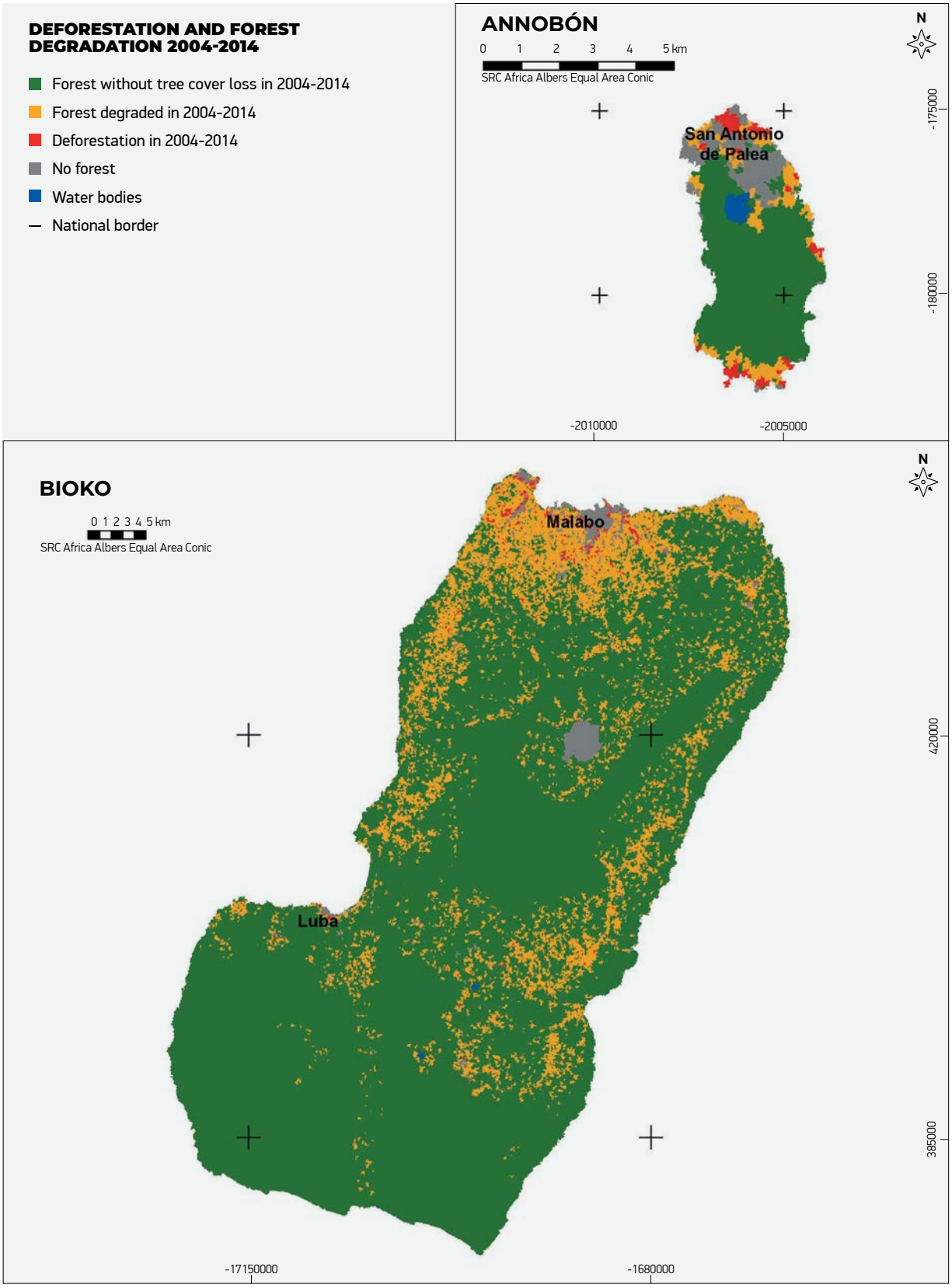
Source: MAGBMA and FAO, 2018 and MAGBOMA and FAO, 2020.

FIGURE 2. MAP OF DEFORESTATION AND FOREST DEGRADATION IN THE CONTINENTAL REGION DURING THE PERIOD 2004–2014



Source: MAGBMA and FAO, 2018.

FIGURE 3. MAP OF DEFORESTATION AND FOREST DEGRADATION IN THE INSULAR REGION DURING THE PERIOD 2004–2014



Source: MAGBMA and FAO, 2018.

Deforestation and forest degradation are linked to various direct and underlying drivers. In 2004–2014, infrastructure expansion was the most significant direct cause of deforestation, with a relative weighting of 96 percent. Forest degradation was mainly caused by agriculture, with a relative weighting of 41 percent, followed by infrastructure (36 percent) and forest harvesting (23 percent) (see Table 2).

Considering its relative weighting, the most important direct cause of forest loss in Equatorial Guinea is infrastructure development. The impact of infrastructure development is considered to be declining, as Government contacts report that most infrastructure has already been built. Nevertheless, it remains one of the most urgent factors to be addressed, given the negative indirect medium-term impact on forest loss that results from greater ease of access to forests. Consequently, priority response measures relate to governance and cross-sectoral coordination mechanisms, spatial planning and the promotion and implementation of environmental impact studies.

The next most important direct drivers are farming and forestry, especially small-scale operations. These drivers require response measures particularly linked to rural communities and their livelihoods.

Both sectors, farming and forestry, require greater political and institutional support, and measures to reduce their impact on forests and effectively contribute to the well-being of the population.

Indirect or underlying drivers fall into four categories: political and institutional factors, economic factors, technological factors, and sociodemographic and cultural factors. These drivers are set out in Table 3, which also highlights the drivers that the various stakeholders consider most important, for example, the absence of land-use planning, weak governance and lack of transparency, the economic needs of families and lack of technical capacities. Cross-cutting measures are needed to address these indirect drivers.

Arena Blanca Beach, Luba, Bioko Island
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TABLE 2. RELATIVE WEIGHTING OF THE DIRECT DRIVERS AND SUBSIDIARY DRIVERS OF DEFORESTATION AND FOREST DEGRADATION IN THE PERIOD 2004 2014

DRIVERS	SUBDRIVERS	RELATIVE WEIGHTING (%) BY DRIVER AND SUB-DRIVER			
		Deforestation	Degradation	Unchanged	Total
Infrastructure expansion*	Expansion of the electricity grid	3%	5%	0%	3%
	Expansion of transport routes (including forest trails and logging routes)	18% (logging routes 1,6%-2,4%)	19% (logging routes 1,8%-3,9%)	0%	14%
	Urban expansion	65%	5%	0%	17%
	Aggregate quarrying	3%	5%	0%	3%
	Other public services (airports, ports, stadiums) and private services (Chinese companies with housing barracks)	7%	3%	0%	3%
	SUBTOTAL	**96%**	**36%**	**0%**	**40%**
Agriculture	Intensive agriculture	3%	1%	0%	1%
	Shifting and small-scale agriculture	1%	40%	0%	21%
	SUBTOTAL	**4%**	**41%**	**0%**	**22%**
Forest products harvesting *(Logging routes are covered under 'infrastructure expansion')*	Timber, charcoal and other non-timber products	0%	1%	0%	0%
	Timber harvesting (within the limits of 2013 forestry concessions)	0%	9%	0%	5%
	Timber harvesting (Outside the limits of 2013 by *serroteros*, concessionaires or illegal companies)	0%	14%	0%	7%
	SUBTOTAL	**0%**	**23%**	**0%**	**12%**
Unchanged		0%	0%	100%	25%
	TOTAL	**100%**	**100%**	**100%**	**100%**

* Infrastructure is considered to cause degradation when there are forest losses within a 1-hectare polygon, but tree cover remains above 30%.

Source: MAGBMA and FAO, 2018.

TABLE 3. UNDERLYING DRIVERS OF DEFORESTATION AND FOREST DEGRADATION IN THE PERIOD 2004–2014

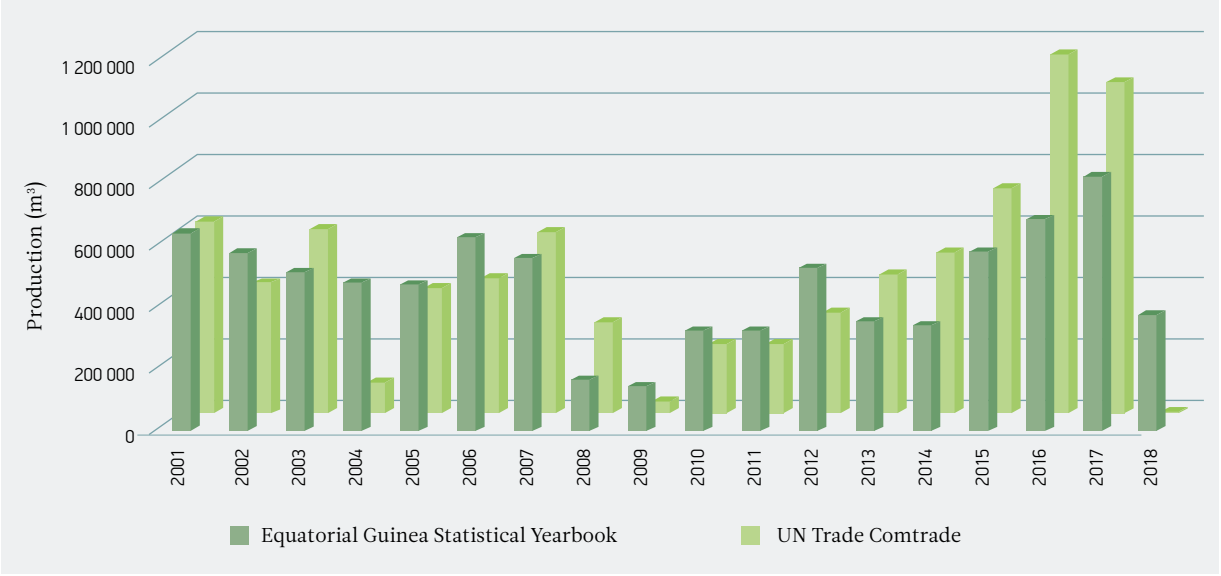
	UNDERLYING DRIVERS	
	**Economic Factors**	Great economic development due to the oil boom and economic recession from 2013
		The country's commitment to diversifying its economy based on PNDES 2020
		Unequal wealth distribution, lack of economic alternatives and increases in the price of staple products ⊗ → Dietary and economic needs of families ⊗
		International and national demand for timber ⊗
		Limited public investment in the forestry sector
	**Political and institutional factors**	Changing institutional framework
		Capacities and resources of the administration
		Inter-institutional cooperation and intersectoral partnerships
		Updating of political and legislative frameworks
		Failure to apply laws in an effective, consistent and equitable manner ⊗
		Need to improve governance, including transparency, participation and consultation of people over local planning and decision making ⊗
		Lack of local regulations/planning ⊗
		Land ownership system
	**Technological factors**	Lack of technological progress in agricultural production allowing the intensification of agricultural production and the reduction of pressure on forests
		Technological weaknesses in the forestry sector (felling, dragging, and processing)
		Limited technical capacities (agriculture, livestock, forestry) ⊗ and the need for training
		Insufficient training, research and advice in agriculture, livestock, and forest management
	**Social factors**	Population growth ⊗
		Lack of environmental sensitivity and awareness of local people ⊗

Note: the symbol ⊗ indicates the underlying causes mentioned in the interviews and consultations.

Source: MAGBMA and FAO, 2018.

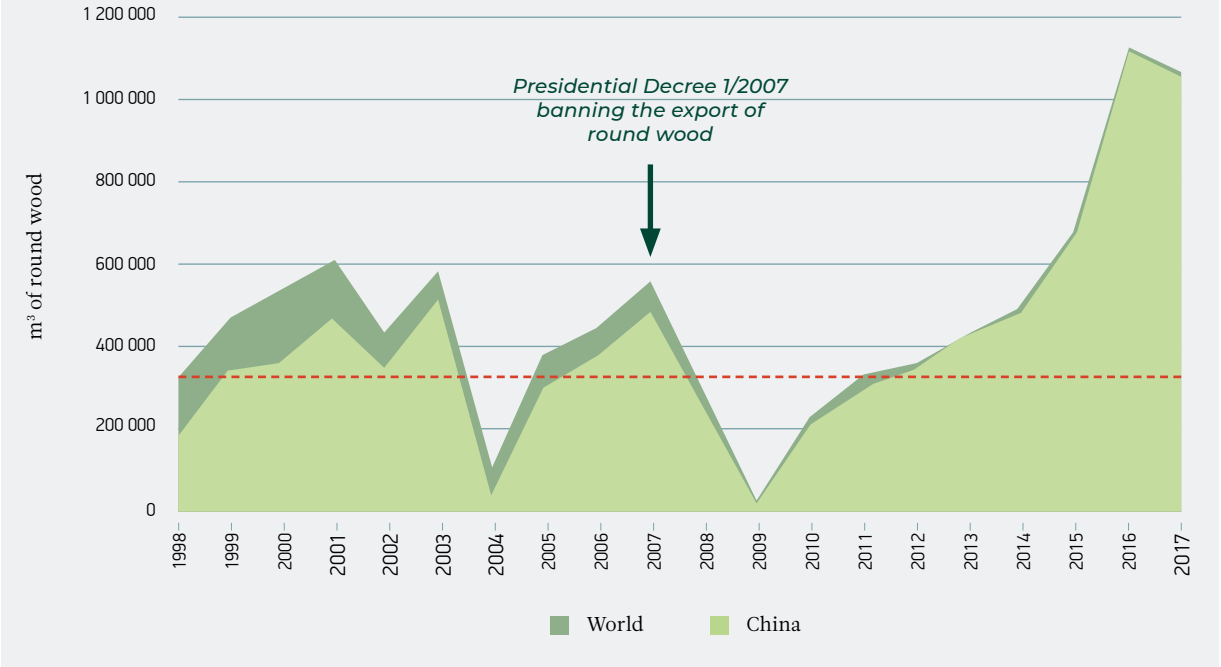
The Government acknowledged the progressive deterioration in the state of the forests and took steps in 2017 and 2018 to halt and control illegal and unsustainable harvesting activities by illegal logging companies and artisanal chainsaw operators (*serroteros*). These measures aim to halt illegal and indiscriminate harvesting and ensure the rational use of forest resources.

FIGURE 4. ROUNDWOOD PRODUCTION DURING THE PERIOD 2001–2017



Source: UN Comtrade; INEGE, 2017.

FIGURE 5. ROUNDWOOD IMPORTS FROM EQUATORIAL GUINEA DURING THE PERIOD 1998–2017



Source: UN Comtrade.

3. BIODIVERSITY STATUS

Despite its small size, Equatorial Guinea is one of the most biodiverse areas in Africa. The country's natural heritage includes hundreds of species of mammals and birds, and numerous species of reptiles, amphibians and fish.

The plant and animal biodiversity in continental and insular regions is very rich. Because they are islands, Bioko and Annobón are home to a large number of endemic plant and animal species.

The main goods and services that biodiversity offers the people of Equatorial Guinea are timber and non-timber forest products of plant and animal origin that are used for medicines, foodstuffs, aromatics and ornaments, as well as game meat and fish.

The main drivers of biodiversity loss are:

- Deforestation and forest degradation, described earlier in this document.
- Overhunting, which threatens to cause the extinction of species that are vital to ecosystem functioning, food security and livelihoods, and have potential to support ecotourism. There is conflict between humans and wildlife in rural areas. Elephants and other species destroy crops, making them targets for hunting.
- Air, soil and water pollution. Fresh water ecosystems (lakes, lagoons, rivers, deltas and marshes) and marine ecosystems are often used for dumping urban, agricultural and industrial waste. Few environmental impact studies have been conducted.
- Infrastructure development was one of the causes of biodiversity loss in the period 2004–2014. Because most planned investments have already been carried out, the relative importance of infrastructure as a direct cause of biodiversity loss is declining.
- Limited environmental education and lack of public awareness. Communication, education and awareness raising are crucial for building mechanisms of trust and generating agreements to improve biodiversity conservation.
- Socio-economic and environmental changes are transforming gender roles in biodiversity management, altering the traditional division of labour between men and women. Rural women represent 80 percent of the national agricultural labour force and are the main stakeholders in AFOLU sector, and in the country's rural economy. However, they have less access to land, credit, technical information and efficient production technologies, which reduces their productivity and ability to adapt to climate change.
- Lack of a biodiversity inventory. Such an inventory is necessary to carry out diagnoses and systematically study the various components of biodiversity, and design an information-generating mechanism.
- Non-compliance with current legislation. Government measures adopted since 2017 reflect political commitment and intent to enforce laws to reduce biodiversity loss and foster a new sustainable management model.
- Lack of capacity for environmental follow-up and monitoring. Monitoring capacity would serve as a starting point for linking economic development and poverty reduction goals to biodiversity and broader environmental conservation.
- Lack of funding. Biodiversity conservation funding instruments for public institutions and civil society must be improved.

Hummingbird, Moka, Bioko Island
©FAO/Ricardo Domínguez

4.REDD+ VISION, GOALS AND PRINCIPLES

The country's REDD+ vision, the strategic goals to make it a reality, and the principles for its implementation were set out in the EN-REDD+ for Equatorial Guinea.

Equatorial Guinea's vision for REDD+ is to "contribute to the global fight against climate change and country development to achieve the well-being of the people of Equatorial Guinea through REDD+, with an approach based on competitiveness, sustainability, integrated land management, food security, and social and gender equality" (MAGBMA, 2019).

This vision will be achieved through two impacts, which combine environmental and socio-economic benefits:

- reducing emissions in the country caused by the AFOLU sector;
- improving people's living conditions through economic diversification using a sustainable and integrated land management approach.

In particular, PNI-REDD+ aims to reduce the country's emissions from the AFOLU sector by 40 million tCO_2eq by 2040, which covers the periods of implementation (2020-2030) and capitalization (2030-2040). USD 185 million will be required to achieve this end.

To make this vision a reality, the country has set specific mid-term targets in the EN-REDD+ that will allow it to evaluate the success of its actions and demonstrate its commitment to REDD+:

- Reduce greenhouse gas emissions from the AFOLU sector by 20 percent compared to 2010 levels by 2030, and reduce these emissions by 50 percent by 2050. This goal has been set based on national expected and determined contributions (MPMA, 2015b).
- Maintain the forest area. Using forest cover in 2014 as a reference, this would be equivalent to 93 percent (±4 percent) of the country's total area[2]. This goal should also be accompanied by a climate-smart national agricultural development policy and a green infrastructure development policy.
- Reduce forest degradation linked with shifting cultivation and forest harvesting to half the current rate by 2030. This is equivalent to an annual forest degradation rate of under 0.45 percent.
- Strengthen the National System of Protected Areas by reinforcing the institutional framework, drawing up and implementing joint management plans in a participatory manner and developing the System's ecotourism potential to achieve zero deforestation.
- Increase the productive forest area by up to 80 percent by 2030 by implementing sustainable management plans.
- Achieve sustainability and improve the efficiency of forestry and agriculture sectors and ensure equal benefits for men and women.
- Mitigate and compensate for potential negative impacts on forests from future productive activities, including infrastructure construction.

[2] The percentage of primary and secondary forests remains to be estimated due to the lack of an up-to-date forest inventory to determine the baseline situation.

Planning and implementation of REDD+ will be guided by cross-cutting principles of good governance listed below (PROFOR and FAO, 2011):

- Accountability: Political actors are accountable to all members of society for their actions and decisions associated with REDD+.
- Effectiveness: REDD+ activities generate the desired results.
- Efficiency: Implementation of REDD+ optimizes the use of human, financial and other resources without unnecessary waste or delay.
- Equity: REDD+ promotes equal opportunities among all members of society, with the aim of improving the well-being of women and men, including the equitable distribution of potential benefits and the reduction of underlying inequalities.
- Participation: REDD+ encourages the participation of the public and all stakeholders in decision making, implementation and evaluation, either directly or through legitimate intermediaries representing their interests. EN-REDD+ envisages a participatory approach. This will also be put into practice during the initiative's implementation. It will include processes to ensure the free, upstream and informed consent of local communities.
- Transparency: All information on the REDD+ process in the country is accessible and disseminated clearly and freely, allowing full public participation and monitoring.

The REDD+ vision has set the country on a long-term transition to a green economy, and PNI-REDD+ translates EN-REDD+ into specific actions, which are divided into national programmes and local integrated programmes. It aims to facilitate the mobilization of financial resources to meet REDD+ commitments.

Batete Municipality, Bioko Island
©FAO/Lorena Hojas Gascón

5.STRATEGIC INVESTMENT PROGRAMMES

To turn the PNI-REDD+ vision into reality, a portfolio of strategic REDD+ interventions for the period 2020–2030 has been proposed. This includes five national programmes with cross-cutting enabling and sectoral actions, and five local integrated programmes with actions at the jurisdiction level. These programmes are as set out in Table 4. During the implementation of these two types of programme, maximum coordination and synergy will be encouraged in order to capitalize on the transformative potential of the different approaches, set up a process of change, increase the likelihood of long-term emission reductions and reduce the risk of displacing emissions to other areas. However, national programmes and local integrated programmes can also be implemented independently if funding is limited.

A participatory process was conducted to identify, formulate and validate the investment programmes. This included eight group consultations (one for each national programme and three in local integrated programme areas III, IV and V). This involved the cooperation of 469 people, 37 percent of whom were women. Efforts were made to ensure that different age groups were represented in provincial workshops, with actors linked to different social groups, and in consultations with village council representatives. Participants were between 18 and 75 years old, with an average age of approximately 40 to 50. Interviews were conducted with, among others, national and international experts linked to the forest sector or the REDD+ process. Special emphasis was placed on public institutions, the private sector, academia and civil society and local community representatives. A women's workshop on Equatorial Guinea's GCF Country Programme was organized with representatives from numerous institutions to provide a forum for discussion and reflection. This made it possible to gather the opinions, knowledge, experiences and needs of Equatoguinean women.

Participation was representative in terms of different social groups (27.65 percent were Government representatives, 35.36 percent belonged to local communities, 24.43 percent worked in the private sector and 0.32 percent came from academia). It was also representative in terms of the different ethnic groups in the country (5 percent Bubis; 89 percent Fang; 4 percent Ndowe and 2 percent Bisio). Annex IV provides a full list of people interviewed and the main recommendations and suggestions that emerged during the consultations.

TABLE 4. PNI-REDD+ STRATEGIC INTERVENTIONS: NATIONAL PROGRAMMES AND LOCAL INTEGRATED PROGRAMMES

National programmes (PN)	PN 1	Land-use planning
	PN 2	Sustainable forest management
	PN 3	Agriculture and food security
	PN 4	Mining, energy and construction with REDD+
	PN 5	Governance for REDD+
Local integrated programmes (PIL)	PIL I	Province of Litoral (continental region)
	PIL II	Municipality of Niefang (continental region)
	PIL III	Province of Kie-Ntem (continental region)
	PIL IV	Bioko Island
	PIL V	Annobón Island

5.1. NATIONAL PROGRAMMES

The national programmes propose major cross-cutting and sectoral structural and political reforms at the national level.

- Cross-cutting national programmes help pave the way for REDD+ and for sustainable development in the various sectors. They address the direct and underlying causes of deforestation and forest degradation, in particular through land-use planning (PN 1), which serves as a reference framework for the development of the different sectors, and through improved governance (PN 5).
- Sectoral national programmes address the direct drivers of forest loss that are linked to a specific land use. These programmes focus on sustainable forest management (PN 2), climate-smart agriculture (PN 3) and the regulated development of mining, energy and construction sectors (PN 4), all of which are linked to upstream national land-use planning (PN 1).

National programmes facilitate and encourage the implementation of REDD+ actions at the local level through local integrated programmes. The national programmes and local integrated programmes are described in detail in Annex I.

PN 1. LAND-USE PLANNING

The Government will implement a Land-use Plan as an essential part of national development planning and will review and strengthen the system of tenure (or property ownership system). This will include developing a computerized land registry. The aim of the Land-use Plan will be to optimize and make more efficient use of the country's land, based on up-to-date studies. It will guide the development of the different sectoral policies; contribute to the the reduction of greenhouse gas emissions linked to forest loss, and consider the specific needs of the most vulnerable men and women. The Land-use Plan will provide a framework to guide and link subsequent investments in forests (PN 2); agriculture (PN 3); mining, energy and construction (PN 4); as well as investments at local level (PIL IV).

PN 2. SUSTAINABLE FOREST MANAGEMENT

Equatorial Guinea is committed to reducing forest loss caused by forestry activities, which are responsible for at least 23 percent of forest degradation; ensuring that forests are managed and harvested sustainably on the basis of up-to-date and accessible information; promoting legal timber production and marketing; encouraging the participation of local people and the development of small and medium-sized enterprises for timber and non-timber products; and increasing the added value and benefits of forests for men and women.

PN 3. AGRICULTURE AND FOOD SECURITY

The Government of Equatorial Guinea aims to adopt climate-smart agriculture linked to green value chains. This will allow greater diversification of production and increase yields from both shifting and intensive agriculture, which will contribute to food and nutrition security and reduce the country's dependence on food imports. A sustainable increase in agricultural production and productivity will comply with land-use plans and reduce and slow down the advance of the agricultural frontier, and as a result, agriculture development will be environmentally and climate friendly.

PN 4. MINING, ENERGY AND CONSTRUCTION WITH REDUCED EMISSIONS

The country is committed to developing the mining, energy and construction sectors using a more sustainable approach and with greater monitoring and control. It has been proposed to develop these sectors based on management plans that reduce the impact on forests and the environment. Intersectoral coordination will be improved, and the technical capacities of environmental Ministries and companies will be developed. Support will be provided for the regulation of future mining, energy and construction activities, and landscape restoration actions.

PN 5. GOVERNANCE FOR REDD+

REDD+ will be implemented through a participatory, transparent, inclusive and decentralized governance system using inter-institutional and intersectoral planning processes. PNI-REDD+ proposes to establish a solid institutional framework to ensure that the REDD+ process is consensual; incorporates national planning processes; is the result of joint work between different institutions; and is developed through specialized technical capacities. In the medium term, decentralization will be promoted to ensure that activities are implemented and monitored at the subnational level.

The REDD+ process continues to promote the active participation of people in decision making. A communication programme will disseminate all relevant information; gather the views of different stakeholders; and promote ownership of the REDD+ process by all country actors and beneficiaries. The communication programme will also facilitate access for local technicians and users to updated regulatory, technical and mapping information.

5.2. LOCAL INTEGRATED PROGRAMMES

Local integrated programmes are strategic interventions within a given local jurisdiction[3] that address the drivers of deforestation and forest degradation in an integrated manner, and promote sustainable local development. The intervention model focuses on an area where different land uses and land cover coexist. Its approach is therefore holistic and multisectoral. Local integrated programmes promote a sustainable, integrated and inclusive local development model that generates new livelihood opportunities for the local population.

These programmes complement national programmes, and both programmes respond to the direct and underlying drivers of deforestation and forest degradation that have been identified in the period 2004–2014 (MAGBMA and FAO, 2018). National programmes and local integrated programmes are closely interlinked. National programmes will create a favourable context for implementing local integrated programmes, while

3 Although there is no agreed definition of the jurisdictional approach to REDD+, it generally refers to a government-led integrated approach for the implementation of REDD+ in one or more legally defined territorial units (province, district) with low-emission development goals

TABLE 5. DEFORESTATION AND FOREST DEGRADATION RATES IN PROVINCES OF EQUATORIAL GUINEA

VARIABLE	LITORAL PROVINCE	CENTRO SUR PROVINCE	KIE-NTEM PROVINCE	WELLE NZAS PROVINCE	BIOKO	ANNOBÓN	EQUATORIAL GUINEA TOTAL
Annual rate of deforestation in 2004–2014, compared to the national average	Very high (~0,7%)	Low (~0,1%)	High (~0,3%)	Low (~0,2%)	Very high (0,5%)	Very high (0,7%)	0,3%
Annual rate of forest degradation in 2004–2014, compared to the national average	High (~0,8%)	High (~0,8%)	Very high (~1,9%)	High (~0,8%)	Low (0,4%)	Very high (1,4%)	0,9%

the lessons learned and challenges addressed in local integrated programmes will help adjust and improve national programme investments to ensure they are more enabling.

The areas covered by the five local integrated programmes were selected based on the following criteria:

- high rate of deforestation and/or forest degradation during the period 2004–2014 (see Table 5);
- risk of future tree cover loss based on modelling described in the Study on the Drivers of Deforestation and Forest Degradation in Equatorial Guinea (MAGBMA and FAO, 2018);
- multiple land uses;
- presence of population centres;
- representativeness of country regions; and
- interest and compliance of social actors evaluated during the consultation processes (see Annex IV).

As Table 5 shows, local integrated programmes are set up in provinces with very high rates of deforestation or forest degradation compared to the national average.

The only exception is Centro Sur Province, which is not subject to very high deforestation or forest degradation. However, one of its municipalities (Niefang) was selected because a significant number of harvesting contracts and timber processing companies are located there, and because of its strategic position in relation to the port of Bata.

Figure 6 and Table 6 describe the location and characteristics of the jurisdictions where local integrated programmes will be developed. Selecting certain local jurisdictions does not imply that REDD+ actions are not necessary in other areas of Equatorial Guinea, where deforestation and forest degradation processes also occur, albeit on a smaller scale. These priority areas have been chosen to serve as a model for future implementation throughout the country using an inclusive green development approach. The risk of emission displacement will be monitored through the National Forest Monitoring System and will be prevented through the cross-cutting activities of national programmes.

FIGURE 6. LOCATION OF LOCAL INTEGRATED PROGRAMMES

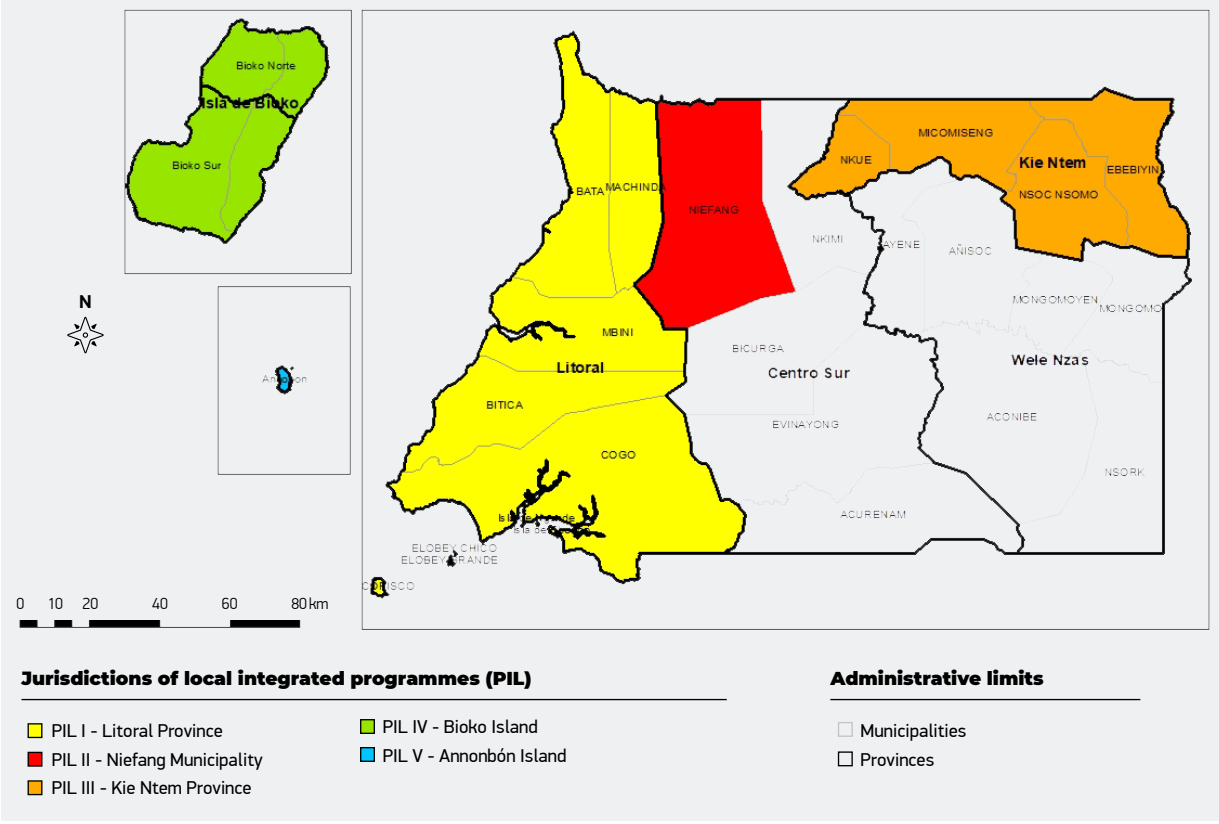


TABLE 6. CHARACTERISTICS OF TERRITORIAL JURISDICTIONS OF LOCAL INTEGRATED PROGRAMMES

VARIABLE	I	II	III	IV	V	TOTAL PIL	EQUATORIAL GUINEA TOTAL
	LITORAL PROVINCE	MUNICIPALITY OF NIEFANG	PROVINCE OF KIE-NTEM	BIOKO ISLAND	ANNOBÓN ISLAND		
Area (ha)*	694 025	202 470	323 315	194 311	2 031	1 461 151	2 696 261
Forest area in 2014 (ha)	92%	95%	87%	88%	76%		93%
Number of inhabitants in 2015**	366 130	n.d.	183 331	334 463	5 232		1 222 442
Number of villages registered	347	89	418	98	4	886	1 421
Annual rate of deforestation in the period 2004 2014, compared to the national average	Very high (~0,7%)	Low (~0,2%)	High (~0,3%)	Very high (0,5%)	Very high (0,7%)		0,3%
Annual rate of forest degradation in the period 2004–2014, compared to the national average	High (~0,8%)	High (~0,8%)	Very high (~1,9%)	Low (0,4%)	Very high (1,4%)		0,9%
Area classified as Conservation Domain in 2016 (ha and percentage of total area)***	189 889 (27%) 6 protected areas	36 060 (18%) 1 protected area	20 686 (6%) 2 protected areas	83 276 (43%) 2 protected areas	2 031 (100%) 1 protected area		509 510**** (19%) 13 protected areas
Communal forest area in 2016 (ha and percentage of total area)	37 100 (5%)	24 828 (12%)	~17 090 (5%)	0	0		99 910 (4%)
Area of forest plots in 2016 (ha and total percentage area)	19 544 (3%)	31 110 (15%)	~7 790 (2%)	0	0		66 096 (3%)
National forest area in 2016 (ha and percentage of total area)	301 872 (43%)	67 386 (33%)	56 637 (18%)	0	0		1 049 822 (39%)
Differentiating characteristics	• City and port of Bata • Percentage of urban population • Cultural diversity • Timber harvesting • Pressure on mangroves • Number of protected areas	• Percentage of forests in the Forest Production Domain • Informal harvesting • Timber industry	• Cross-border trading region • Number of villages • Former commercial farming area • Heavily degraded forests	• City of Malabo • Commercial timber harvesting prohibited • Former commercial farming area • 43% included in Conservation Domain	• Isolation and dependence on imports • Classification of the entire island as a protected area • Demand for some tree species		

Source: INEGE, 2015. INEGE, 2016. MAGBMA and FAO, 2018. MAB and WRI, 2016.

* National and subnational areas were estimated using a georeferenced vector layer (shape) of Equatorial Guinea, coinciding with land and sea borders, including islands in the Bay of Corisco. Because the total national calculated area differs from the official figure of 2 805 146 ha (INEGE, 2017), data would have to be adjusted for use in national and international reports. Consequently, the area of provinces and municipalities also differs from official figures published by the National Institute of Statistics.

** According to Guinea Ecuatorial en Cifras [Equatorial Guinea in Figures] (INEGE, 2016).

*** The Conservation Domain includes national parks, nature reserves and natural monuments.

**** Refers only to the land area of protected areas.

Afromontane forest, Bioko Island
© FAO / Lorena Hojas Gascón

6. PNI-REDD+ THEORY OF CHANGE

The investment model of PNI-REDD+ is summarized in the theory of change (Figure 7), which defines the transformations that the country wishes to bring about (what), the reasons for those changes (why) and the methods for achieving them (how).

The aim of the theory of change set out in PNI-REDD+ is for "Equatorial Guinea to contribute to the global fight against climate change and to country development to achieve the well-being of the people of Equatorial Guinea through REDD+, with an approach based on competitiveness, sustainability, integrated land management, food security, and social and gender equality" (MAGBMA and FAO, 2019).

This aim will be achieved through two impacts that combine environmental and socio-economic benefits:

- Equatorial Guinea has reduced its emissions from deforestation and forest degradation and increased, conserved and managed its forest carbon stocks; and
- People's living conditions have been improved through economic diversification following a sustainable and integrated land management approach.

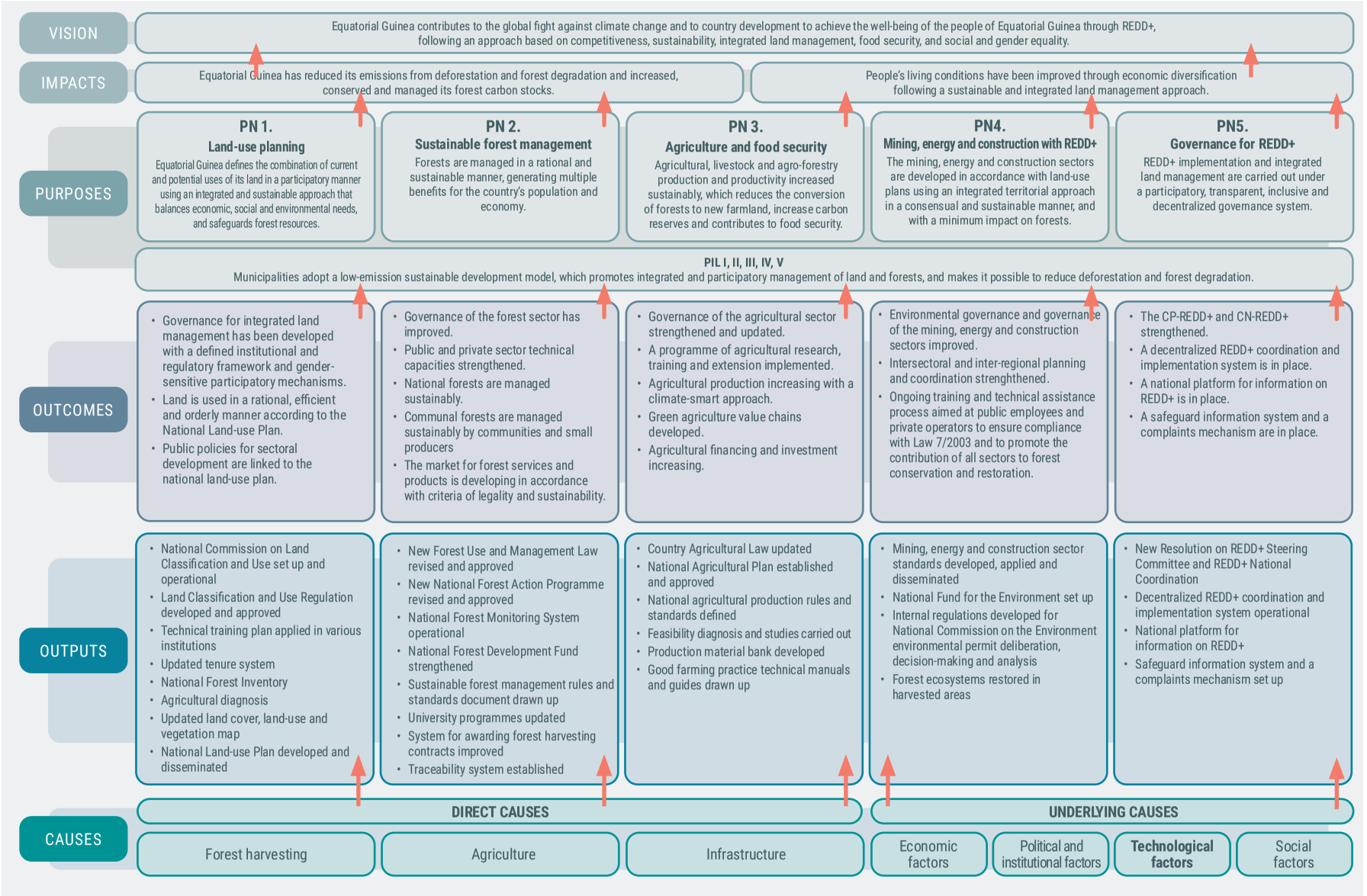
Impacts will be achieved through strategic investment programmes, including both national programmes and local integrated programmes.

The Government of Equatorial Guinea considers that the change it wishes to achieve is ambitious but realistic and feasible, considering the capacity for implementation and the transformation that the country has demonstrated in recent years. The scope of PNI-REDD+ responds to needs identified, political commitments, the interest of all related actors and the potential for transformation. PNI-REDD+ is also in line with the country's current plans and priorities, as reflected in the conclusions of the third National Economic Conference.

There is a window of opportunity to achieve a paradigm shift in the use and management of land and forests, and PNI-REDD+ aims to demonstrate the viability of a new model that contributes to economic diversification and improved living conditions for the people.

Aerial view of a farmer field school in Baloeri, Bioko Island
©FAO/Antonio Grunfeld

FIGURE 7. PNI-REDD+ THEORY OF CHANGE



7. NATIONAL POLITICAL FRAMEWORK

PNI-REDD+ is aligned with PNDES 2020 pillars and programmes, focusing on forests as natural capital with high potential to contribute to economic and social development, and on the importance of reducing forest loss. PNI-REDD+ is also consistent with the conclusions and recommendations of the third National Economic Conference, which lays the foundation for the future PNDS 2035. PNI-REDD+ considers legislation in force, respects and reflects guidelines set out in national sectoral programmes and plans, and is directly correlated with the strategic pillars developed in EN-REDD+ and with the nationally determined contribution (NDC).

7.1. CONTRIBUTION OF PNI-REDD+ TO PNDES 2020 AND THE FUTURE PNDS 2035

PNI-REDD+ contributes to the three pillars of PNDES 2020: building a diversified economy based on the private sector; massively strengthening human capital and improving quality of life; and optimizing quality governance for the public. It also contributes to four major programmes that form part of these pillars: food security; employment for all; 'Equatorial Guinea, ecological model'; and up-to-date administration.

Table 7 describes the contribution of PNI-REDD+ to PNDES 2020.

The third National Economic Conference was held in May 2019 and was entitled 'Consolidating Social Equity and Economic Diversification'. The Conference's goals are to:

- redirect the current PNDES 2020;
- present the achievements and challenges of PNDES 2020 to the national and international community;
- adapt planning schemes for economic and social development in the short, medium and long term; and
- incorporate the Sustainable Development Goals and the objectives of the African Union's Agenda 2063 into economic and social development planning schemes.

The Conference was organized into four thematic committees: poverty eradication, social inclusion and sustainable peace, productivity and industrialization, and environmental sustainability.

The resolutions of the Conference are closely related to the PNI-REDD+ priorities, including recommendations related to agriculture, forestry, the environment and climate change.

The Conference establishes the basis for redirecting the PNDES 2020 towards PNDS 2035, which has as its motto 'Together we will move forward'.

TABLE 7. ALIGNMENT OF MAJOR PILLARS AND PROGRAMMES OF PNDES 2020 WITH PNI-REDD+

		PILLARS OF PNDES 2020			
		Building a diversified economy based on the private sector	**Massively strengthening human capital and improving quality of life**	**Optimizing quality governance for the public**	
		MAJOR PROGRAMMES OF PNDES 2020			
		Food security	**Employment for all**	**Equatorial Guinea, ecological model**	**Up-to-date administration**
PNI-REDD+	**PN 1. Land-use planning**	**Purpose 1:** Equatorial Guinea defines the combination of current and potential uses of its land in a participatory manner using an integrated and sustainable approach that balances economic, social and environmental needs, safeguards forest resources, and reduces the emissions of land-use-related sectors.			
	PN 2. Sustainable forest management		**Purpose 2:** Forests are managed in a rational and sustainable manner generating multiple benefits for the country's population and economy..		
	PN 3. Agriculture and food security	**Purpose 3:** Agricultural, livestock and agroforestry production and productivity are increased sustainably based on the land-use plan, which reduces the conversion of forests to new farmland, increases carbon reserves and contributes to food security.			
	PN 4. Mining, energy and construction with REDD+			**Purpose 4:** The mining, energy and construction sectors are developed using an integrated territorial approach in a consensual and sustainable manner, and with a minimum impact on forests.	
	PN 5. Governance for REDD+				**Purpose 5:** REDD+ implementation and integrated land management are carried out under a participatory, transparent, inclusive and decentralized governance system. This considers the needs, customs and opinions of Equatoguinean men and women as well as economic, social and environmental aspects, and allows the dissemination of public information and accountability.
	PIL I: Litoral Province				
	PIL II: Municipality of Niefang				
	PIL III: Kie-Ntem Province				
	PIL IV: Bioko Island				
	PIL V: Annobón Island				

7.2. ALIGNMENT OF PNI-REDD+ WITH OTHER NATIONAL POLICIES AND LEGISLATION

PNI-REDD+ programmes are linked to environmental agreements signed by the country and national programmes related to land-use sectors. Table 8 sets out national sectoral programmes or plans related to PNI-REDD+.

The degree of implementation of the national programmes set out in Table 8 is limited. The main challenge for their implementation is the recent political and financial prioritization of other productive sectors due to the economic boom in the country following the discovery of oil in the late 1990s.

Many of these national programmes are technically sound and have been developed through participatory processes. However, they refer to sectors that have not had sufficient political and financial support, nor sufficient institutional and technical capacities in recent years. In some cases, national plans suffer from a lack of up-to-date and reliable data in the country.

These previous experiences have provided the following lessons on what is required for the efficient implementation of a national programme, such as the PNI-REDD+:

- Consensus at the national level: PNI-REDD+ is particularly concerned with being drawn up in a participatory and multisectoral manner and having an inclusive governance system.
- Prioritizing the plan or programme at political level and reflecting it in the national development framework: although previous annual national priorities did not include forests, land, REDD+ or climate,

TABLE 8. NATIONAL SECTORAL STRATEGY DOCUMENTS AND PROGRAMMES RELATED TO PNI-REDD+

APPROVAL DATE	PROGRAMMES/PLANS
2016	National Strategy and Action Plan for Non-Timber Forest Products in Equatorial Guinea (pending formal approval)
2015	Nationally determined contributions (NDCs)
2015	National Action Plan to Combat Deforestation and Land Degradation in Equatorial Guinea.
2015	National Plan for Agricultural Investment and Food and Nutritional Security, under the Comprehensive Africa Agriculture Development Programme
2015	National Biodiversity Conservation Strategy and Action Plan
2014	Energy Sector Action Plan
2013	National Action Plan for Adaptation to Climate Change
2013	Cross-cutting strategy for the sustainable management of soils and forests
2012	National Programme for Food Security
2010	National Action Plan for the Conservation of Coastal and Marine Ecosystems in Equatorial Guinea
2005	National medium-term investment plan for agriculture and rural development
2000	National Forestry Action Programme (PNAF)

all these factors are incorporated in new political priorities, as observed in the recommendations of the third National Economic Conference, which are being considered in the drawing up of PNDS 2035.

- Sufficient human and technical capacities in the institutions involved: capacity building is one of the priorities of the national programmes and local integrated programmes covered by PNI-REDD+.
- National and international financial resources: national budgets for 2020 include items linked to PNI-REDD+, particularly in relation to land-use planning. The Government of Equatorial Guinea is also making efforts to mobilize additional international funding.
- Fostering transformative processes based on a combination of actions at the national and local level: PNI-REDD+ combines national proposals with specific local actions promoted through local integrated programmes. These will have a bottom-up effect and influence future plans and policies.
- Supporting policy instrument development processes with training and communication activities used to publicize the content of these instruments to different categories of actors and adapt the messages to the various groups and goals. The lack of general knowledge about legislation and policies linked to sustainable natural resource management implies that institutions and other actors have a limited ability to meet their requirements: PNI-REDD+ emphasizes the importance of communication and dissemination in its governance system, as can be seen in PN 5.

The Government of Equatorial Guinea is considering all these aspects and striving to ensure the effective implementation of PNI-REDD+ within the framework of the future PNDS 2035. One of the main risks is that the procedure for allocating public funds is subject to complex bureaucratic processes, which do not always respect initial national plan deadlines. This risk is mitigated by the strong political interest in economic diversification.

The economic recession that has affected Equatorial Guinea since 2014 is a challenge for the country, but also an opportunity to diversify the economy through multiple sectors that have great potential. Equatorial Guinea's current priority is to diversify its economy and increase the well-being of the population. PNI-REDD+ responds to this priority by contributing to the fight against climate change, and promoting socio-economic development and the conservation of Equatorial Guinea's natural capital. PNI-REDD+ is developed within the framework of this window of opportunity.

The political and legal framework of Equatorial Guinea is relatively comprehensive, although some instruments need to be updated to adapt them to the international context (e.g. REDD+; forest law enforcement, governance and trade (FLEGT); UNFCCC) and the national context (e.g. economic development, current status of rural populations and forests) (MAGBMA and FAO, 2018).

The country has yet to develop a national strategy to combat climate change that incorporates both, mitigation and REDD+ activities, as well as activities that support climate change adaptation (MAGBMA and FAO, 2018; Nguema and Pavageau, 2013). Also needed are actions to harmonize and eliminate legal shortcomings in the Forestry Law and the Environment Law (MBPMA, 2000; Ngema and Pavageau, 2013; MPMA, 2014), and expand the Forestry Law to include adequate standards for biodiversity preservation and nature conservation in addition to the legislative development of timber production (CUREF, 1998). There is also a need to develop more specific regulations on non-timber forest products (FAO, 2016) and a regulatory framework covering payment for environmental services and ownership of forest carbon stocks; and to harmonize land ownership rights (IUCN, 2000; MPMA, 2014).

In recent years, the publication of Decrees and Ministerial Orders relating to forest use (particularly 2017) has created some confusion in the regulatory framework, and there are plans to update them, especially the Forestry Law (MAGBMA and FAO, 2018).

7.3. RELATIONSHIP BETWEEN PNI-REDD+ AND NATIONALLY DETERMINED CONTRIBUTION

The nationally determined contribution (NDC) to the UNFCCC established Equatorial Guinea's aim of reducing its emissions by 20 percent compared to 2010 levels before 2030, and achieve a 50 percent reduction by 2050. This is dependent on favourable, predictable and viable technical and financial support through climate financing arrangements from the national Government and the international community.

The NDCs define climate change adaptation and mitigation measures in the following sectors: energy, transport, AFOLU, industry; and waste. Measures proposed for the AFOLU sector include: 'Implementation of the strategy to reduce emissions from deforestation and forest degradation' (MPMA, 2015b).

As the instrument for implementing EN-REDD+, PNI-REDD+ responds to Equatorial Guinea's NDCs and agreements laid down in the Paris Agreement.

7.4. RELATIONSHIP BETWEEN THE PNI-REDD+ AND EN-REDD+ AND THE NATIONAL ACTION PLAN FOR ADAPTATION TO CLIMATE CHANGE

PNI-REDD+ has been designed as an instrument for implementing EN-REDD+. National programmes and local integrated programmes laid down in PNI-REDD+ are in line with the strategic pillars of EN-REDD+, as described in Table 9.

EN-REDD+ is divided into eight strategic pillars that address the identified drivers of deforestation and forest degradation in Equatorial Guinea:

- Four sectoral pillars: agriculture; forests; priority ecosystems; mining, energy and infrastructure.
- Four cross-cutting pillars: land planning; governance; economic opportunities; knowledge and communication.

The ultimate goal of the National Action Plan for Adaption to Climate Change (PANA) is to build resilience to climate change in recognition of the country's high vulnerability and existing inequalities. The specific objectives are:

- develop adaptation strategies, policies and measures in Equatorial Guinea based on a plan of priority activities that address the urgent and immediate impacts of climate change;
- attract a wide range of stakeholders in the country and encourage the PANA process, which is driven by specific national circumstances related to climate change vulnerability and adaptation;
- improve Equatorial Guinea's institutional and technical capacities to deal with the effects of climate change;
- develop links with mitigation mechanisms and environmental initiatives; and
- raise awareness of climate change in society and among decision makers.

PANA adaptation measures were selected through a participative process based on the following criteria: reducing vulnerability, activity sustainability, cost-effectiveness and contribution to sustainable development. These adaptation activities are classified in the following sectors:

- infrastructure,
- water and health,
- fishing and marine ecosystems,
- agriculture and forests, and
- energy.

PNI-REDD+ and PANA are closely related, and the potential for synergy is great. The priority sectors of PNI-REDD+ and an assessment of their vulnerability to climate change is one of the measures provided for in PANA. Vulnerability assessments and climate change adaptation measures will be useful in guiding land use and management plans.

These sectors are also interrelated. For example, the forestry and energy sectors are both dependent on water resource availability. This poses a major challenge when integrating and coordinating disciplines and expert groups from different sectors.

The coordinated and integrated implementation of PANA and PNI-REDD+ will contribute to promoting synergies, the sustainability of REDD+ activities, the enhancement of potential funding sources and the enhancement of climate change adaptation and mitigation benefits.

Table 10 describes the relationship between PNI-REDD+ programmes and PANA pillars.

TABLE 9. RELATIONSHIP BETWEEN PNI-REDD+ AND EN-REDD+

STRATEGIC PROGRAMMES OF THE REDD+ NATIONAL INVESTMENT PROGRAMME	NATIONAL REDD+ STRATEGY							
	SECTORAL PILLARS				CROSS-CUTTING PILLARS			
	E1: Agriculture	E2: Forests	E3: Priority ecosystems	E4: Mining, energy and infrastructures	E5: Land planning	E6: Governance	E7: Economic opportunities	E8: Knowledge and communication
PN 1 Land-use planning					✓			✓
PN 2 Sustainable forest management		✓	✓		✓	✓	✓	✓
PN 3 Agriculture and food security	✓				✓	✓	✓	✓
PN 4 Mining, energy and construction with REDD+				✓	✓	✓		✓
PN 5 Governance for REDD+						✓		✓
PIL I Litoral Province	✓	✓	✓	✓	✓	✓	✓	
PIL II Municipality of Niefang	✓	✓			✓	✓	✓	
PIL III Kie-Ntem Province	✓	✓	✓		✓	✓	✓	
PIL IV Bioko Island	✓	✓	✓	✓	✓	✓	✓	
PIL V Annobón Island	✓	✓	✓	✓	✓	✓	✓	

TABLE 10. RELATIONSHIP BETWEEN PNI-REDD+ AND PANA

STRATEGIC INVESTMENT PROGRAMMES OF PNI-REDD+	NATIONAL ACTION PLAN FOR ADAPTATION TO CLIMATE CHANGE										
	SECTORAL PILLARS					CROSS-CUTTING PILLARS					
	E1: Agriculture	E2: Forests	E3: Priority ecosystems	E4: Mining, energy and infrastructures	E5: Land planning	E6: Governance	E7: Economic opportunities	E8: Knowledge and communication	E9: Capacity-building	E10: Education and awareness	E11: Gender issues
PN 1 Land-use planning	✓	✓		✓		✓	✓				
PN 2 Sustainable forest management	✓		✓	✓			✓	✓		✓	✓
PN 3 Agriculture and food security				✓				✓	✓		✓
PN 4 Mining, energy and construction with REDD+	✓				✓	✓	✓	✓		✓	
PN 5 Governance for REDD+			✓	✓		✓	✓		✓	✓	✓
PIL I Litoral Province	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓
PIL II Municipality of Niefang	✓			✓		✓	✓	✓	✓	✓	✓
PIL III Kie-Ntem Province	✓			✓		✓	✓	✓	✓	✓	✓
PIL IV Bioko Island	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PIL V Annobón Island	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓

7.5. ONGOING PROJECTS AND PROGRAMMES LINKED TO PNI-REDD+

There are various ongoing projects linked to PNI-REDD+. Some of these are described in Table 11.

The Equatorial Guinea Country Programme for the GCF was developed through a GCF readiness support project.

This was nationally validated and submitted to the GCF in 2019[4]. This document describes the country's priority projects and programmes in the fight against climate change in accordance with commitments set out in Equatorial Guinea's NDCs.

A significant proportion of GCF Country Programme projects are in line with PNI-REDD+.

[4] Available at: https://www.greenclimate.fund/document/equatorial-guinea-country-programme.

TABLE 11. ONGOING PROJECTS LINKED TO PNI-REDD+

DONOR	PROJECT	IMPLEMENTING BODY	BUDGET (USD)	STATUS	PLANNED OUTPUTS
GCF	Preparatory support for Equatorial Guinea's participation in the GCF	FAO	300 000	Finalized in October 2019	• Equatorial Guinea Country Programme for the GCF • No-objection methodology
GCF	Preparatory support during initial stages of REDD+	FAO	600 000	Finalized in February 2020	• Design of National Forest Monitoring System • Design of the National Forest Inventory • Development of the Forest Reference Emissions Level
Global Environment Facility (GEF)	Promoting community-based forest management to ontribute to climate change mitigation and sustainable livelihoods	FAO	5 329 000	Formulation process	• Pilot experiences in local community management of agroforestry and forestry systems
GEF / Capacity-building Initiative for Transparency	Development of Equatorial Guinea's technical and institutional capacities in the AFOLU sector to improve transparency under the Paris Agreement	FAO	1 000 000	Approved in June 2020	• Land classification system • Country report on emission factors by land class, to support the carbon stock estimate. • System for archiving and disseminating documents, data and products related to the AFOLU sector, supporting national greenhouse gas reports. • Action plan on measurement, reporting and verification
GEF	Sustainable energy for all	United Nations Development Programme	3 500 000	Ongoing	
GEF	Regional study of protected areas	United Nations Development Programme and Central African Forests Commission		Ongoing	

The following priority projects of the GCF Country Programme are linked to REDD+:

- land classification and sustainable management of forestry for EN-REDD+;
- promoting sustainable, ecological farming; and
- restoration and sustainable management of vulnerable mangrove ecosystems.

The GCF constitutes one of the possible sources of funding for implementation of PNI-REDD+.

It is also a framework for coordinating actions promoting a paradigm shift towards low-emission, climate change-resilient development in Equatorial Guinea.

8. INSTITUTIONAL FRAMEWORK FOR IMPLEMENTING PNI-REDD+

Establishment of an institutional framework for REDD+ began in 2014 when Equatorial Guinea's National REDD+ Steering Committee (CP-REDD+) and the REDD+ National Coordination (CN-REDD+) were officially approved by Resolution 050/2014. Under this resolution, CP REDD+ is co-chaired by the Directorate-General for the Environment and the Directorate-General for Forestry (now the Directorate-General for Environmental Conservation and the Directorate-General for Forestry Exploitation and Industrialization) of the Ministry of Agriculture, Livestock, Forests and Environment (MAGBOMA).

CP-REDD+ is the highest authority responsible for decision making, planning and monitoring of the REDD+ process. CP-REDD+ has representation at the highest levels and involves actors from different institutions and sectors.

CN-REDD+ is the executive and technical advisory arm of CP-REDD+. Its functions are currently defined through the Administrative, Accounting and Financial Procedures Manual, which determines the five units supporting implementation of the REDD+ process:

- the projects and programmes unit, which is responsible for identifying, approving, implementing and monitoring projects related to REDD+ strategic actions;
- the National Forest Monitoring System unit for forest reference (emission) levels and measuring, notifying and verification, which is responsible for processing Forest Reference Emission Levels, with measurement, notification, verification and data and information management functions;
- the strategic environmental and social assessment unit, which is responsible for implementing the Safeguards Information System and preparing an information summary on ways of addressing and respecting safeguards;
- the information, education and communication unit, which is responsible for communication, awareness-raising and preparing information documents on REDD+; and
- the administrative unit, which is in charge of administrative, accounting, budgetary, analytical, financial and material management in accordance with procedures available in REDD+ for Equatorial Guinea.
- A decentralized REDD+ structure, with subnational representation at the provincial, district and village council levels is planned but has not yet been developed on the ground (MPMA, 2014).
- CN-REDD+ will support CP-REDD+ in implementing the PNI-REDD+, specifically by monitoring and evaluating REDD+ projects and programmes, which includes:
- cooperating and maintaining regular contact with the teams implementing REDD+ programmes and projects; collecting spatial and non-spatial data on the progress and impact of the various national and local initiatives; and suggesting adaptation measures where necessary;
- monitoring the progress that has been achieved, specifically regarding EN-REDD+ objectives and the expected impact of PNI-REDD+;
- facilitating synergies between programmes and identifying gaps and opportunities for mobilizing supplementary funding sources; and
- collecting data for the Safeguard Information System.

To strengthen the REDD+ institutional framework (Figure 8), approval is expected of a new resolution that will review the composition of both bodies.

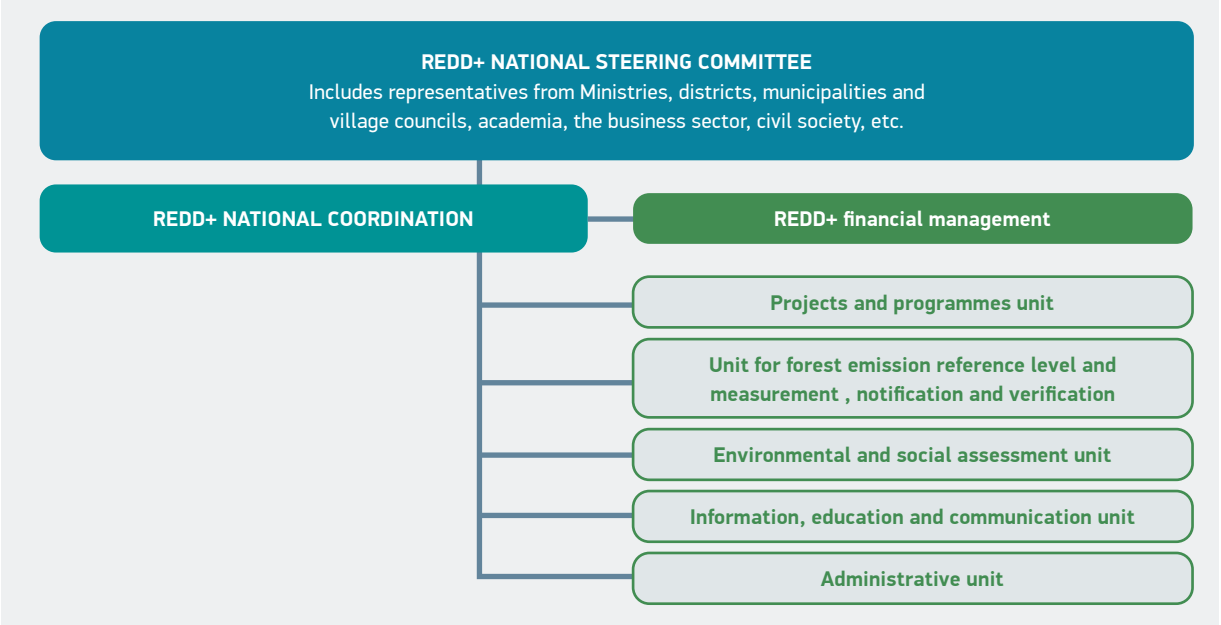
The resolution will ensure that CP-REDD+ becomes more representative by incorporating authorities that can facilitate sectoral coordination, as well as representatives from the Senate and Congress and other representatives from the Directorates-General, academia, the business sector, the Chamber of Commerce, local communities, associations of women, young people and ethnic groups, and civil society. The resolution will also establish that CP-REDD+ is to be led at the highest level and co-led by the Ministers of Finance, Economy and Planning (MHEP) and MAGBOMA, and that CN-REDD+ will be its executive arm, led at Directorate level. These changes have been prompted by the positive experience of the Steering Committee in charge of developing PNI-REDD+. The Committee was set up on a temporary basis and has performed its duties effectively under the leadership of senior managers from the MHEP and MAGBOMA.

Reviewing the composition of CP-REDD+ would facilitate inter-institutional and cross-sectoral coordination for REDD+. The decisions of CP-REDD+ could be submitted to the Council of Ministers to ensure that they are considered in planning and decision-making processes associated with economic and social development. CP-REDD+ would also incorporate a PNI-REDD+ implementation supervision function.

Regarding REDD+ financial management, EN-REDD+ proposes the preparation of a specific study on the planning and coordination needs of the various REDD+ funding sources. The country has experience in attracting international funding and investors, and implementing large investment programmes, particularly those connected with infrastructure development. Until the specialized planning and financing unit is established, the Government will also rely on international cooperation to carry out these functions. Possible international partners include: United Nations Development Programme (UNDP), FAO, the International Union for Conservation of Nature (IUCN), the Centre for International Forestry Research (CIFOR), the United Nations Environment Assembly, the World Bank, the World Resources Institute (WRI), Ecoguinea, Montrose Equatorial Guinea, the Korea Forest Service, the French Development Agency, the Wildlife Conservation Society, ONF International and the Central African Forest Observatory. Potential national partners include: the National University of Equatorial Guinea, the association Friends of Nature and Development in Equatorial Guinea (ANDEGE), the African Women's Network for Sustainable Development and the Local Development Association.

Equatorial Guinea aims to actively engage the private sector in implementing REDD+. A study on opportunities and barriers for the private sector to contribute to REDD+ is being conducted in 2020. This will include a participatory workshop with private sector representatives.

FIGURE 8. OUTLINE OF THE INSTITUTIONAL FRAMEWORK FOR IMPLEMENTING REDD+



9. BUDGET

The total PNI-REDD+ budget for the period 2020–2030 is USD 185 million, divided between USD 110 million for national programmes (Table 12) and USD 75 million for local integrated programmes (Table 13).

The annual budgetary breakdown is shown in Table 14.

TABLE 12. NATIONAL PROGRAMME BUDGET AND IMPLEMENTATION PERIOD

NATIONAL PROGRAMME (PN)	BUDGET (USD)	IMPLEMENTATION PERIOD	
		2020-2025	2026-2030
1. Land-use planning	9 000 000	X	
2. Sustainable forest management	40 000 000	X	X
3. Agriculture and food security	52 500 000	X	X
4. Mining, energy and construction with REDD+	4 000 000	X	
5. Governance for REDD+	4 500 000	X	X
Total	**110 000 000**		

TABLE 13. LOCAL INTEGRATED PROGRAMME BUDGET AND IMPLEMENTATION PERIOD

LOCAL INTEGRATED PROGRAMME (PIL)	BUDGET (USD)	IMPLEMENTATION PERIOD	
		2020-2025	2026-2030
I: Litoral Province	20 000 000	X	X
II: Municipality of Niefang	10 000 000	X	X
III: Kie-Ntem Province	20 000 000	X	X
IV: Bioko Island	15 000 000	X	X
V: Annobón Island	10 000 000	X	X
Total	**75 000 000**		

TABLE 14. ANNUAL BREAKDOWN OF BUDGETS FOR NATIONAL PROGRAMMES AND LOCAL INTEGRATED PROGRAMMES (IN USD)

PROGRAMMES	IMPLEMENTATION PERIOD											PROGRAMME BUDGET (USD)
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
PN 1 Land-use planning	2 000 000	3 000 000	1 500 000	1 000 000	1 000 000	500 000						9 000 000
PN 2 Sustainable forest management	3 000 000	5 000 000	6 000 000	6 000 000	6 000 000	4 000 000	3 000 000	3 000 000	2 000 000	2 000 000	1 000 000	40 000 000
PN 3 Agriculture and food security	4 000 000	5 000 000	5 000 000	5 000 000	5 000 000	5 000 000	5 000 000	5 000 000	4 000 000	5 000 000	3 500 000	52 500 000
PN 4 Mining, energy and construction with REDD+	500 000	1 000 000	1 000 000	500 000	500 000	500 000						4 000 000
PN 5 Governance for REDD+	500 000	500 000	500 000	500 000	500 000	500 000	400 000	400 000	300 000	200 000	200 000	4 500 000
TOTAL PN	**10 000 000**	**14 500 000**	**14 000 000**	**13 000 000**	**12 000 000**	**10 500 000**	**8 400 000**	**8 400 000**	**7 300 000**	**7 200 000**	**4 700 000**	**110 000 000**
PIL I Litoral Province	2 000 000	3 000 000	2 000 000	2 000 000	2 000 000	2 000 000	2 000 000	2 000 000	1 000 000	1 000 000	1 000 000	20 000 000
PIL II Municipality of Niefang	1 000 000	1 500 000	1 000 000	1 000 000	1 000 000	1 000 000	1 000 000	1 000 000	500 000	500 000	500 000	10 000 000
PIL III Kie-Ntem Province	2 000 000	3 000 000	2 000 000	2 000 000	2 000 000	2 000 000	2 000 000	2 000 000	1 000 000	1 000 000	1 000 000	20 000 000
PIL IV Bioko Island	1 000 000	2 000 000	2 000 000	2 000 000	2 000 000	2 000 000	1 000 000	1 000 000	1 000 000	500 000	500 000	15 000 000
PIL V Annobón Island	1 000 000	1 000 000	1 000 000	1 000 000	1 000 000	1 000 000	1 000 000	1 000 000	1 000 000	500 000	500 000	10 000 000
TOTAL PIL	**7 000 000**	**10 500 000**	**8 000 000**	**8 000 000**	**8 000 000**	**8 000 000**	**7 000 000**	**7 000 000**	**4 500 000**	**3 500 000**	**3 500 000**	**75 000 000**
										TOTAL BUDGET (USD)		185 000 000.00

FIGURE 9. BUDGET DISTRIBUTION FOR NATIONAL PROGRAMMES AND LOCAL INTEGRATED PROGRAMMES (IN MILLIONS OF USD)

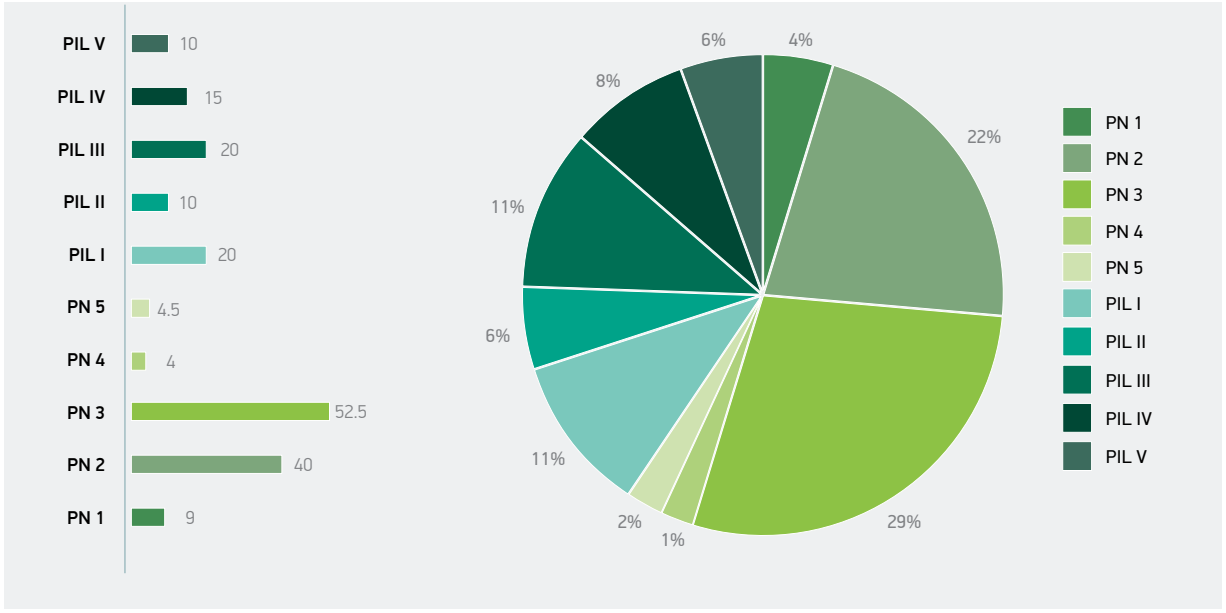


Figure 9 shows the budget distribution for the various programmes

Quarry in Batoicopo, Bioko Island
©FAO/María Vidal Rigo

Ole River, second waterfall, scientific reserve of Caldera de Luba, Bioko Island
©FAO/Ricardo Domínguez

10. SOURCES OF FUNDING AND PRIORITIZATION

Planned sources of funding for PNI-REDD+ include:

- national public funds;
- donations or loans to the State from multilateral cooperation related to REDD: CAFI, GCF[5], GEF, the Forest Investment Programme, United Nations Programme for Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (UN-REDD), Norway's International Climate and Forest Initiative (NICFI);
- opportunities for cooperation within the framework of the Central African Forest Commission (COMIFAC), the Economic Community of Central African States (ECCAS), the Economic and Monetary Community of Central Africa (CEMAC), the African Union, the Coalition of Ministers of Finance for Climate Action, or other regional and international initiatives.
- bilateral cooperation; and
- private investments or donations provided by companies that support the environmental sector within the framework of their social and environmental accountability programmes.

The contribution from national public funds would include:

- public investment budgets 2020–2022, which include an allocation for land-use planning, currently pending assignment;
- resources allocated by the State as part of the MAGBOMA annual budget;
- a percentage of the income received from fees paid by timber companies into the National Forestry Development Fund (FONADEFO);
- revenue from environmental and ecosystem service payments, particularly those related to compensation for REDD+ results;
- specific fees that could be established as environmental compensation for mining and oil extraction activities; and
- specific funding sources for national programmes and local integrated programmes that are yet to be confirmed.

Table 15 includes an estimate of options that the country is exploring.

All national and local integrated programmes have been identified as priorities for addressing the direct and indirect drivers of forest loss. However, the following stand out as major strategic initiatives:

- Among national programmes, PN 1, followed by PN 5, because they will establish the necessary foundation for efficient development of the programmes.
- Among local integrated programmes, PIL V on Annobón Island, because this is the region of the country with the highest deforestation rate and the highest degradation rate despite its status as a protected area. These are followed by programmes in the continental region, where there is a perceived greater urgency to change the pattern of large- and small-scale forest use.

As Table 15 shows, the currently available financial resources are insufficient to meet all the needs and aspirations of PNI-REDD+. The government of Equatorial Guinea is making significant efforts to mobilize various forest and climate funds, which would provide the international funding and technical support that the country needs.

For the first investment cycle of the 2020–2030 period, the Government of Equatorial Guinea has prioritized national budgets, CAFI, GEF and GCF, as the sources of funding for PNI-REDD+ with the greatest potential. The multiple funding sources will allow for the development of the tools necessary to implement PNI-REDD+, both for national programmes and local integrated programmes.

[5] In 2019, Equatorial Guinea benefited from the GCF Readiness Support Programme, which contributed to the design of the National Forest Monitoring System and the Forest Emission Reference Levels.

TABLE 15. FUNDING SOURCES

REDD+ NATIONAL INVESTMENT PLAN	BUDGET (USD)	FUNDING SOURCES	
		NATIONAL (USD)	OTHER POSSIBLE FUNDING SOURCES
PN 1: Land-use planning	9 000 000	5 700 000	CAFI, GEF Capacity-building Initiative for Transparency
PN 2: Sustainable forest management	40 000 000		CAFI, GEF
PN 3: Agriculture and food security	52 500 000		African Development Bank World Bank
PN 4: Mining, energy and construction with REDD+	4 000 000		GCF, World Bank
PN 5: Governance for REDD+	4 500 000		CAFI, GCF
PIL I: Litoral Province	20 000 000		CAFI, GFC 6 (2 million USD), GFC
PIL II: Municipality of Niefang	10 000 000		CAFI, GEF 6 (1 million USD), GCF
PIL III: Kie-Ntem Province	20 000 000		CAFI, GEF 6 (2 million USD), GEF 7
PIL IV: Bioko Island	15 000 000		CAFI, GEF 7, GFC
PIL V: Annobón Island	10 000 000		CAFI, GEF 7, GFC
Total	**185 000 000**		

11. INVESTMENT EVALUATION AND PRIORITIZATION

11.1. COST AND BENEFIT

In its National REDD + Strategy (EN-REDD+), Equatorial Guinea has set a goal of reducing its greenhouse gas emissions from the AFOLU sector by 20 percent by 2030, and further reducing those emissions by 50 percent before 2050 (MAGBOMA, 2019). This REDD+ goal is aligned with Equatorial Guinea's commitment in its NDCs to reduce by 20 percent all its GHG emissions by 2030.

The benefits PNI-REDD+ delivers in terms of climate change mitigation are estimated at 2 million tCO_2eq per year, corresponding to 20 percent of the 10 million tCO_2eq per year of emissions from the AFOLU sector, as reported in the first national communication from Equatorial Guinea to the UNFCCC (MAGBOMA, 2019). Climate change mitigation benefits are expected to be 20 million tCO_2eq by 2030 (end of the PNI-REDD+ implementation period 2020-2030) and 40 million tCO_2eq by 2040 (end of the PNI-REDD+ capitalization period 2030-2040).

It is estimated that the implementation of the PNI-REDD+ has the potential to further increase the reduction of emissions up to 50 percent, (i.e. 5 million tCO_2eq per year). Calculations of the emission reduction potential, which consider only the planned investments in sustainable forest management and climate-smart agriculture, indicate that this reduction of 5 million tCO_2eq per year is achievable if the PNI-REDD+ is implemented (see Table 16 for data obtained through the ExAct tool, version 8.5).

Future inventories and national greenhouse gas communications in the AFOLU sector will improve the estimation of emissions related to agricultural and forestry activities in the country, as well as the emission reductions generated due to the introduction of sustainable practices.

TABLE 16. ESTIMATION OF THE EMISSION REDUCTION POTENTIAL OF THE PNI-REDD+

PNI-REDD+ STRATEGIC INVESTMENTS AND EXPECTED OUTPUTS	POTENTIAL EMISSIONS REDUCTION (estimated through ExAct)
PN 2: 20% of country forests (500 000 ha) have a management plan by 2030.	4.1 million tCO_2eq per year
	83 million tCO_2eq in 20 years
PN 3: 15 000 ha of shifting cultivation use climate-smart agriculture practices; 10 000 ha of agroforestry systems in degraded areas; 10 000 ha of extensive and industrial agriculture established with sustainable practices for yield enhancement in degraded areas.	0.4 million tCO_2eq per year
	8 million tCO_2eq in 20 years
	4.5 million tCO_2eq per year
	91 million tCO_2eq in 20 years

11.2. ADDITIONAL SOCIAL, ECONOMIC AND ENVIRONMENTAL BENEFITS

In addition to reducing carbon emissions and increasing forest carbon stocks, PNI-REDD+ will generate additional social, economic and environmental benefits that are in line with the PNI-REDD+ approach for sustainability, competitiveness and inclusiveness (Table 17).

Additional social benefits

PNI-REDD+ aims to improve the living conditions of people in Equatorial Guinea by:

- increasing the participation of stakeholders and beneficiaries in land-related decision making and the distribution of potential benefits from REDD+;
- improving food and nutritional security, and diversifying and increasing food production in a sustainable manner; and;
- reducing social inequality and contributing to gender equity and women's empowerment.

PNI-REDD+ also contributes significantly to improving governance and strengthening the country's institutions.

Additional economic benefits

PNI-REDD+ will contribute to boosting the economy and increasing household incomes through investments aimed at diversifying and increasing agricultural and forestry productivity; encourage community participation in joint land management (e.g. ecotourism); develop small and medium-sized enterprises; improve agricultural, forestry and agroforestry product value chains, including product processing, storage and marketing; and ensure the participation and empowerment of women and the most vulnerable groups. It will also promote the diversification of forest species, products and services, including non-timber forest products, thus generating higher economic returns from harvested forests, increasing economic opportunities and contributing to food security and nutrition.

Additional environmental benefits

The development and implementation of land-use plans, forest management plans and joint management plans for protected areas will facilitate the conservation and regeneration of biodiversity, forests and their environmental services. Regulation and control of activities that have negative impacts (e.g. construction, mining and energy) will also lead to additional environmental benefits.

The conservation of forests and protected areas will safeguard water resources and contribute to their regulation. It will also reduce the risk of soil erosion by increasing soil fertility. It is essential to recognize and value the different areas of know-how and the capacities of men and women with regard to natural resource management.

Equatorial Guinea is a country with an extensive amount of forest cover that is home to a great deal of animal and plant biodiversity and provides other environmental services. This natural heritage is a significant source of wealth and can provide an alternative pathway to support the diversification of the Equatoguinean economy. PNI-REDD+ will also contribute significantly to conserving and improving biodiversity in the country.

School children in Batete, Bioko Island
©FAO/Lorena Hojas Gascón

TABLE 17. ADDITIONAL SOCIO-ECONOMIC AND ENVIRONMENTAL BENEFITS OF NATIONAL INVESTMENT PROGRAMMES

INVESTMENT PROGRAMME	GREATER PARTICIPATION	FOOD AND NUTRITIONAL SECURITY	REDUCTION IN SOCIAL INEQUALITIES/ GENDER EQUITY	GENERATION OF ECONOMIC OPPORTUNITIES	CONSERVATION OF BIODIVERSITY	SOIL PROTECTION	PROTECTION OF WATER RESOURCES
PN 1: Land-use planning	High	Medium	High	Medium	High	High	High
PN 2: Sustainable forest management	High	Medium	High	High	High	High	High
PN 3: Agriculture and food security	High	High	High	High	Medium	High	Medium
PN 4: Mining, energy and construction with REDD+	Low	Low	Low	High	Negative impact if not regulated		
PN 5: Governance for REDD+	High	Medium	High	Medium	Medium	Medium	Medium
PIL I, II, III, IV and V	High	High	High	High	High	High	High

Musola Waterfall, Luba, Bioko Island
©FAO/Ricardo Domínguez

12. RISK MATRIX AND MITIGATION STRATEGY

Risks that could hinder implementation of PNI-REDD+ are set out in Table 18 along with an indication of the probability of occurrence and corresponding mitigation measures.

TABLE 18. RISK MATRIX

RISKS OF IMPLEMENTING PNI-REDD+	PROBABILITY	MITIGATION MEASURE
Sociopolitical risks		
Political priorities: lack of coordination and/or complementarity between PNI-REDD+ and national and sectoral policies (REDD+ safeguard a).	Medium	• Strengthen institutional coordination. • Promote the active operation of the CP-REDD+ and CN-REDD+ and develop a joint work agenda between different institutions, involving periodic follow-up with the bodies involved.
Lack of support from top-level political authorities.	Medium	• High-level outreach and awareness-raising process, aimed at ensuring long-term conservation of forests and their contribution to the economy. • Supplement the process with public information campaigns on sustainable development, climate change and REDD+.
Reduced efficiency and organization of forest institutions and governance structures (REDD+ safeguard b).	Medium	• Prioritize PNI-REDD+ investments intended to strengthen forest governance and build the capacity of related institutions to facilitate the implementation of PNI-REDD+.
Insufficient public participation in decision making, programme implementation and results monitoring and evaluation (REDD+ safeguard d).	Medium	• Disseminate the importance of participatory processes and achieve broad consensus in the REDD+ process, promoting ownership and sustainability of actions and results by the main stakeholders and beneficiaries. • Prioritize actions that respond to the specific needs and interests of men and women.
Insufficient consideration of the knowledge and rights of local and indigenous communities in implementing PNI-REDD+ (REDD+ safeguard c).	Low/medium	• Continue to support and encourage the active and informed participation of local communities and all ethnic groups in the country in implementing PNI-REDD+, giving continuity to the consultative process initiated during its formulation.

RISKS OF IMPLEMENTING PNI-REDD+	PROBABILITY	MITIGATION MEASURE
Staff change in the institutions involved.	Medium	• Involve different ministerial units and technical staff in the information and training processes, allowing for continuity despite staff changes.
Resistance to change (e.g. imported product consumption habits, agricultural and forestry practices).	Medium	• Sociological study of the causes giving rise to this resistance and disseminating the benefits of change among the main stakeholders, beneficiaries and organizations involved.
Difficulties in managing the implementation of national programmes (PN) and local integrated programmes (PIL).	Medium	• Cooperation with national/international partners on implementation, including national capacity building in financial management of programmes and reporting • Strengthening of CN-REDD+ and the steering committees of each programme, ensuring the participation of all actors involved, and the monitoring of social, economic and environmental impacts. • Priority to PN 5 activities related to the Safeguard Information System and complaints mechanism for conflict resolution, both as risk control and mitigation measures
Sectoral risks		
Limited acceptance/availability of the timber business sector for implementation of PN 2 on sustainable forest management.	Medium	• Companies are already realizing that current timber harvesting practices have a negative impact on their own businesses. • Carry out an awareness campaign to disseminate the expected ouputs of PN 2, highlighting the advantages of reviewing the regulatory framework in order to improve facilities for doing business in the country, as well as the technical support that companies will receive regarding management plans, good practices in timber use and processing, species diversification and the development of alternative markets and green value chains.
People and productive agents are reluctant to accept the process of land-use planning and changes in agricultural and forestry practices.	Medium	• Implement the process gradually, adopting a bottom-up approach based on technical biophysical, economic, environmental, social and cultural criteria and through ongoing dialogue, supported by a communication strategy.
Limited interest among local people in changing and implementing production practices for diversifying agricultural and agroforestry production.	Low	• Implement on-the-spot technical support in a simple, participatory manner, using local language and demonstrating the improvement in productivity and increased revenue. • Organize groups of producers in each village to share experiences and disseminate results, and design communication materials that consider the education and knowledge level of beneficiaries and the various stakeholders.
People's limited business experience and difficulty in developing small and medium-sized enterprises linked to markets.	Medium	• Start by supporting business initiatives that are already in progress, have demonstrated some capacity for organization and commitment, and are linked to markets • Alternatively, support community organizations and ethnic and women's groups and link them to existing private initiatives (e.g. contract farming, outgrower schemes and anchor companies).

RISKS OF IMPLEMENTING PNI-REDD+	PROBABILITY	MITIGATION MEASURE
Perception of the REDD+ process as a threat to the development of sectors requiring land use change (agriculture, mining, construction and energy).	Medium-high	• Establish intensive information dissemination processes and continue ongoing consultations and dialogue to raise awareness of low-emission alternatives. • Use processes to achieve consensus and build a sense of ownership by different stakeholders and beneficiaries.
Conflicts between humans and wildlife that lead to the hunting of emblematic species (monkeys, gorillas and elephants).	High	• Training in alternative techniques for keeping animals away and developing compensation mechanisms for crop loss due to wildlife.
Lack of staff for surveillance and control activities in protected areas and limited recognition of their authority.	High	• Involve multiple actors and beneficiaries in the surveillance and control of protected areas (e.g. technical officers from the National Institute for Forestry Development (INDEFOR), the Army, Park Rangers), recognizing their authority. • Strengthen the role of communities living in or near protected areas as protectors of this land, with a fundamental role in early warning and joint land management.
Technological risks		
Difficulty in using new technologies and practices.	Low	• Use free access software and develop educational and practical training processes (e.g. farm schools, field schools for farmers). • Train local instructors to continue training locally and ensure access to innovative technologies and practices by women and the most vulnerable ethnic groups.
Difficulties in training a critical mass of people to support change and in ensuring there are enough qualified workers.	Medium	• Prioritize capacity building with approaches that allow for a multiplier effect (e.g. training of trainers, hands-on on-the-job training).
Financial risks		
Delay or lack of international and/or national funds linked to REDD+ and bureaucratic difficulties in allocating national funds.	Medium	• Strengthen national capacities for the mobilization, management and reporting of international funds (e.g. GCF, GEF.). • Promote the allocation of national funds, emphasizing the contribution of REDD+ to national development objectives and international conventions. • Budgetary commitment at the highest level.
Resistance by logging companies to comply with the law because their income is reduced.	Medium	• Quantify lost income in order to have solid arguments to bring about the necessary changes in the regulation of the Law regarding taxation. • Develop a specific communication strategy for the sector. • Increase resources of INDEFOR to step up and increase the effectiveness of its support and monitoring.
Fall in forest tax revenues.	Medium	• Restructure the financing of bodies dependent on forest tax revenues.

RISKS OF IMPLEMENTING PNI-REDD+	PROBABILITY	MITIGATION MEASURE
Difficulty in the financial management of international and/or national funds.	Low	• In line with the provisions of PNI-REDD+, carry out a study to define the financial management unit required for implementing PNI-REDD+ and determining its functions and needs.
Environmental risks		
Change in rain cycles and temperatures affecting crops.	Medium	• Promote productive diversification and ensure the use of improved and climate-resistant vegetative material.
Negative impact on natural forests, ecosystem services and biodiversity (REDD+ safeguard e).	Low	• PNI-REDD+ focuses special attention on protected areas and the most fragile ecosystems. • Promote greater awareness of and attention to the importance of biodiversity and natural forests, particularly regarding activities under PN 2 on sustainable forest management.
Reversal or displacement of REDD+ emissions (REDD+ safeguards f and g).	Low	• Support monitoring of the impacts of PNI-REDD+ through the National Forest Monitoring System, particularly in the provinces or municipalities not included in local integrated programmes. • The cross-cutting investments in national programmes will also help to avoid the risks of emission reversal or displacement.

ANNEX I
STRATEGIC INVESTMENT PROGRAMME FACT SHEETS

I.1 PN 1: LAND-USE PLANNING

I.1.1. PURPOSE

The purpose of National Programme (PN) 1 on land-use planning[1] is to achieve the following:

> *Equatorial Guinea defines the combination of current and potential uses of its land in a participatory manner using an integrated and sustainable approach that balances economic, social and environmental needs, safeguards forest resources, and reduces the emissions from land-use sectors.*

PN 1 is a central element for land and sectoral development; the sustainable diversification of production; the reduction of conflicts between land uses; and the reduction of forest loss.

PN 1 refers to the guidelines of the PNDES 2020; Law 1/1997 on Forest Use and Management; Law 7/2003 on the Regulation of the Environment; Law 8/2005 on Urban Planning; Law 8/2006 on Hydrocarbons; Law 3/2007 on the Regulation of Water and Coasts; Law 4/2009 on the Land Ownership System; the National Forestry Action Programme of 2000 (PNAF); the NDC level of 2018 adopted within the framework of the Paris Agreement; and other national decisions concerned with environmental regulation and urban planning.

The expected outcomes to achieve this purpose are:

- Governance for integrated land-use planning has been developed with a defined institutional and regulatory framework and gender-sensitive participatory mechanisms.
- Land is used in a rational, efficient and orderly manner due to the National Land-use Plan, which is drawn up in a participatory manner and based on up-to-date studies and inventories.
- Public policies for sectoral development, including agriculture, forestry, mining, energy and construction, are linked to the National Land-use Plan as a key element of its planning.

I.1.2. BACKGROUND

Equatorial Guinea has never developed a National Land-use Plan. Such a plan is particularly necessary in the current context of rapid economic development and population growth, and considering national economic diversification goals. A Land-use Plan would determine the ideal combination of land uses; allow for the orderly development of different productive sectors; reconcile different uses and interests; prevent conflicts and negative social and environmental impacts; and reduce the causes of underlying inequalities. However, some local urban development plans are in the process of implementation (e.g the urban plan for the city of Malabo).

Equatorial Guinea has often stressed the importance of land-use planning. This is reflected in its national legislation, in the formulation of sectoral policies, and in its international commitments. For example, Articles 8 and 9 of Law 1/1997 on the Use and Management of Forests provide for the establishment of a National Commission on Land Classification and Use, which is responsible for implementing a National Land-use Plan throughout the country and defining current and potential uses of natural resources and social interest.

[1] Land-use planning is defined as "the systematic assessment (i) of land and water potential, (ii) of alternatives for land use and (iii) of economic and social conditions, in order to select and adopt the best land-use options". Its purpose is to select and put into practice those land uses that will best meet the needs of the people while safeguarding resources for the future. This type of planning affects "all kinds of [rural] land use: agriculture, pastoralism, forestry, wildlife conservation and tourism" (FAO, 1993).

In 2000, the National Forestry Action Programme (PNAF) proposed a Land-use Plan and recommended setting up the National Land Use and Classification Commission (MBPMA, 2000).

In 2003, Law 7/2003 on the Regulation of the Environment in Equatorial Guinea made it mandatory to draw up natural resource management plans as a planning tool. These plans should include land delimitation, biophysical and biological characteristics, the delimitation of uses, protection systems and details on the implementation of activities.

Law 8/2005 on Urban Planning states that the country's political and social institutions must lay the foundations for rational and humane land planning and population settlement, and the improved conservation of the country's natural and cultural heritage. Urban planning in the country must be carried out through a National Land-use plan, local plans, general municipal plans, and adhere to supplementary and subsidiary planning standards. The National Land-use Plan will determine the main guidelines for national land management in coordination with economic and social planning for the people's well-being.

In 2008, as a result of the second National Economic Conference, the Government of the Republic of Equatorial Guinea sanctioned Decree Law 2/2008 adopting PNDES 2020 (RGE, 2007). The first Conference resolution for the infrastructure sector was the development of a National Land-use Plan that establishes the land use best meeting the needs of all parties and ensures a balance between economic, social and environmental values.

In May 2019, the conclusions of the third National Economic Conference stressed the importance of land-use planning in urban and non-urban areas.

The country's NDCs to the UNFCCC state that greenhouse gas emission mitigation policies will be based on the management and classification of land for forestry and agricultural development (MPMA, 2015b).

At the regional level, the Common Africa Position on the Development Agenda adopted by the Heads of State and Government of the African Union in January 2014, and the Regional Economic Programme of the Central African Economic and Monetary Community affirm the importance of land-use planning.

The main guidelines for national land-use planning are defined in the legislative framework and in development plans and international conventions.

I.1.3. CHALLENGES

Implementation of a National Land-use Plan must address the following challenges:

Economic growth

During the recent growth boom, agricultural and forestry development and infrastructure expansion have been disorganized, and this has sometimes led to conflicts over land use. Forest loss has occurred in the forests of the Production Domain (national forests, community forests and forest plots) and the Conservation Domain due to activities associated with infrastructure, and urban and agricultural development. Men and women have been affected differently by climate change. The impact is greater on women, because they depend primarily on natural resources for their livelihoods, have fewer resources and rights to prevent crises, and do not benefit equally from new technologies and agricultural practices. The situation is directly related to the absence of land-use plans and dissemination mechanisms, which would allow for the orderly upstream allocation of productive areas that are competing for land use or forest use.

During the period 2004–2014, forest loss has occurred in protected areas and in national forests, community forests and forest plots. The lack of a National Land-use Plan also means that boundaries between land intended for different uses and/or tenures are not clearly defined and overlap (e.g. between harvesting contracts and forest plots, or between communal forests and protected areas, as shown in Figure I.1.).

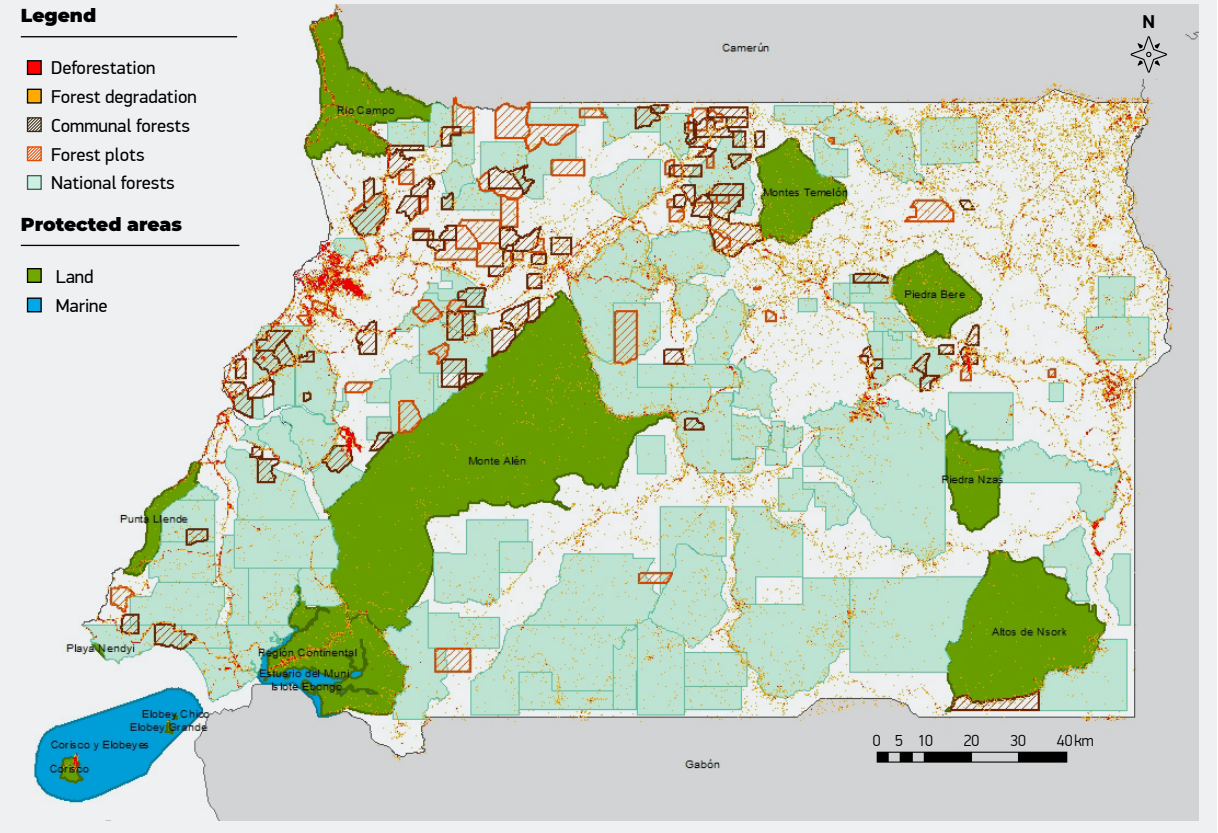
The absence of a National Land-use Plan in the current context involves the following risks:

- Disorderly agricultural expansion. Agriculture is one of the priority pillars for diversification of the economy, and it is hoped that the country's production will significantly increase (MPMA, 2015b). The influence of international markets on land-use change in sub-Saharan Africa is also increasing (Pavageau et. al, 2013; Ordway *et al.* 2017). In the future, this could be a factor in forest loss in the absence of land zoning, although the phenomenon is not currently widespread

in the country. Commercial agriculture is expected to become a significant threat to forests again unless it is included in a land-use planning process (MAGBMA and FAO, 2018).

- Uncontrolled development of infrastructure and urbanization. PNDES 2020 allocates the most resources to the major programme 'Infrastructures for Equatorial Guinea', indicating that construction projects are still planned for the coming years. Newly built cities and roads are also likely to have an indirect impact in the medium or long term and lead to deforestation and forest degradation of the surrounding areas, if land uses have not been defined and agreed upon beforehand.
- Development of the mining and energy sectors that have negative social and environmental impacts related to forest loss and soil and river pollution. It is important to incorporate social and environmental criteria, as well as economic criteria, for land planning because PNDES 2020 makes the energy and mining sectors central to one of its strategic pillars. Land planning is crucial in this context.
- Exclusion of the most vulnerable groups from the debate on sustainable local development. The diversity of actors, values and interdependencies can generate conflicts of interest for local resources. There is therefore a need to strengthen the communication and negotiation skills of marginalized groups (e.g. rural women, young people and indigenous groups) to protect their rights and livelihoods and enable them to participate actively in decision making.

FIGURE I.1 FOREST LOSS AND DOMAIN OVERLAP IN THE CONTINENTAL REGION



Source: Based on data from INDEFOR; MAGBMA and FAO, 2018.

Information on biophysical and biological characteristics

Not enough up-to-date information is available on the biophysical and biological characteristics of the different areas of the country. This information is necessary for land-use planning. The last forest inventory was conducted in 1991 and 1992, so there is a lack of up-to-date data on the status of forests. Neither are there any up-to-date studies of biophysical characteristics (e.g. soil, land, water and climate) that would make it possible to determine the areas with the greatest agricultural potential.

Institutional framework and technical instruments

Responsibility for land-use planning at the national, regional, district or municipal level has not been clearly assigned to one institution with specific competences.

Law 1/1997 on the Use and Management of Forests provides for the setting up of a National Commission for Land Classification and Use, but this Commission is not yet operational. Also, the competent ministerial bodies have not been designated to carry out the natural resource management plans provided for by Law 7/2003 on the Regulation of the Environment in Equatorial Guinea. The relevant official bodies in public administration are the Directorate of Planning of the Ministry of Finance, Economy and Planning; the Directorate-General for Land Action and Urban Planning, under the Ministry of Public Works, Housing and Urban Planning, which is responsible for urban land planning; and the Agricultural Land Registry, under the Directorate-General for Agriculture within the Ministry of Agriculture, Livestock, Forests and Environment.

The National Commission on Land Classification and Use should involve different sector Ministries in decision-making processes regarding land-use planning that uses an integrated approach. Gender experts should also be involved. This will ensure that the resulting land-use plan reflects the vision, knowledge, needs and expectations of both men and women.

The absence of an institutional framework and a specific budget has prevented participatory planning processes from being initiated. These processes include consultation mechanisms where the different social agents intervene in local decision making. Furthermore, no economic, physical, social, environmental or cultural criteria have been established for zoning, and no updated information has been generated on land use[2]. It is also necessary to define inclusive and equitable governance mechanisms for implementing local development plans.

Economic development planning instruments do not incorporate criteria related to land-use planning, and no urban or mining plan exists. This reflects the need to incorporate these functions among the competences of the Planning Directorate, which is part of the Ministry of Finance, Economy and Planning. A detailed analysis of institutional competences would make it possible to assign responsibilities for land planning at the national and local levels.

Sectoral development policies

The National Land-use Plan would guide the development and planning of sectoral policies and contribute to the country's goal to achieve gender equity and the empowerment of women and the most vulnerable ethnic groups. This would require harmonization with Law 1/1997 on the Use and Management of Forests; Law 7/2003 on the Regulation of the Environment; Law 8/2005 on Urban Planning; and Law 4/2009 on the Land Ownership System.

It would also be necessary to define competences and build capacities and mechanisms to ensure that national, regional and local levels can draw up their own land-use plan and local development plans within the framework of national sectoral policies and PNDES 2020.

Land and forest tenure system in Equatorial Guinea

Land tenure is an essential factor in the process of land planning. Responsible governance of tenure, together with clear and secure tenure rights, supports sustainable planning and management of land and forests, and strengthens incentives for long-term investments that increase the productivity and sustainability of agricultural and forestry activities (FAO, 2012).

In Equatorial Guinea, the land and forest tenure system is governed by the Basic Law of Equatorial Guinea (Articles 5 and 30 of the 2012 Constitution);

2 Land occupation refers to the characteristics of the earth's surface from two different but related viewpoints: land cover, or categorization according to biophysical properties; land use, or characterization of the land according to its functional dimension or current socio-economic allocation (http://www.ign.es).

Law 4/2009 on the Land Ownership System; Law 1/1997 on the Use and Management of Forests; and the customary or traditional rights acknowledged in the National Constitution.

Land ownership is divided into state-owned patrimonial land; state-owned private land; public land owned by municipalities or councils; traditionally owned land, such as village and tribal communal lands; family owned land belonging to local groups; and privately owned land.

At the same time, Law 1/1997 on the Use and Management of Forests establishes the legal system applicable to forest lands, which make up the National Forest Reserve. This is divided into two main blocks: the Production Domain and the Conservation Domain. The Production Domain consists of forest plots, communal forests and national forests; while the Conservation Domain is made up of the Protected Areas System and protected forests.

On the other hand, according to customary laws acknowledged by village councils, the right of access to a forest can be acquired either by felling a virgin forest from an area that has never been touched by a member of the community (individual property) or from the communal reserve or forest (collective property). These customary laws provide for the use of four ha per head of family (a very limited area considering the number of household members and their needs).

Some of the deficiencies identified in Equatorial Guinea's tenure system are:

- The legal framework associated with land and forest rights, including customary rights, is complex and partially overlapping (MPMA, 2008; MPMA, 2014). There are contradictions between formal and customary tenure systems. The Basic Law and Law 4/2009 on the Land Ownership System guarantee farmers traditional ownership of the land they own without determining land use or cover. However, Article 5 of Law 1/1997 on the Use and Management of Forests establishes that there is no private property in the National Forest Reserve, and that the former village reserves, over which the villages held property rights, become village forests acknowledged and delimited by the State, which grants their permanent use to the rural communities. In other words, there is a shift from a right of ownership of forests to a right of use or usufruct of forests.
- Most families or communities do not hold a legally registered title to their forests or farms, and therefore follow the traditional property system governed by customary law. Women continue to face many more barriers in terms of access to land and other natural resources, which limits their productivity and participation in decision making. Procedures for granting property titles for rural properties are complex and costly for members of the public with low incomes.
- The National Commission on Land Classification and Use provided for in Law 1/1997 on the Use and Management of Forests is responsible for implementing the National Land-use Plan, but it has not yet been set up.
- The dissemination of regulations related to land tenure rights among rural communities is unsatisfactory.
- There is currently only one land registry with a physical archive. The property registry must operate in a transparent and effective manner, and a digital registry and cartographic information system must be set up to coordinate information at the national and regional levels to prevent and identify problems of overlap between allocated areas. In 2016, a significant percentage of communal forests (33 percent), forest plots (13 percent) and nature reserves (9 percent) overlapped with other land-use categories. The lack of such a digital information system leads to frequent land allocation overlaps with existing allocations. Boundary markers are also needed to facilitate field recognition of the boundaries of different land uses (including protected areas) or properties.
- Because communities have very limited technical experience and expertise in community forest management, they do not exploit the forests for their own benefit and often hand over their forest resources to (legal or illegal) companies that fail to take into account the environmental consequences, which generates short-term incomes without sustainable benefits.

In general, a dual system combining historical-customary and legal instrumental aspects prevails. This generates a level of uncertainty over legal compliance. This uncertainty is compounded by lack

of a digital land registry coordinated between the various sectors and obsolete methods (the maps are drawn and updated by hand).

The tenure system is an underlying driver linked to all direct drivers of deforestation and forest degradation.

I.1.4. LINKS TO CLIMATE CHANGE AND DEFORESTATION AND FOREST DEGRADATION

The lack of a National Land-use Plan is an indirect driver of deforestation and forest degradation and therefore has an impact on emissions generated.

In Equatorial Guinea, the drivers of deforestation and degradation are linked to both the forestry sector and non-forestry sectors, such as infrastructure and agriculture. In this context, land-use planning that defines the combination of uses that best meets social, economic and environmental conditions and needs is the key to reducing emissions from the loss of tree cover.

In the context of REDD+ and the fight against climate change, land-use planning will contribute to the following:

- agreeing upon and defining areas corresponding to each land use, reducing potential conflicts between uses and the conversion of forests to other land uses;
- promoting processes for official recognition of land tenure and defining different land uses, considering simplified technical and legal procedures for people on low incomes;
- planning and improving the use of natural resources, allowing for more sustainable use, synergies between sectors and greater long-term productivity;
- increasing the security of small and medium-sized producers in rural areas, promoting more sustainable long-term agricultural and forestry investments and the better use of natural resources;
- identifying priority areas for REDD+ implementation, where there is the greatest potential for reducing emissions or increasing carbon capture; and
- planning for adaptation to climate change, increasing the resilience of communities and ecosystems and paying particular attention to the most vulnerable men and women.

Well-organized land and forest use will reverse rates of deforestation and forest degradation, and reduce emissions linked to land use, land-use change and forestry.

I.1.5. OUTCOMES AND OUTPUTS

The outcomes and outputs proposed in PN 1 are set out in Table I.1.

Arena Blanca Beach, Luba, Bioko Island
©FAO/Lorena Hojas Gascón

TABLE I.1 OUTCOMES AND OUTPUTS OF PN 1: LAND-USE PLANNING

OUTCOMES	OUTPUTS	RELATED DOCUMENTS
1.1. Governance for integrated land-use planning has been developed with a defined institutional and regulatory framework and gender-sensitive participatory mechanisms.	1.1.1. National Commission on Land Classification and Use set up and operational, with clear institutional powers and responsibilities for land-use planning at national, regional and local levels, monitoring and conflict resolution.	• PNDES 2020 • Law 1/1997 • Law 7/2003 • Law 8/2005 • Law 2/2015 • EN-REDD+ • PNAF • NDC
	1.1.2. Land classification and Use Regulation developed and approved as the legislative framework for land-use planning. Land-use planning technical manual approved, including biophysical, economic, environmental, social and cultural criteria, as well as mechanisms for social participation and conflict resolution.	• Law 1/1997 • Law 7/2003 • Law 8/2005 • National Forest Inventory (1991, 1992) • Equatorial Guinea Forest Ecosystem Conservation and Utilization Project 1998 • Decree 171/2005 • National Biodiversity Conservation Strategy and Action Plan
	1.1.3. Training plan and technical training in different institutions for the implementation and monitoring of the National Land-use Plan and subnational plans.	
	1.1.4. Tools for generating information, statistical data and indicators (including data broken down by gender) to enable the monitoring of land-use plans.	
	1.1.5. Updated land tenure system, including review and harmonization of the legislative framework, simplification of administrative procedures for property registration and dissemination of regulations to the population, promoting access to land for women and young people. Updated, modernized and accessible digital land registry, including updated maps, land boundaries, resolution of overlaps of different land allocations.	• EN-REDD+

OUTCOMES	OUTPUTS	RELATED DOCUMENTS
1.2. Land is used in a rational, efficient and orderly manner due to the National Land-use Plan, which is drawn up in a participatory manner and based on up-to-date studies and inventories.	1.2.1. National Forest Inventory.	• Law 1/1997 • EN-REDD+
	1.2.2. Diagnosis of agricultural systems, including agroecological and agricultural potential zoning, and models for future scenarios based on national and local development plans, REDD+ goals and international commitments.	• PNDES 2020 • Sectoral development plans
	1.2.3. Updated land cover and land-use maps, as well as vegetation map. Gathering of relevant information for land-use planning, including soil, water, climate, topography and geology and infrastructure.	
	1.2.4. National Land-Use Plan developed in a participatory and equitable manner, based on an analysis of updated information and an assessment of the area's suitability for different land uses, using predefined economic, environmental and social criteria, applied throughout the country by the National Commission on Land Classification and Use.	
	1.2.5. National Land-Use Plan widely disseminated among the population and transferred to land-use plans at regional and local levels.	• Statistical Yearbook 2017 • Population and housing census 2015 • Agricultural census of 2015 • EN-REDD+ • Law 1/1997
1.3. Public policies for sectoral development (including agriculture, forestry, mining, energy and construction) are linked to the National Land-use Plan, as a key element of its planning.	1.3.1 Sectoral plans and policies in line with the National Land-use Plan.	• Law 2/2015

I.2 PN 2: SUSTAINABLE FOREST MANAGEMENT

I.2.1 PURPOSE

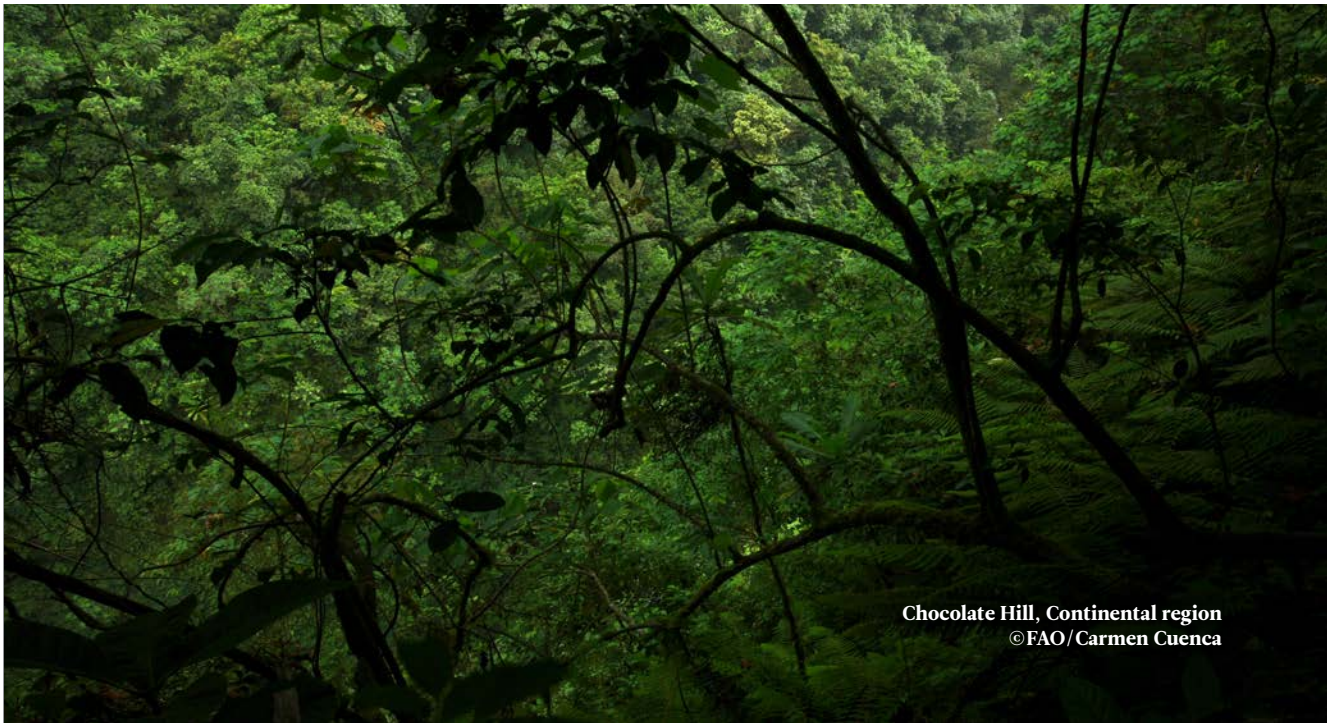
The purpose of PN 2 on sustainable forest management is to achieve the following:

> *The forests of Equatorial Guinea are managed in a rational and sustainable manner, generating multiple benefits for the country's population and economy through strengthened forest governance; updated and accessible information; the development of standards and technical capacities; the participation of rural communities in management of the land and forests; timber harvesting models with legal and sustainable value chains and marketing; increased added value and diversification of forest products; and reductions in deforestation and forest degradation.*

PN 2 refers to the bases of Law 1/1997 on the Use and Management of Forests; the National Forestry Action Plan of 2000; the National Strategy and Action Plan for the Conservation of Biological Diversity of 2015; the draft National Strategy on Non-timber Forest Products of 2016; and the EN-REDD+.

The expected outcomes to achieve this purpose are:

- Governance of the forest sector has improved, strengthening the institutional, legislative and regulatory frameworks and their implementation; and improving transparency, access to public information and public participation in an equitable manner.
- The technical capacities of people involved in forest management from public and private sectors have been strengthened, making it possible to improve sustainable forest management and reduce negative impacts on forest ecosystems.
- National forests are managed sustainably through the adoption and implementation of national and international rules and standards of responsible forest management; the provision of technical and financial support throughout the entire timber value chain to promote the production and marketing of legal timber; and the development and use of information from the National Forest Monitoring System.
- Communal forests and forest plots are managed and used in a sustainable way by supporting and developing the capacities of communities and small producers; promoting sustainable land management; supporting the use of forest services and products; supporting cooperatives and small and medium-sized forestry and agroforestry enterprises; and forming partnerships with private companies.



Chocolate Hill, Continental region
©FAO/Carmen Cuenca

- The market for timber and non-timber forest services and products is developing in accordance with requirements of legality and sustainability, allowing sector diversification and the development of green forest, tree and agroforestry value chains using vertical integration models.

I.2.2. BACKGROUND

Equatorial Guinea is a country with estimated forest cover of 2.5 million ha (MAGBMA and FAO, 2018. MAGBOMA and FAO, 2020). Equatoguinean forests feature great plant and animal biodiversity. Equatoguinean forests feature great plant and animal biodiversity. They include a range of different ecosystems including humid tropical forests (tropical rain forests), Afromontane forests, swampy and floodplain forests, mangroves, subalpine formations and high grasslands. However, Equatoguinean forests are seriously threatened by increasing deforestation and forest degradation.

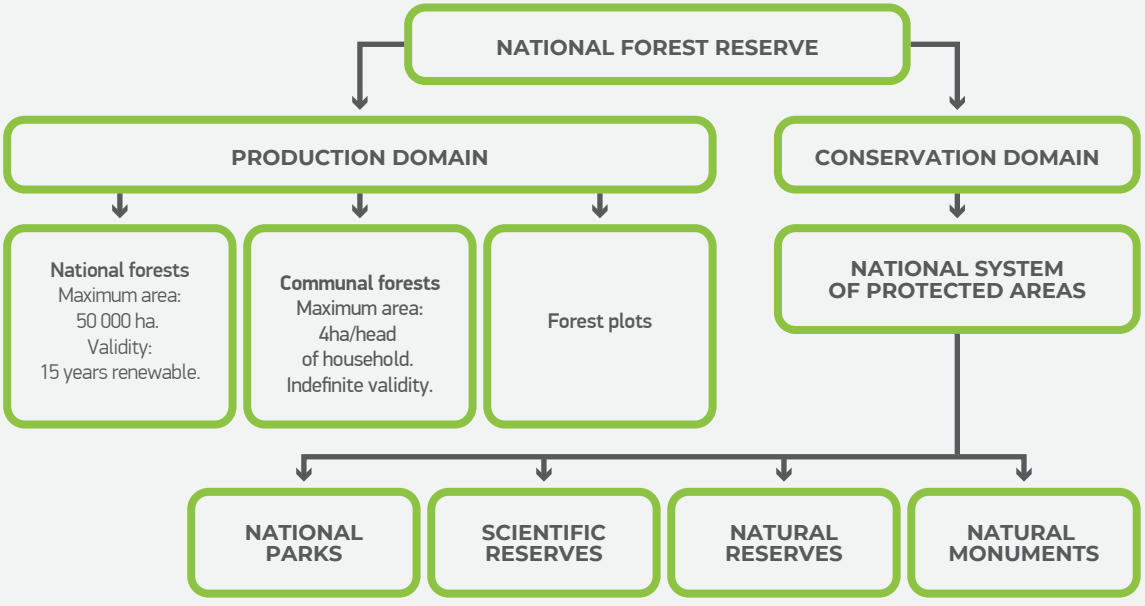
The rural population living in or depending on forests directly or indirectly make up 29.5 percent of the total population (INEGE, 2015).

Traditionally, men from rural communities carry out timber harvesting and cut down trees to set up new farms. Women represent almost 80 percent of the agricultural workforce and are responsible for most agricultural activities. Women's forest activities often involve the gathering of fruits, organic fertilizer for farms, mushrooms, medicinal plants and firewood (MAGBMA and FAO, 2018).

Law 1/1997 on the Use and Management of Forests states that forests are State property and constitute the National Forest Reserve, which is permanent, non-transferable and in the public domain, and which must be managed in accordance with the concept of sustained yield. This law divides the National Forest Reserve into two areas: the Production Domain and the Conservation Domain (Figure I.2).

Forest harvesting can only take place in the Production Domain, which is divided into three subcategories: national forests (where harvesting is carried out through forest harvesting leases), communal forests (handed over by the State to rural communities for

FIGURE I.2. NATIONAL FOREST RESERVE ORGANIZATION



Source: MAB and WRI, 2013.

permanent use related to traditional practices) and forest plots (located in private forestry or rural farms). Under Ministerial Order 102/2017, the President of the Republic is responsible for granting logging permits in the three subcategories.

Law 1/1997 on the Use and Management of Forests stipulates that forest harvesting under leasing contracts can only be carried out in the continental region (large-scale forest harvesting and export operations). Each harvesting contract can cover a maximum area of 50 000 ha and last for a (renewable) period of 15 years. Law 1/1997 sets the recovery period for harvested forests at 25 years and establishes a national extraction limit of 450 000 m^3 of roundwood per year.

Large-scale logging for export has been banned on Bioko Island since 1991 under Decree 55/1991 and throughout all islands in the country since 1997 according to Law 1/1997. Decree 97/1997 states that the maximum annual roundwood production quota for the island region will be 10 000 m^3, which will "serve to meet the pressing needs of citizens as well as the operation of local industries". This is interpreted as meaning that commercial harvesting in the island region could be authorized in forest plots and communal forests, although there is not yet any land in either of these two categories with a registered property title in Bioko or Annobón. Timber harvesting for self-consumption or local trade would be possible on the islands, although Ministerial Order 2/2017 establishes a number of requirements for chainsaw operators (*serroteros*). The current legislation creates some confusion as to the potential for small-scale timber harvesting on the islands where, despite recent orders, small-scale or informal logging is still practised, often to meet the economic needs of families (MAGBMA and FAO, 2018) and sometimes without the consent of councils in the villages where it is practised (see Annex IV).

Commercial timber harvesting is a significant economic activity in the country and a major source of national income. The contribution of the forest sector to gross domestic product (GDP) has varied significantly over the past decades: the forest sector accounted for 20 percent of GDP in 1995, 0.22 percent of GDP in 2007 and 0.1 percent of GDP in 2013, but its share increased to 0.5 percent in 2016 (de Waisseige *et al.*, eds, 2014; INEGE, 2017).

I.2.3. CHALLENGES

The following challenges must be faced:

Forest governance and legal compliance

Equatorial Guinea recently introduced the concept of responsible governance in the management of its forests, and efforts are being made to roll this out. Specifically, the following areas must be strengthened: legal, political and institutional frameworks; planning and decision-making processes; implementation with respect for and compliance with the law, and particularly the legalization of timber production and marketing; and transparency, access to public information and public participation (MAGBMA and FAO, 2018).

Regarding the legislative framework, the Forest Use and Management Law, which dates from 1997, is pending an update to address some shortcomings that have been identified and inconsistencies with other laws (e.g. the Law on the Regulation of the Environment and the Law on the Land Ownership System). Despite this need for updating, Law 1/1997 includes fundamental aspects that ensure sustainable use of forest resources:

- Article 17: "The branch Ministry shall draw up an annual Forest Use and Production Plan based on the available forest resources, industrial infrastructure and local and international market needs. This production shall not exceed 450 000 cubic metres of roundwood per year".
- Article 35: "The application for a forest harvesting leasing contract shall comprise [...] 1) Forest Management Plan [which shall contain a] forest inventory[...]; 2) Feasibility study [...]; 3) Sketch [...]; (4) Commitment to process [...] a minimum of 60 percent of its total timber production [...]; 5) Commitment to social works [...] in villages and municipalities surrounding the harvested forest [...]; 6) Certificate of delimitation".
- Articles 8 and 9: "A National Commission on Land Classification and Use shall be set up [...] [which] is responsible for implementing the National Land-use Plan throughout the country."
- Article 50: "Part of the economic benefits generated by the exploitation, industrialization and trade of forest products will be paid into the National Fund for

> Forestry Development (FONADEFO) to fund management, promotion, control, conservation, training and research services and activities".

Despite current legislation, no forest management plans have been formulated or implemented, and the level of compliance with social commitments is low. This leads to conflict between leasing companies and villages. Annual extraction volumes in the country exceed the permitted annual volume in some cases. Industrial timber processing is low and limited to primary processing (veneer, sawn timber and planks). This indicates that there is potential for increasing secondary and tertiary processing capacities. There are seven processing units: four logging mills and three sawmills, where less than a third of the harvested timber is processed. Informal sawmills find it difficult to become legal. The structure and operation of FONADEFO does not allow sufficient funding to promote forest management and control.

The latest proposal to amend Law 1/1997 on the Use and Management of Forests, which was made in 2016 and is pending approval, includes new aspects related to climate change; forest law enforcement, governance and trade (FLEGT) initiative; timber certification; forest governance; community forestry development; non-timber forest products; payment for environmental services; and a review of the technical terms of forest harvesting leases. This proposal is pending review by the Council of Ministers, which is required before it can be sent to the Chamber of Deputies for discussion (MAGBMA and FAO, 2018).

As mentioned previously, in the land and forest tenure system there are some contradictions between formal and customary systems. Most families or communities do not hold a legally registered title to their forests, and therefore follow the traditional property system governed by customary law, known as 'peaceful occupation'. On the other hand, the existing laws are confusing with regard to right of ownership of rural community land or the right of forest use or usufruct.

The National Forestry Policy was developed in 2000 through the National Forestry Action Programme for the Sustainable Use of Forests and Sustainable Human Development. This programme includes strategies that have not been implemented, and projects that are still in force even though they need to be updated (MBPMA, 2000). Law 1/1997 on the Use and Management of Forests, which establishes the need for an Annual Forest Use and Production Plan (for timber and non-timber forest products), not been developed or updated.

Despite recent regulatory efforts in the forestry sector to regulate harvesting and encourage timber processing (Decrees of 2017 and 2018), there are difficulties in implementing and enforcing the laws, which can be explained in part by the Administration's lack of financial, human and technical resources. This prevents the Administration from effectively exercising its mandate, particularly the tasks of controlling and verifying forest harvesting activities (formal or informal) on the land. The absence of forest inventories and management plans makes it difficult to control and monitor forest harvesting contracts, and lack of resources means that the forest administration is unable to carry out training, facilitation and extension tasks. People consulted in 2017, 2018 and 2019 (see Annex IV) identified ineffective, inconsistent and unequal law enforcement as the main difficulty. This was also considered to be the underlying driver of deforestation and forest degradation (MAGBMA and FAO, 2018).

An inspection carried out by the Forestry Commission in October 2017 corroborated irregularities in forest harvesting activities and the need for regular on-the-spot inspection and audit missions. According to an inspection report published by the Commission for the Verification of Compliance with Decree 7/2017, out of 45 logging companies operating in the continental region in October 2017, 34 were working legally and 11 (subsequently terminated) were working illegally (MBMA, 2017). During consultations on Bioko Island in 2018, rural communities reported that commercial timber harvesting by companies and *serroteros* who did not belong to the village council was taking place in their areas, often without the consent of the communities.

Lack of a financing system has prevented development of the forest sector, hindering increased investment in research, innovation and the dissemination of sustainable forest management models. FONADEFO was set up under Decree 127/1990 on the Plan to Relaunch Forest Production; Law 1/1997 on the Use and Management of Forests; and Decree 60/1994, with the aim of financing services and activities for forest management, promotion, control, conservation, training and research.

FONADEFO is operational, and the use of its funds is subject to an application submitted by MAGBOMA to MHEP. FONADEFO is used for the maintenance and rehabilitation of forest roads; financing the National Institute of Forest Development and Management of the Protected Areas System (INDEFOR–AP), the National Institute of Environmental Conservation (INCOMA) and the Office for Control, Promotion and Export of Forest Species; and fulfilling the country's contributions to international and regional conventions and commissions. Limitations affecting FONADEFO include the fact that its financing is variable, since it is linked to export taxes on timber, and its structure does not allow it to receive private or international funds, which limits its functionality.

Available information on the forest sector has improved significantly in recent years (e.g. with the development of the 2013 Forest Atlas and the 2017 and 2018 Statistical Yearbook). However, the country does not have an updated National Forest Monitoring System (NFMS) or National Forest Inventory, which would make it possible to monitor forest status, generate accessible information for use at the national and international levels and, in particular, to guide sustainable management and use.

The institutional framework for forest management in the country is the responsibility of MAGBOMA, which was reorganized in 2018 to take over functions related to agriculture, forestry and protected areas. MAGBOMA includes three forestry Directorates, two forestry institutes and a forestry delegation in the continental region. It is also responsible for the Directorate of Forestry Exploitation and Industrialization, the Directorate of Forestry Guardianship and Repopulation, the Directorate of Environmental Conservation, INDEFOR–AP and INCOMA. The overall institutional framework must be strengthened to enable technical bodies to carry out functions entrusted to them by law, and in particular to ensure the necessary human and material resources are available to increase the presence of forestry officers on the ground.

Timber harvesting in Continental region
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Forest production volume above the annual limit

The increase in timber production and exports noted from 2014 exceeds the annual level of 450 000 m^3 established by current law, and coincides with the start of the economic recession. In the absence of a detailed study, this increase over the legal annual production rate is linked to weaknesses in forest governance and to the following factors, identified during consultations held under PNI-REDD+:

- The number of approved harvesting contracts increased significantly, rising from 37 concessions (740 122 ha) in 2013 to 98 concessions (1 0644 959 ha) in 2016 (MAB and WRI, 2013; 2016).
- Some construction companies shifted their activities to logging with the decline in infrastructure projects in 2014. These new companies established agreements with town councils in the continental region over harvesting from communal forests using unselective or unsustainable practices.
- Artisanal *serroteros* continued felling timber in communal forests in the continental and insular regions for local consumption and to meet the national demand for timber, with a very low rate of harvesting from each tree.
- A greater number of commercial species is harvested due to the greater uptake by Asian markets.
- Access to forests is easier due to the expansion of roads and paths.

These factors are at least partly responsible for increased timber production (particularly between 2014 and 2017) and consequently for further forest degradation (MAGBOMA and FAO, 2020).

Presidential Decree 7/2017 was published in February 2017 to curb this overexploitation and ensure the rational and sustainable use of forest resources. The Decree prohibits the felling of trees by chainsaw operators and forestry companies that are not legally established. Some of the unofficial companies continued to operate in order to sell timber to the legal companies. This situation led to an accumulation of stacked timber while buyers were being sought, and the buyers in turn delayed purchases in order to lower prices.

Ministerial Order 4/2017, approved in October 2017, granted 33 legally established forestry companies in the country the right to haul, transport and export the stacked timber. All other logging companies and permits in communal forests were also terminated.

Since 2018, the situation of forest degradation caused by logging has been a concern for political leaders and legally established companies, which fear for the continuity and profitability of their own businesses. The situation was also a cause of concern among communities consulted in 2017, 2018 and 2019.

Presidential Decree 182/2018, approved in November 2018, prohibited the export of roundwood with the aim of diversifying the country's economy and taking advantage of the timber processing potential offered by the forestry sector. Legally established timber companies have been authorized to cut wood since mid-2019. Given the limited development of the timber processing industry in the country (less than 20 to 30 percent of production) and the difficulty in identifying international markets for the export of processed timber from non-certified forests without management plans, legally established forest companies are expected to need considerable time to comply with the requirements to export all processed timber. This could significantly reduce timber production and exports from 2019 and lead to a substantial drop in revenue for companies and public funds.

This situation could provide an opportunity to work with legal timber companies and develop a new model for sustainable timber harvesting that includes management plans, forest inventories and processing procedures, and encourages the opening up of new markets that meet the needs of the most vulnerable groups.

Sustainable forest management and harvesting practices

In the absence of an in-depth study on the impact of forest concessions on carbon stocks, it is believed that commercial harvesting is not being carried out using sustainable performance criteria, and as a result it damages ecosystems and generates unnecessary greenhouse gas emissions. Shortcomings that have been identified that relate to commercial harvesting operations include:

- No forest inventory is carried out in forest concessions and no management plans are formulated or implemented to ensure sustained yields and guarantee forest preservation (de Wasseige *et al.*, eds, 2012; FAO, 1993).

- Road construction, felling, tracking and extraction activities are not well defined or coordinated, leading to unnecessary damage to soil, water, wildlife habitats and forest regeneration (USDA, 2004).
- Trees with diameters that are smaller than permitted are being cut (MBMA, 2017).
- Concessionary companies only use 60 to 70 percent of the tree, although material discarded and abandoned in the forest could be used in the local market or in neighbouring countries, which would maximize the harvesting and generate employment (USDA, 2004; FAO, 1993). It is estimated that *serroteros* use an even smaller percentage of the tree, approximately 30 percent.
- No secondary waste processing takes place (MBPMA, 2000; FAO, 1993).
- No seed trees are marked prior to harvest (USDA, 2004).
- There is a lack of qualified labour (Mba Avoro, 2002; MAGBMA and FAO, 2018).
- Felling operations are carried out on steep slopes (according to FAO field observations carried out in 2017).
- No silvicultural treatments are carried out after harvesting, and the conservation fees or compensation rates that should be paid by forest companies are not used for forest regeneration or conservation activities (MPMA, 2014).
- Operations are not based on up-to-date field inventory data.
- Insufficient attention is paid to the potential for sustainable use of non-timber forest products; information on harvested species and domestication techniques is lacking; and there are no harvesting rules, harvesting quotas or any inventory of these product types.
- Harvesting is increasingly less selective.

Existing national laws and plans include technical requirements and recommendations that address most of the above shortcomings. Work was also done in the 1990s as part of the Project for the Conservation and Rational Use of Forest Ecosystems in Equatorial Guinea, which focused on the development of good management practices and management plans as a model for productive forests and created the basis for a forestry action plan (MBPMA, 2000; USDA, 2004).

Up-to-date studies and assessments are needed to analyse the sustainability of timber harvesting practices, their impact on forest carbon stocks, biodiversity, soil, water resources and ecosystem structure and functions, and subsequent regeneration. There is also a need to develop updated model management plans and manuals for sustainable low-carbon forestry that consider the needs of the poor and most vulnerable groups of men and women.

The country lacks an updated National Forest Inventory. The last one, prepared with the support of FAO, dates back to 1991 and 1992. An updated inventory would make it possible to determine the status of forests and their regeneration capacity. It would also provide information for planning forest management and use, and for updating the system for awarding harvesting contracts. It could also be used to review the technical conditions for harvesting (e.g. felling areas and shifts, conditions of felling, bagging, collection/stacking, silvicultural treatments, seed trees) and the maximum annual volume of forest production laid down by law (currently set at 450 000 m^3 per year).

Artisanal timber harvesting for local consumption, which has long gone unnoticed, is now considered a significant activity in Equatorial Guinea and a major driver of forest degradation in the country and on the continent. People interviewed in 2017 and 2019 reported that artisanal activities have begun to predominate in the country in both the continental and insular regions. These activities are facilitated by improved access to forests owing to new roads and the forest road network, and driven by lack of opportunities in rural areas and the emerging national demand.

There is no updated information on informal timber harvesting in Equatorial Guinea. In 2010, the non-governmental organization Friends of Nature and Development in Equatorial Guinea (ANDEGE) carried out an assessment of the magnitude of informal timber harvesting that was based on a six-month study in major cities and on the ground. The study estimated that annual production from the artisanal sector amounts to approximately 86 800 m^3 per year and almost 75 percent of it directly meets local demand. It was also estimated that approximately 250 chainsaws are in operation in the country.

In recent years (2017 and 2018), the Government has taken steps to control artisanal logging;

Timber harvesting in the continental region
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these include prohibiting commercial logging by chainsaw operators (Decree 7/2017) and requiring special authorization for the felling of one to three trees for domestic housing construction (Ministerial Order 2/2017 of the Ministry of Forest and Environment). In some village councils, inhabitants report that this ban is creating financial difficulties for a proportion of the rural population because in many cases timber is the main source of income for families' subsistence. Other village councils complain of tree felling by *serroteros* from outside the community that operate without the consent of the village authorities and without prior agreements. Commercial community forest management has not yet been developed. While the harvesting of non-timber forest products is common, the rules in force do not yet provide specific procedures for non-timber product harvesting.

Community participation in sustainable forest management

Since the 1980s and 1990s, national legislation and plans have recommended a greater involvement of local people in forest harvesting. Greater local involvement is considered a fundamental aspect for developing the sector, and would encourage local people to be the main guarantors of long-term sustainable use and preservation of forests (FAO, 1986; RGE, 1997; IUCN 1991; IUCN 2000; MBPMA, 2000). With increased participation, local people would become involved in making decisions pertaining to the use and harvesting of their land and forests, preparing inventories and management plans, developing business activities linked to forest products, and distributing benefits.

Despite the efforts that have been made, local people do not currently believe that they are participating in sector development and deriving any benefits, although there are some individual and occasional exceptions. Village councils expressed criticism about their low participation in timber harvesting, the few benefits they obtain from the concession-holding companies, the lack of consultation in decision making over the use of their land, and the negative impacts on ecosystems, such as changes in watercourses, soil erosion, the felling of fruit trees or damage to crops (MAGBMA and FAO, 2018). The small size of communal forests and forest plots and their multiple land uses reduce the capacity for their sustainable use and also make it difficult for communities to become more involved.

Forty-nine communal forests have been registered formally, all in the continental region (MAB and WRI, 2013). During consultations carried out in 2019, many communities reported that the process of registering communal forests was carried out in order to reach agreements with logging companies or receive financial compensation (at variable prices and not based on a management plan or forest inventory) or social compensation. Some communities enter

into agreements with *serroteros* over the use of communal forests in exchange for a percentage of benefits to the community, which is not always properly shared between all community members. In general, local people are not always sufficiently aware of the legislation in force and the potential for managing and using communal lands. In this scenario, commercial forestry hardly benefits the local people, and its potential for contributing to rural economic development and reducing inequalities remains undeveloped. There is a lack of data broken down by gender to indicate the various roles and the potential contributions men and women from different socio-economic and ethnic groups can make in sustainable forest management and in the principle green value chains.

The harvesting of non-timber forest products has not been sufficiently integrated into national policies, and the necessary information on the true potential of these products is not available in the absence of a forest inventory. A National Strategy and Action Plan for Non-Timber Forest Products has been developed and is pending official approval and implementation. This strategy promotes and highlights the value of non-timber forest products and their contribution to food security and the fight against poverty.

Community management of land and forests would require the strengthening of village council governance. Councils would have to control their own land, which would involve carrying out processes to disseminate information on laws and regulations in force, strengthening the community's knowledge of and information about its own land, and reinforcing the community's organizational, technical and entrepreneurial capacities. Considering their limited experience, communities would need technical support throughout the process and possibly enter into partnerships with private initiatives with business experience.

Production and market diversification

Commercial timber harvesting is strongly linked to international demand, which historically focuses on a few species. These include okoume (*Aucoumea klaineana*), which has been the main species harvested in Equatorial Guinea for decades, ilomba (*Pycnanthus angolensis*), okan (*Cylicodiscus gabunensis*), tali (*Erythrophleum ivorense*), and azobe (*Lophira alata*) (MAB and WRI, 2013). The number of species harvested and exported has increased significantly in recent years due to demand from Asian markets.

A significant change has taken place in the destination of timber exports, with Asia taking over from European markets. In 1993, most exports went to Japan, Spain, Turkey and Portugal, but by 2017 exports were mainly to China (95 percent of the total) and consisted almost entirely of roundwood. The annual volume exported to the European Union has decreased significantly due to requirements related to legality and origin that have been put in place by European markets. Access to European markets requires a system to guarantee the legality of timber, including a system of traceability throughout the production and processing chain, and a verification system (Figure I.3).

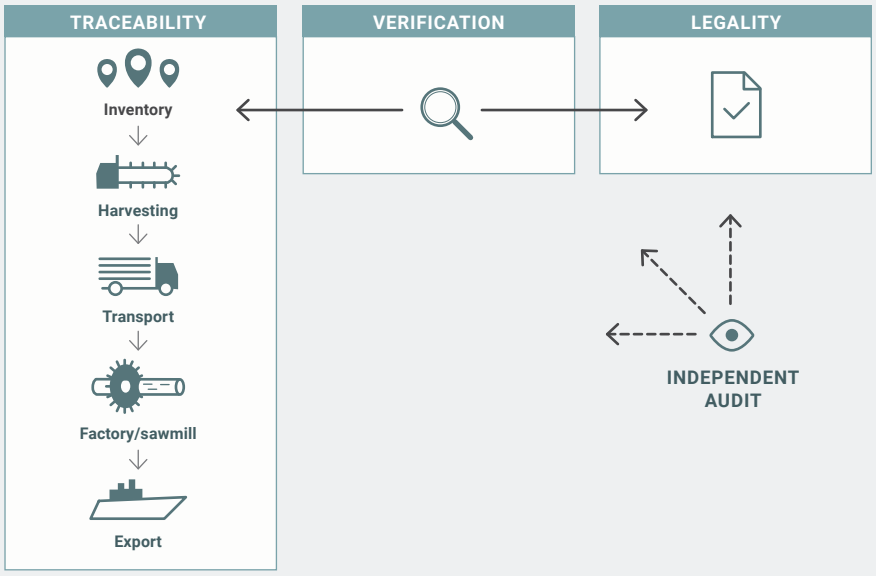
Efforts need to be made to organize national timber markets (mainly the Bata market), identify and register legal operators, and prevent illegal distribution and marketing channels.

The level of timber processing is still low, despite the Law 1/1997 on the Use and Management of Forests that states forestry companies must process a minimum of 60 percent of their roundwood production, and the Decree approved in 2018 that aimed to increase the percentage of timber processing to 100 percent by prohibiting the export of roundwood. The country has made efforts in the past to undertake a process of legalizing informal sawmills, but that process could not be completed.

To encourage the development of timber processing companies, complementary measures are recommended, such as creating tax incentives and soft loans, setting up tax-free zones, providing technical support to meet the requirements of other markets and identifying alternative markets. Market diversification requires compliance with standards and the establishment of product traceability and control systems.

The market for non-timber forest products is essentially local, although some products are exported (e.g. *Piper guineense*). The bark of African cherry (*Prunus africana*) was exported to Europe until it was banned in 2005 due to overexploitation. Marketing and export of this type of product is barely regulated (there are no specific export tariffs), even though it could lead to significant diversification of production. Law 1/1997 on the Use and Management of Forests provides that the national prices of forest products to be harvested must be reviewed periodically by the branch Ministry.

FIGURE I.3. OUTLINE OF A LEGALITY ASSURANCE SYSTEM



Source: FAO, 2016b.

Training, research and knowledge dissemination

Progress in the forestry sector is limited by an insufficient level of training, research and dissemination (MPMA, 2015b). A coordinated push for teaching, applied research and outreach could be the key to changing the way the country's forest resources are managed.

Equatorial Guinea has previous experience in generating knowledge, although the results could not be consolidated. The forestry extension work of the Equatorial Guinea Forest Ecosystem Conservation and Utilization Project (CUREF) and the regional programme 'Protection and Conservation of Forest Ecosystems in Central Africa' did not succeed in sufficiently disseminating knowledge and good practices in forest and agricultural management and/or lacked continuity (Mba Avoro, 2002; MPMA, 2015b).

Law 1/1997 on the Use and Management of Forests and various national plans, establish the importance of knowledge building and dissemination:

- The National Biodiversity Conservation Strategy and Action Plan establishes a commitment to promote research, training and public information on biodiversity (MPMA, 2015c).
- Law 1/1997 on the Use and Management of Forests provides for the implementation of a Social and Technological Promotion Programme; technical assistance from the Ministry responsible for forestry and reforestation activities with special allowances for rural dwellers; and the development of a forestry extension programme that includes schools.
- Decree 97/1997 provides for the scientific study of the functioning of natural ecosystems and forest ecosystems, the drivers that have an impact on them, and the dissemination and application of the corresponding knowledge.
- The 2000 National Forest Action Plan proposes the establishment of a forestry extension and technical assistance system for the dissemination of information to the public and the private sector in order to improve forest management and protection and raise public awareness (MBPMA, 2000).

Technical training associated with forest resource management is provided at the National University of Equatorial Guinea, where forestry engineering, environmental engineering and environmental sciences are taught; at the agricultural training schools in Malabo and Bata; and, recently, at the Afro-American University of Oyala, which opened in 2019. These institutions must be strengthened, as they have limited resources. The agricultural training schools, which are under MAGBOMA, provide vocational training in forestry and agriculture over a two-year period.

I.2.4 LINKS BETWEEN FORESTS AND CLIMATE CHANGE

Forests are closely linked to climate change for the following reasons:

- They are carbon sinks, absorbing carbon in their biomass, soil and forest products, and forest management can increase their carbon sequestration potential.
- They produce wood fuels that can be an alternative to fossil fuels, as well as biomaterials that can replace other materials whose production generates higher emissions, such as cement, concrete or steel.
- They contribute to greenhouse gas emissions when they are destroyed or degraded.
- They are sensitive to changes in climate (e.g. temperature, rainfall), and their ability to adapt improves with sustainable management.
- They provide the habitat for most of the animal and plant species in Equatorial Guinea, and their ability to adapt to changes in climate will have consequences for these species.

The country is affected by increasing forest loss. Estimated deforestation and forest degradation for the periods 2004–2014 and 2014–2018 reveals a pattern of forest disturbance that is sustained over time at constant order of magnitude. These forest losses generate a significant amount of greenhouse gas emissions and contribute to global warming. The data on emissions are considered to be preliminary since the methodology is based on observation of canopy gaps in satellite images and does not consider potential forest degradation under the canopy, on the ground or in watercourses. This could be verified through a National Forest Inventory, which would allow for a better estimation of emissions generated by forest degradation.

During the period 2004–2014, forest exploitation was one of the most important drivers of forest degradation with a relative weighting of 23 percent (MAGBMA and FAO, 2018). This percentage includes harvesting within and outside the limits of forest concessions, but does not include deforestation and degradation on logging roads, which are covered under the category 'transport roads'. Greater tree loss was already being observed in communal forests during the period 2004–2014, likely related to artisanal or small-scale exploitation by *serroteros*, agreements between companies (lega or illegal) and communities, and possible use by communities themselves.

PN 2 on sustainable forest management aims to halt and reverse greenhouse gas emissions from forests, enhance the role of forests as carbon sinks and help ecosystems and people to be more resilient to the impact of climate change.

I.2.5. OUTCOMES AND OUTPUTS

The REDD+ outcomes and outputs expected through PN 2 are described in Table I.2.

Forest cleared for agriculture
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TABLE I.2. OUTCOMES AND OUTPUTS OF PN 2: SUSTAINABLE FOREST MANAGEMENT

OUTCOMES	OUTPUTS	RELATED DOCUMENTS
2.1. Governance of the forest sector has improved, strengthening the institutional, legislative and regulatory frameworks and their implementation; and improving transparency, access to public information and public participation in an equitable manner.	2.1.1. New forest law adopted, reflecting the country's' international and regional commitments (e.g. NDCs, REDD+; Central African Forests Commission Convergence Plan; forest governance; promotion of legality in timber production and consumption; FLEGT). Decrees and implementing regulations adapted to the various forest users and disseminated among stakeholders.	• Law 1/1997
	2.1.2. Updated National Forestry Action Programme (PNAF) and Forest Use and Production Plan prepared periodically.	• PNAF • Law 1/1997
	2.1.3. The governance, structure and budget allocation of MAGBOMA and its Directorates (INDEFOR, INCOMA, Directorate of Forest Protection and Guardianship) have all been strengthened, including clear roles and responsibilities that allow for the effective performance of their functions; decision making and the organization of coordination and participatory discussion platforms with all actors (including public–private discussion round tables); supervision and control of forest harvesting operations; the application of the regulatory framework and monitoring of compliance; technical assistance in the field to companies, communities and small producers; training; applied research; and forestry extension.	• Law 1/1997 • EN-REDD+)
	2.1.4. The National Forest Monitoring System is operational and generates updated and accessible information and mapping on forests and forest resources for use at the national and international level.	• Law 1/1997 • EN-REDD+
	2.1.5. The National Forest Development Fund (FONADEFO) has been redesigned and operates efficiently and transparently to promote sustainable forest management and REDD+.	• Law 1/1997 • EN-REDD+

OUTCOMES	OUTPUTS	RELATED DOCUMENTS
2.2. The technical capacities of people involved in forest management from public and private sectors have been strengthened, making it possible to improve sustainable forest management and reduce negative impacts on forest ecosystems.	2.2.1. Document of national rules and standards for sustainable and legal forest management, with specific standards for timber harvesting and non-timber forest products. Document of timber production standards in plantations and agroforestry systems.	• National Food Health Programme • EN-REDD+
	2.2.2. Code of good practice for low-impact, low-emission forest management and harvesting adapted to the country context and the various managers. List of timber and non-timber species at risk of extinction in the country.	• EN-REDD+
	2.2.3. Dissemination and training on national standards for responsible forest management and good harvesting practices through the Ministry's technical assistance to forest managers. Social and Technological Promotion Programme and a Forestry Extension Programme involving companies, communities and schools.	• Law 1/1997 • EN-REDD+
	2.2.4. Updated university and vocational training programmes incorporating sustainable forest management, climate change and REDD+, forest governance, FLEGT and the benefits of legal logging and trade.	
	2.2.5. Promotion of a research programme on forests and their sustainable management and use, and on timber and non-timber forest products, including the use of wood residues.	• PNAF • EN-REDD+
2.3. National forests are managed sustainably through the adoption and implementation of national and international rules and standards; technical and financial support throughout the entire timber value chain to promote the production and marketing of legal timber; and the development and use of information from the National Forest Monitoring System.	2.3.1. Improved system for awarding and monitoring forest harvesting lease contracts in national forests based on updated information and assessments provided by the National Forest Monitoring System (see 2.5.1), with the participation of the relevant village council authorities.	• Law 1/1997
	2.3.2. Technical and financial assistance programme for timber companies in the field that contributes to the development and implementation of forest management plans; the application of low-impact and low-emission harvesting practices; the diversification and processing of timber species; voluntary forest certification; traceability as a management tool and support for legality; access to new markets; increasing the harvesting rate of each tree; and secondary use of residues.	• Law 1/1997 • PNAF
	2.3.3. National timber traceability system favouring legal production and marketing and facilitating the opening up of new markets.	• Law 1/1997

OUTCOMES	OUTPUTS	RELATED DOCUMENTS
2.4. Communal forests and forest plots are managed and used in a sustainable way by supporting and developing the capacities of communities and small producers; promoting sustainable land management; supporting the use of forest services and products; supporting cooperatives and small and medium-sized forestry and agroforestry enterprises; and forming partnerships with private companies.	2.4.1. Regulatory framework (including a tenure law) and administrative processes for land registration are revised, simplified and adapted to create an enabling environment for community-based forest and land management.	• PNAF
	2.4.2. Programme of technical and financial assistance to support communities in the sustainable management of land and forests, including aspects of community governance, organization and participatory land management planning.	• PNAF
	2.4.3. Programme of productive diversification in rural communities that contributes to the development of community enterprises, small and medium-sized forest and agroforestry product and service enterprises and other climate-friendly businesses, generating income for rural people while conserving natural resources.	• PNAF
2.5. The market for timber and non-timber forest services and products is developing in accordance with requirements of legality and sustainability, allowing sector diversification and the creation of green forest, tree and agroforestry value chains, using vertical integration models.	2.5.1. Assessment of the timber sector (formal and informal; industrial and small-scale) and action plan for the legalization, traceability and modernization of timber production, processing and marketing.	• Law 1/1997 • Presidential Decree 182/2018 • PNAF • EN-REDD+
	2.5.2. Study of sustainable and competitive forest business models that are compatible with REDD+ and FLEGT and that contribute to the diversification of forest species, services and products. The study also analyses the development potential of innovative and gender-sensitive value chains, and identifies potential new national, regional and international legal markets.	
	2.5.3. Programme for the development of gender-sensitive forest product and service value chains and capacity building for legal and sustainable marketing and the export of forest products.	• PNAF
	2.5.4. Office responsible for the control of timber marketing (Forest Species Control, Information and Promotion Office) strengthened and operational in accordance with its assigned duties.	• Law 1/1997 • PNAF • EN-REDD+
	2.5.5. Dissemination of investment incentives to promote timber processing and the development of green value chains.	• Law 1/1997 • EN-REDD+ • Law 7/1992 • Law 2/1994 • Presidential Decree 182/2018
	2.5.6. National timber procurement policy to promote domestic markets and replace materials with the highest carbon footprint.	

I.3 PN 3: AGRICULTURE AND FOOD SECURITY

I.3.1. PURPOSE

The purpose of PN 3 on agriculture and food security is to achieve the following:

> *Agricultural, livestock and agroforestry production and productivity increase sustainably based on the Land-use Plan, which reduces the conversion of forests to new farmland, increases carbon reserves and contributes to food and nutritional security.*

PN 3 reprises the basis of the major food security programme laid down in PNDES 2020 (RGE, 2007), the National Programme for Food Security (MAB and FAO, 2012) and the National Plan for Agricultural Investment and Food and Nutritional Security 2015–2020 (MAB and FAO, 2015), and incorporates key investments to reduce pressure on forests and promote climate-smart agriculture[3].

PN 3 is in line with EN-REDD+, specifically with regard to its second goal; to maintain the forest area at approximately 93 percent (± 4 percent) of the country's total area; its sixth goal: to achieve sustainability and improve the efficiency of the forestry and agriculture sectors; and seventh goal; to mitigate and compensate for the possible negative consequences of future production activities for forests (MAGBMA, 2019).

The expected outcomes to achieve this purpose are:

- Governance of the agricultural sector, including the legislative, regulatory and institutional framework, is strengthened and updated, creating the conditions for developing the sector and achieving REDD+ objectives.
- A programme of agricultural research, training and extension promotes the development of information and knowledge about the sector, the adoption of climate-smart agricultural practices and technologies by producers (men and women), and the sustainable increase of production.
- Agricultural production increases sustainably, improving food security and reducing forest conversion.
- Green agricultural value chains are developed and/or strengthened through the support and training of small- and medium-sized producers and other relevant actors, considering gender issues.
- Agricultural financing and investment (foreign and domestic) increases and contributes to sector development.

I.3.2. BACKGROUND

Historically, the economy of Equatorial Guinea has been closely tied to agriculture. However, after the discovery of oil, the contribution of the agricultural sector to the GDP plunged from 69 percent in 1985 to 3 percent in 2006 and 2 percent in 2016 (INEGE, 2017). Although the country does not yet have a National Land-use Plan, in 2008 it was estimated that 850 000 ha (approximately one-third of the country's area) has agricultural potential and around 220 000 ha (i.e. 26 percent of its potential) was being exploited. Of the exploited area, 85 percent is linked to subsistence production and shifting cultivation (187 999 ha), and 12 percent to permanent plantations and crops, mainly cocoa, coffee and African palm (FAO, 2008).

Agricultural activity in Equatorial Guinea is divided between small-scale shifting cultivation and intensive farming. Subsistence crops (e.g. malanga, cassava, plantain, banana, peanut, yam) are mainly grown for self-consumption and the surpluses are sold at local markets. Other food crops, such as maize, vegetables or fruit trees (papaya, mango, avocado, orange and guava) are potential cash crops, which could help to meet national demand and provide a source of income. No updated data on the supply and demand of agricultural products for food are available.

Intensive farming of cocoa and coffee was a very important economic activity in the past and a significant driver of deforestation. Its current relative importance is very low because production has fallen since the late 1960s, particularly after the oil boom in the 1990s. Today, residual amounts of cocoa and coffee are still produced and exported on Bioko Island and in the province of Kie-Ntem in the

[3] Climate-smart agriculture aims to transform and redirect agricultural systems in a changing climate. Climate-smart agriculture has three main objectives: sustainably increasing agricultural productivity and incomes; adapting and building resilience to climate change; and reducing and/or removing greenhouse gas emissions.(http://www.fao.org/climate-smart-agriculture/es).

continental region. Current production takes place on farms owned by foreign companies that employ the population as sharecroppers or piece workers, or on family cocoa farms that are sometimes grouped into associations or cooperatives of about 20 producers. Since the 1990s, the Government has made efforts to reactivate the cocoa and coffee sector, allowing production to recover for short periods (MAB and FAO, 2012). However, the discovery of oil, urban migration, the abandonment of farming, lack of labour and difficulties in rehabilitating former abandoned farms have slowed down recovery in the cocoa and coffee sectors (MPMA, 2014). While the trend in cocoa and coffee production is declining, commercial horticulture is considered an emerging production sector (MAGBMA and FAO, 2018).

The livestock sector is underdeveloped and traditional backyard farming is practiced, which is fully extensive. Smaller livestock predominate: 95 percent of the animals are poultry, pigs and goats. The low production means that requirements for food of animal origin are poorly covered in rural and urban populations. Most meat products have to be imported. However, small-scale livestock production is important as an economic activity and supports food security and biodiversity because it at least partially replaces wild animal consumption in villages (MBMA, 1998; MAB and FAO, 2015). The development potential of the livestock sector (mainly small livestock) is constrained by the absence of a livestock tradition, lack of technical knowledge and expertise, climate, veterinary challenges and the limited number of technicians and extension workers trained in animal production and health (MAB and FAO, 2012; MAB and FAO, 2015; MPMA, 2015a).

Domestic agricultural production is insufficient to meet the needs of the population, and the country is highly dependent on imports. It is estimated that domestic production meets approximately 20 percent of domestic demand, while 80 percent of the food consumed is imported (MPMA, 2015a; MPMA, 2013). Between 2013 and 2017, the country imported foodstuffs worth an average of USD 146 million per year[4], increasing the costs to consumers and making a balanced diet inaccessible to many families (MPMA, 2015a; MPMA, 2013). Equatorial Guinea is in a difficult situation regarding food sovereignty and security. This limits its resilience to external shocks and its ability to adapt to the possible effects of climate change (MPMA, 2015a; MAB and FAO, 2015; FAO, 2012; FAO, 2008).

PNDES 2020 includes a major food security programme that aims to create conditions that can ensure the availability of food and safeguard access to enough food of sufficient quality to feed the entire population. The programme will make it possible to reduce dependence on food imports by improving production by linking farm production to five stages in the value chain: storage, processing, transport, marketing and preparation and consumption. PNDES 2020 proposes the modernization and intensification of small farms, the improvement of production mechanisms on farms and the reactivation of extension services that help and technically assist small-scale producers.

The country has also developed a National Programme for Food Security (PNSA) and a National Plan for Agricultural Investment and Food and Nutritional Security (PNIASAN). The PNSA is organized into the following seven subprogrammes:

- sustainable intensification of agricultural production that increases production of traditional crops by 20 percent per year and of cash crops by 40 percent per year;
- sustainable diversification of animal production;
- management of natural resources and use of non-timber forest products;
- marketing and processing of foodstuffs and support for income-generating activities;
- nutrition and food vulnerability management;
- institutional strengthening; and
- programme coordination and management.

The priorities of the PNIASAN are increasing food production and improving productivity; enhancing and marketing food products and access to credit; improving the nutritional status of the population and monitoring/managing vulnerabilities; and institutional strengthening. PNIASAN proposes an increase in the productivity of small-scale farms, estimating that the productivity of traditional crops (malanga, cassava, peanuts, plantains, bananas and sugarcane) could increase by up to 200 percent in five years and that horticultural productivity (e.g. tomatoes, parsley, cucumbers, peppers, cabbage, carrots, onions, aubergines) could increase by a magnitude of 20.

[4] According to TradeMap data (www.trademap.org).

In the past, the Special Programme for Food Security ensured the purchase of farmers' produce in their own villages and many of the actors consulted suggest its revival.

The institutional framework of the agricultural sector is led by MAGBOMA, particularly the Directorates-General for Agriculture, Plant Health, Research and Vocational Training; Livestock, Animal Health and Food Control, and Extension, Corporate Promotion and Agricultural Mechanization, which are the main Directorates responsible for sector development. The National Institute for the Promotion of Agriculture in Equatorial Guinea (INPAGE) reports to this Ministry as a decentralized unit. The Ministry is responsible for a national training programme.

The National University of Equatorial Guinea is the country's main academic centre for vocational training. Its engineering faculty teaches courses on technical engineering in agricultural holdings and agrifood.

Another related institution is the Ministry of Education, University Education and Sports, through the Directorate-General for Technical and Vocational Education, the Council for Scientific and Technological Research, and the Directorate-General for Applied Sciences.

I.3.3. CHALLENGES

The agricultural sector faces several challenges that limit its development and increase national food insecurity.

Agricultural productivity

The country has no statistical information on the agricultural yield of the main crops. Low-productivity agriculture is generally practiced and is linked to the use of traditional and extensive farming techniques (essentially felling and clearing and, particularly in the continental region, slash and burn); the absence of mechanization and irrigation systems; and the underdevelopment of value chains. Ninety-nine percent of farmers cultivate the land manually (i.e. not mechanized), and 95 percent do not use fertilizers or pesticides (INEGE, 2015). With shifting cultivation, soils are left fallow for periods of five to 10 years, depending on the crop.

Other aspects undermine agricultural productivity, such as a lack of quality plant material, a growing shortage of labour interested in agriculture, and the advanced age of producers. The high vulnerability of agriculture to weather conditions, with its current variations, also considerably limits production and productivity. One of the causes of low productivity in the agricultural sector is related to women's limited access to the resources, services and institutions they need to be more productive.

Producer organizations

Some forms of agricultural producer organizations or cooperatives are present in the country. However most do not meet the criteria of the Organization for the Harmonization of African Business Law, which defines a cooperative as an autonomous association of persons united voluntarily to meet their common economic, social and cultural needs and aspirations through a jointly owned and democratically controlled enterprise. Most of the country's cooperatives are family-run and managed in a non-participatory manner, and membership is not truly voluntary (ILO, 2017).

The associative and cooperative movement finds consolidation difficult due to factors intrinsic to their organizations and external factors. The country's economic structure, which is highly dependent on imports, creates a lack of systemic competitiveness that discourages the development of home-grown productive economic activities and makes it

difficult for cooperatives to flourish. Other challenges preventing the development of cooperatives are the lack of technical capacities for the management of associative organizations and high dependence on external support, either from the Government or from international cooperation (ILO, 2017).

Role of subsistence agriculture in deforestation and forest degradation

Shifting agriculture causes the cyclical loss of forests, which subsequently regenerate. The study of drivers for the period 2004–2014 considers this to be a major cause of forest degradation (MAGBOMA and FAO, 2018). However, if practiced properly and without high population pressure, shifting agriculture is a low-emission form of land use, which has the potential to manage natural soil fertility in a sustainable matter. It could be an appropriate mitigation measure for the country. Under this approach, areas where shifting cultivation is practiced would not be classified as degraded forest, but as areas of agricultural use where carbon stocks are cyclically increased (i.e. shifting agriculture classified as a land use that needs to be encouraged over other agricultural systems, and technically supported in order to improve its productivity and encourage climate-smart practices).

Equatorial Guinea needs an in-depth study of shifting agriculture to determine its socio-economic role, current and traditional practices, the area where it is practiced, and the potential to increase production in a sustainable manner while reducing carbon emissions. Based on the results of this study and the National Land-use Plan, the country could reconsider its definition of forest and land use categories and, consequently, whether shifting cultivation areas should continue to be classified as forest or agricultural areas.

Technical assistance and extension services

Small-scale producers need technical support to increase and diversify production; adopt climate-smart practices; develop capacities for processing, storage and marketing of agricultural products; gain access to local markets; develop partnerships/cooperatives among small-scale producers; manage crop pests and diseases; and implement irrigation systems (Pavageau *et al.*, 2013; MPMA, 2013; MAB and FAO, 2015). Women have less access to technical assistance and outreach services. There is a need to raise awareness of gender issues among the staff of these services.

Women of the farmer field school of Basupú, Bioko Island
©FAO/Antonio Grunfeld

Agricultural extension and research are the responsibility of MAGBOMA, although its functions are often limited by insufficient resources to carry out fieldwork, and there is a lack of continuity. INPAGE runs various initiatives to promote the agriculture sector.

The National University of Equatorial Guinea, the School of Agricultural and Forestry Training and the Council for Scientific and Technological Research also face challenges relating to the availability of technical and financial resources for extension and outreach functions (MAB, 2012; MPMA, 2014). Greater coordination is required between MAGBOMA and the University to ensure that the curriculum is regularly adapted to the requirements of national agricultural policy and to social and market needs.

According to data on the implementation of public investment during the period 2002–2017, which were provided by Equatorial Guinea National Agency for PNDES 2020, the average public investment in the sector was very low, amounting to barely 0.1 percent.

Given the importance of agriculture as a means of livelihood and economic activity, the sector should benefit from sustained institutional and technical support to foster its development, and a greater institutional presence in the field to support small-scale and medium-sized producers. Extension service technicians should receive periodic training and be retrained on a regular basis to acquire new insights on training and agricultural practices.

Value and marketing chains

Agricultural product marketing is typified by the predominant role played by women, geographical polarization (the cities of Bata and Malabo) and inequality between urban and rural incomes. Urban dwellers living in Malabo and Bata demand mainly imported products, while rural and lower income people try to sell their own produce in cities and live off supplies of staples from cities. This latter group has called for the construction and management of local markets. There is a preference for imported products (rice and flour) that are not grown in the country

The farmers consulted expressed a high degree of frustration about problems with selling their crops, which leads them being left to rot. The causes of this are rooted in lack of local demand, limited access to markets and transport problems.

There are hardly any agro-industries in the country to absorb agricultural production and carry out processing. Cassava flours are imported and surplus fresh bananas rot due to lack of processing. No jams, juices, fruit or vegetable sauces are produced locally. There is also no production of cattle feed, which could make use of part of the root crop and maize output. Studies on national consumption and nutritional needs are needed to guide national production goals and targets, and the development of value chains.

The PNSA outlines the need to develop processing industries to create market outlets for agricultural products (MAB and FAO, 2012). To this end, support needs to be given to transport and storage, the development of small and medium-sized agroprocessing enterprises, the operation of local markets, agricultural investment, and the financing of potential agrifood initiatives.

Value chain management could be an opportunity to create specialist groups at various stages of the chain. This would allow small and medium-sized producers to invest all their time in working on their output, while other groups could take charge of subsequent stages. At present, the agricultural product value chain is often managed entirely by producers themselves, which makes management inefficient in several respects. Greater value needs to be accorded to the role of women and ensure their participation throughout value chains and in crop cultivation.

Agricultural value chain development could be an opportunity to involve young people in farming, as certain activities (e.g. transport, processing or sales) would allow for the application of relatively affordable technological innovations that would make work easier and make employment in the sector more attractive.

Private investment

Equatorial Guinea is in the process of improving conditions in the country to attract local or foreign private investment. In 2018, the World Bank's Doing Business rating, which measures the ease of doing business in a country, ranked Equatorial Guinea 173rd out of 190. Some factors that need to be addressed relate to property rights, bureaucratic procedures, sector instability, trade agreements with neighbouring countries, law enforcement, the reduction of corruption and the rule of law.

In order to increase the ease of doing business in the country, Equatorial Guinea must also generate and disseminate information to attract the interest of investors (e.g. updated statistics, laws and regulations to promote investment, existing opportunities, market, costs and projected profitability). Opportunities for the agricultural sector to attract capital and generate greater production dynamics to achieve food and nutritional security must be analysed and promoted.

Access to financial services

People's access to banking and financial services is limited. Cooperatives are not properly registered to benefit from these services, and conditions for accessing funds are complicated for small-scale producers in rural areas. In the absence of access to these services, villagers have developed traditional mechanisms, such as *djangue*[5], an informal, group-based, trust-based method of financing. The supply of financial services is concentrated in the country's two main cities: Malabo and Bata.

[5] The djangue system involves rotating savings between groups of family members or friends. The system is used mainly among women traders, who are known as *buyandsellas*. This model of lending works quite effectively, although it has a limited capitalization capacity, since five women contribute approximately 15 000 Central African CFA francs (XAF) per week.

Experiences with microcredit to farmer cooperatives are still limited and have a low capital repayment rate. The farmers consulted reported negative previous experiences with loans and a preference for repaying loans in kind. These experiences reflected a need to ensure the productive capacity of cooperatives; review the criteria for granting credit; extend payment terms and adapt them to harvest seasons; encourage investment in productive assets; and promote a greater degree of mechanization.

The Government is about to set up an Agricultural Development Fund, which would give continuity to PNIASAN proposals.

Maintaining connections from one generation to the next is crucial to the sustainable development of agroforestry practices in which the best technological innovations are combined with good local practices. To ensure this, it is essential to provide young people with economic and financial support in order to facilitate their incorporation into the agricultural and agroforestry sector. It is important to offer loans with conditions designed to suit rural young people and women because this is a group with limited resources and significant restrictions to accessing bank loans.

I.3.4. LINKS BETWEEN THE FARMING SECTOR AND CLIMATE CHANGE, DEFORESTATION AND FOREST DEGRADATION

Global warming is expected to have a significant impact on agriculture mainly due to changes in temperature and rainfall patterns. The agricultural sector also contributes to global climate change because of greenhouse gas emissions produced by:

- the release of carbon dioxide resulting from land-use change, forest loss and soil tillage;
- the release of methane from the cultivation of some crops and livestock production; and
- the release of nitrous oxide from fertilizers.

In Equatorial Guinea, agricultural expansion and the resulting deforestation and forest degradation are a significant driver of forest loss and greenhouse gas emissions. Agriculture is the second largest driver of deforestation in the country (after infrastructure), with a relative weighting of 4 percent, and the primary driver of forest degradation, with a relative weighting of 41 percent (40 percent associated with small-scale subsistence farming, and 1 percent with intensive commercial farming) (MAGMA and FAO, 2018).

Farmer in an agriculture training school
© FAO/Antonio Grunfeld

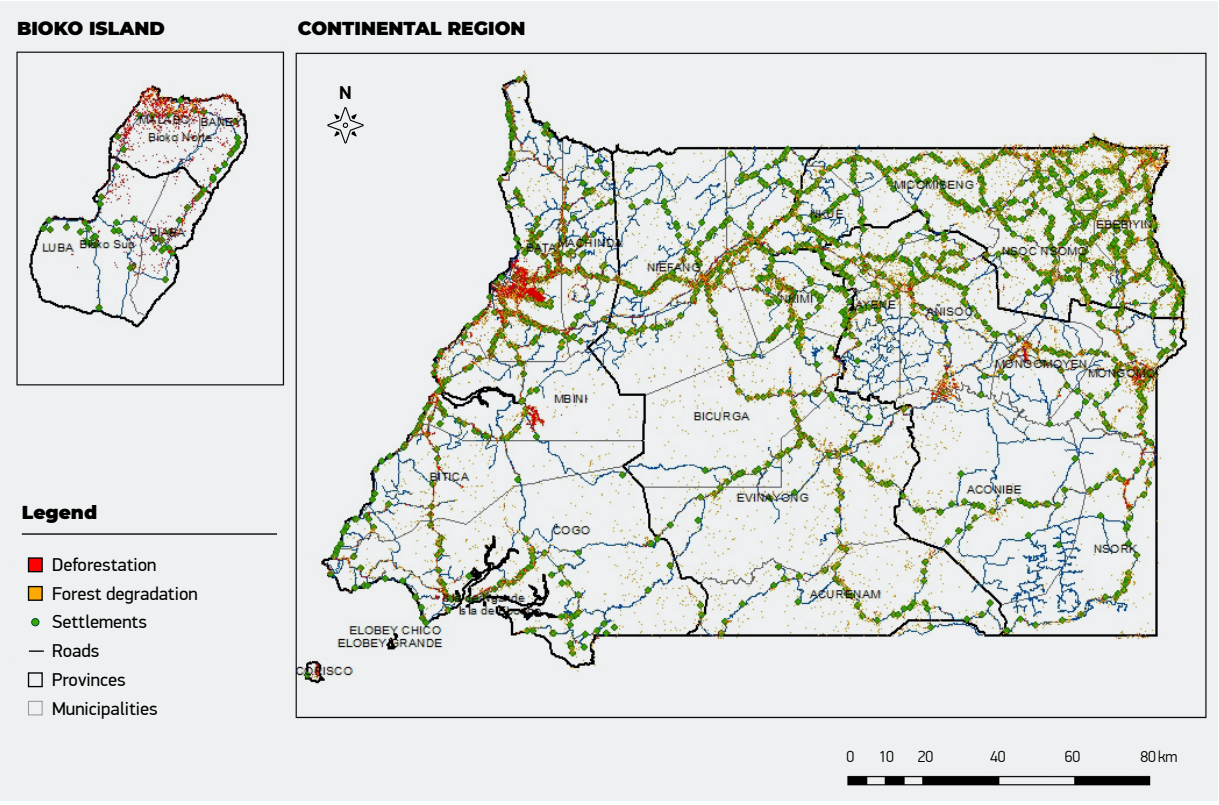
The absence of a National Land-use Plan that determines areas allocated for agricultural production makes it difficult to assess the degree to which agriculture is a driver of deforestation and forest degradation. Agriculture would only clearly contribute to forest loss when practiced outside the limits allocated for agricultural use, which are not currently defined.

Much of Equatorial Guinea's rural population subsists on traditional shifting cultivation, which involves cutting down trees, sometimes burning waste (more common in the continental region than on the islands) and then planting subsistence crops. Most family farms are small and located around the village councils and along the communication routes. According to PNDES 2020 annual report from 2016, small-scale farming is practiced on farms that are becoming increasingly smaller, with less fallow time and reduced productivity. Forest degradation linked to shifting cultivation is often cyclical, as the forest recovers during fallow periods. Technical support and promotion of climate-smart practices are needed to enhance the comparative advantage of shifting agriculture over other farming systems in terms of emissions generated.

In the past, commercial cocoa and coffee crops significantly reduced the forest area owing to the felling of forests to establish plantations and the large amounts of wood needed to dry cocoa. However, at present the forest is regenerating in most of the old plantations, especially on Bioko Island.

Currently, deforestation linked to commercial farming is caused by intensive horticultural farms, which are located mainly along transport routes on Bioko Island and in the continental region, and affects secondary forests (see Figure I.4).

FIGURE I.4 POPULATED SITES AND FOREST LOSS ON BIOKO ISLAND AND IN THE CONTINENTAL REGION



I.3.5. OUTCOMES AND OUTPUTS

Sustainable development of the agricultural sector is essential to improve food and nutritional security, increase food supply and reduce dependence on imports, as well as to reduce pressure on forests by contributing to national REDD+ objectives.

This investment programme prioritizes small and medium-sized producers. It also provides for the regulated development of intensive, climate-smart commercial agriculture for the domestic or export market.

The outcomes and outputs proposed in PN 3 are set out in Table I.3.

TABLE I.3. OUTCOMES AND OUTPUTS OF PN3:AGRICULTURE AND FOOD SECURIY

OUTCOMES	OUTPUTS	RELATED DOCUMENTS
3.1. Governance of the agricultural sector, including the legislative, regulatory and institutional framework, is strengthened and updated, creating the conditions for developing the sector and achieving REDD+ objectives.	3.1.1. The country's agricultural law and associated implementing regulatory decrees have been developed, incorporating REDD+ objectives. Law on Cooperatives (1991) updated.	• PNIASAN
	3.1.2. National Agricultural Plan, which uses a climate-smart approach and is based on previous studies (see 3.2.1) and aligned with REDD+ objectives, promotes agricultural development in areas identified in the National Land-use Plan.	• PNFS • PNIASAN
	3.1.3. National rules and standards of agricultural production (shifting and intensive) for local consumption and for export, respecting international regulations.	• EN-REDD+
	3.1.4. Strengthening Programme for MAGBOMA for the implementation of agricultural policies linked to REDD+, facilitating its technical support function for small and medium-sized producers in the field.	• PNFS • PNIASAN
	3.1.5. Strengthening Programme for INPAGE and the Agricultural Chamber of Commerce.	• EN-REDD+
3.2. A programme of agricultural research, training and extension promotes the development of information and knowledge about the sector, the adoption of climate-smart agricultural practices and technologies by producers (men and women) and the sustainable increase of production.	3.2.1. Analysis and feasibility studies carried out on: a) intensive farming: updated production, consumption and export statistics; previous experiences in the country; suitability of land considering biophysical characteristics (soil, land, water and climate) and socio-economic conditions; crop and market analysis; development potential in line with REDD+ commitments; b) shifting agriculture: area of occupancy and production statistics; current and traditional systems and practices; sustainability; contribution to soil fertility and other environmental benefits; socio-economic benefits; resilience to external factors; carbon capture and emission; analysis of its role as a driver of deforestation and forest degradation versus its potential as a nationally appropriate mitigation measure; potential for improved low-emission performance , etc.	
	3.2.2. National Agricultural Research Centre for the promotion of good farming practices in shifting and intensive systems, with district delegations that consider lessons learned in experimental farms (e.g. Musola, Alep).	• EN-REDD+
	3.2.3. National Extension and Technical Advice Programme for the productive diversification and improvement of agricultural and livestock productivity supported and strengthened. The programme includes the strengthening of existing and innovative initiatives, such as model farm/farm schools, the Farmer Field School approach or Dimitra clubs.*	• PNFS
	3.2.4. Manuals and technical guides on good agricultural and agro-industrial practices in shifting and intensive systems targeting strategic products for food and nutritional security.	• PNFS
	3.2.5. Technical training and refresher plan for Ministry technicians and extension workers, including educational and facilitation aspects.	
	3.2.6. National University of Equatorial Guinea Agronomy course curriculum updated to adapt it to country and market needs, including field practice with farmers.	

OUTCOMES	OUTPUTS	RELATED DOCUMENTS
3.3. Agricultural production increases sustainably, improving food security and reducing forest conversion.	3.3.1. Production material bank (nursery, grafts and seed bank) developed based on needs identified to improve food and nutritional security.	• PNFS • REDD+
	3.3.2. Area of shifting cultivation in areas assigned by the National Land-use Plan where climate-smart practices are applied and extensive production is increased.	• PNIASAN
	3.3.3. Area of agroforestry systems extended and species enrichment.	
	3.3.4. Intensive and commercial farming area developed in areas assigned by the National Land-use Plan using climate-smart and low-emission practices and sustainable intensification methods (FAO, 2011).	• United Nations Development Assistance Framework (UNDAF) 2019 2023
	3.3.5 Training programme and promotion of small-scale livestock farming for national consumption with synergies between crops and livestock (e.g. Avicompost).	
3.4. Green agricultural value chains are developed and/ or strengthened through the support and training of small and medium-sized producers and other relevant actors, considering gender issues.	3.4.1. Producer cooperatives set up and technically supported to enable connection to value chains, ensuring sufficient participation of women along all value chains.	• PNIASAN • PNFS
	3.4.2. Development of green agricultural value chains, promoting the integration of young people and women.	• PNFS • UNDAF 2019 2023
	3.4.3. Support programme for transport and storage services.	
	3.4.4. Programme to support the establishment of networks of inputs and service providers.	• PNFS
	3.4.5. Local marketing mechanisms for agricultural and processed products.	• PNIASAN • PNFS
	3.4.6. Programme for the protection, promotion and dissemination of local product consumption.	
3.5. Agricultural financing and investment (foreign and domestic) increases and contributes to sector development.	3.5.1. Campaign for the promotion of sustainable foreign investment.	• UNDAF 2019 2023
	3.5.2. Agricultural Development Fund and credit programmes set up and widely publicized as a means of gaining access to finance for small and medium-sized producers.	• PNIASAN • Law 7/1992 • Law 2/1992 • UNDAF 2019–2023

Notes: * Groups of women, men or young people (mixed and unmixed) who decide to organize themselves to act together in their own environment (FAO, 2015).

Wood processing plant
©FAO/Lorena Hojas Gascon

I.4. PN4: MINING, ENERGY AND CONSTRUCTION WITH REDD+

I.4.1 PURPOSE

The purpose of NP 4 on mining, energy and construction with REDD+ is to achieve the following:

> *The mining, energy and construction sectors are developed in accordance with land-use plans using an integrated territorial approach in a consensual and sustainable manner, and with a minimum impact on forests, thus contributing to the fight against climate change.*

PN 4 proposes green productive development with minimum environmental impact that limits the loss of tree cover, ensures safe access to fuel and energy, and reduces the workload of women and young people and the risks of gender-based violence. It also proposes measures to restore forest ecosystems that were (or may be) affected by the development of the mining, energy and construction sectors.

The expected outcomes to achieve this purpose are:

- Governance of the environment and the mining, energy and construction sectors has been improved, helping reduce the impact on forests.
- Intersectoral and interregional planning and coordination for the mitigation of negative environmental impacts on forests has been strengthened through the National Committee of the Environment (CONAMA).
- An ongoing process of training and technical advice for public employees and private operators supports compliance with Law 7/2003 on the Regulation of the Environment and other supplementary regulations, and encourages other sectors to contribute to the protection and restoration of forests and other ecosystems.

I.4.2. DESCRIPTION OF SECTORS

Mining

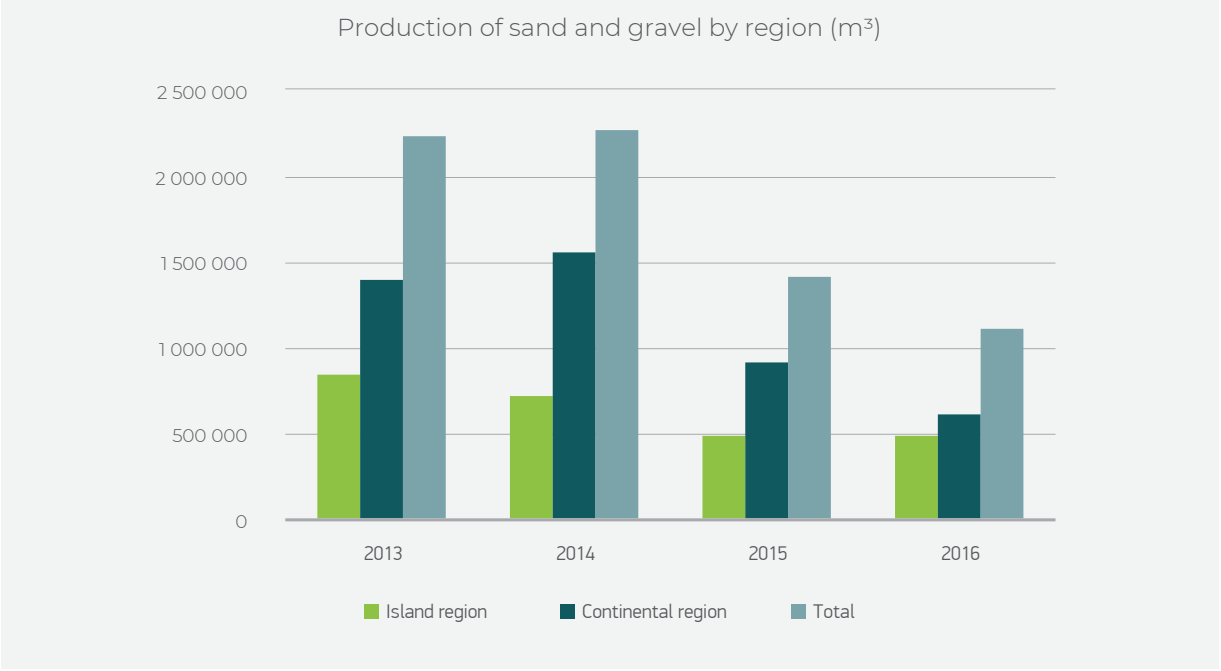
PNDES 2020 aims to diversify the country's economy and identifies the mining sector as one of its strategic pillars (RGE, 2007). Mining is a productive option that can generate great economic benefits, but can also have significant negative social and environmental impacts, including deforestation and forest degradation.

Over the past 15 years, the following studies have been carried out to establish mining resource potential and characteristics: a study to determine the petrographic characteristics of Bioko's basalt, sand and limestone rock in Río Muni (2005 and 2006); a geophysical study and report on the country's mining potential (in 2007 2011); and studies on mineral exploration in the country's continental region in order to prepare a geological map (in 2012). Preliminary information identified areas in the continental region where coltan, gold, diamonds, bauxite, iron and titanium could be found. Previous exploration studies show that the country also has non-metallic minerals such as clays, granite (feldspar, quartz and micas) and shales, the mining of which could cause damage to forests (MMH, 2017).

In recent years, mining activities have mainly involved open-pit aggregate quarry mining for infrastructure building. These activities have had a major impact on the environment due to clearing and uncovering work (removal of plant cover and leftover material) to open up access to the quarry, the material to be mined and the sand extraction areas. Companies are obliged to submit environmental impact studies with an associated rehabilitation project, although they often leave sites without carrying out any restoration work once the material has been mined (MMH, 2017). Quarrying has declined in recent years (see Figure I.5), and it is estimated that slightly more than 10 of the 100 existing quarries are now in operation. Gold is also mined (approximately 500 kg per year) on a small scale.

The mining sector is considered an important option for diversifying the economy. In February 2019, the Ministry of Mines and Hydrocarbons (MMH) officially announced the first round of mining licences in Equatorial Guinea (see Figure I.6), with the aim of attracting investors and approving concessions in the continental region to activate the sector. Three types of mining contracts were drawn up: prospecting, mining and production. The first round of mining licences coincides with a round of oil and gas licences in 2019.

FIGURE I.5. AGGREGATE PRODUCTION BY REGION IN 2013–2016



Sources: INEGE, 2018; data from the Directorate-General of Mines and Quarries.

The current Mining Code dates from 2006. The MMH has drafted a Mining Law and a Mining Regulation that are still pending approval. These establish the technical provisions of technological processes to be carried out in mining operations, including environmental safeguards.

The institution responsible for the sector is the MMH. The Directorate-General for Mining and Quarries, the Directorate-General for National Content and the Inspectorate General for Services report to this institution.

Urban development, roads and other civic infrastructure

Due to the economic boom driven by the discovery of oil in the mid-1990s, Equatorial Guinea has made a commitment to infrastructure development as one of the country's priority political and economic strategies.

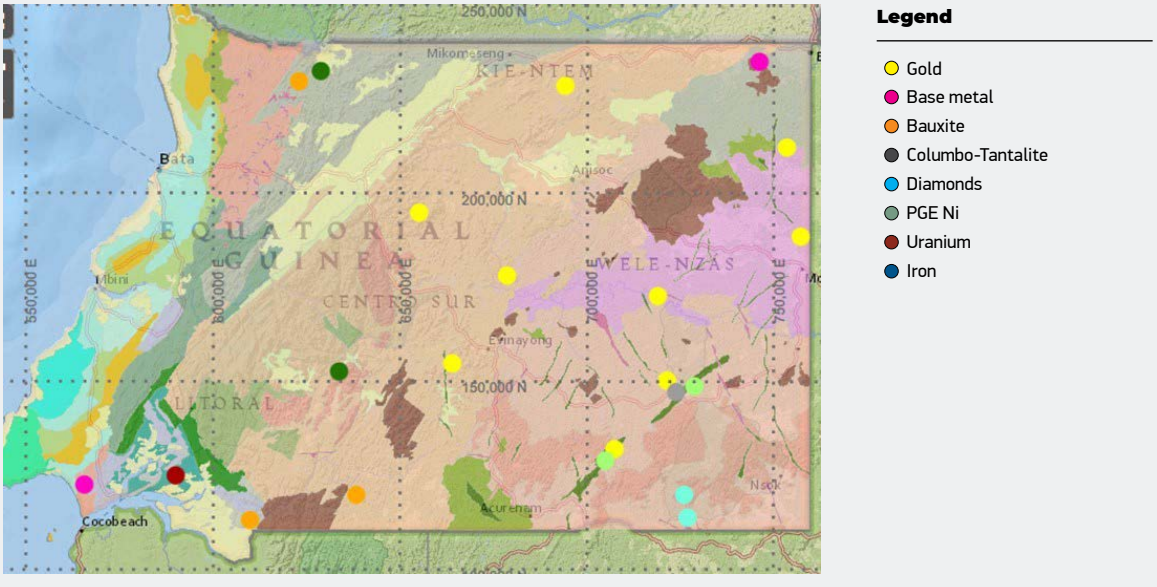
During the first stage of implementing PNDES 2020, infrastructure represented almost 80 percent of total public expenditure. This policy has led to an expansion of city centres and the road network, the construction or rehabilitation of nine ports and the modernization of five airports (RGE and World Bank, 2016). In 2016, the PNDES 2020 infrastructure pillar was the item with the most resources allocated, accounting for 58 percent of investments.

The transport infrastructure network has developed significantly. It is estimated that in the 1990s (before the oil boom) there were only 60 km of paved roads in Equatorial Guinea (African Business Magazine, 2014). By 2016, Equatorial Guinea had a road network of 3 856 km (64 percent paved and 36 percent gravel roads).

Improved infrastructure helps to encourage private investment, promote transport and trade, improve public services and reduce the isolation of the population. However, infrastructure development can also have a negative environmental impact and cause forest loss. Because road construction facilitates access to areas with significant fauna and flora resources that are illegally exploited by hunters and loggers, it has affected the protected areas of the continental and insular regions, with negative consequences for forests and biodiversity.

Urban development also depletes the country's forest area. One significant development has been construction of Ciudad de la Paz (formerly known as Oyala) in the continental region as the new administrative capital of Equatorial Guinea. The city is designed for a population of 160 000 inhabitants and its construction has affected a virgin forest area of 8 150 ha (RGE and World Bank, 2016).

FIGURE I.6 MAP SHOWING THE FIRST ROUND OF MINING LICENCES



Source: https://egronda.com/mining/.

The expansion of infrastructure is expected to continue over the next few years, albeit at a slower pace than in previous years. Projects include:

- Continental region: construction and rehabilitation of roads, expansion of Bata airport, ongoing construction of Cuidad de la Paz;
- Bioko Island: new terminal at Malabo airport, construction of the new University;
- Annobón Island: construction of the island's ring road;
- Nationwide: development of 53 new urban districts to decentralize the administration.

Urban centres are expected to grow nationwide, given the average annual population growth rate of 3.5 percent over the last 20 years and the concentration of the population in urban centres, which is estimated at 70 percent of the total (INEGE, 2017).

The Ministry of Public Works, Housing and Urban Development is the institution responsible for infrastructure construction through the following Directorates-General: Public Works; Roads; Land Registry; Project Analysis, Assessment and Control; and Territorial Action and Urban Planning. GE Proyectos acts a decentralized institution in charge of public work technical design and procurement.

Energy

Equatorial Guinea aims to become one of the main electricity producing countries in the subregion based on economic and social profitability criteria (RGE and World Bank, 2016). The country has invested heavily in energy projects in recent years, particularly in hydroelectric and thermodynamic energy, which has significantly increased its capacity for electricity generation and even energy exporting.

Investment in energy generation represented 38 percent of total investment in the productive sector (including hydrocarbons, telecommunications and trade sectors) during the period 2010-2015 (INEGE, 2017). In 2019, a new oil and gas tendering procedure was launched. Exploitation will be offshore and therefore have no impact on forests.

The country currently has two combined cycle thermal power plants with gas turbines on Bioko Island: one capable of producing up to 154 megawatts (MW), which supplies electricity to the capital, Malabo; and another 22 MW plant intended for the Punta Europa hydrocarbon industry. The island also houses a 22 MW diesel plant, two small hydroelectric plants and a 7 MW thermal plant. A 125 MW hydroelectric plant is also present in the continental region (INEGE, 2017). Electricity production has almost quadrupled since 2007 (ANGE2020, 2014). Some of these power plants are not producing to their maximum capacity due to lack of maintenance and improvements.

Construction of the electricity distribution network is still ongoing (INEGE, 2017). Attempts are being made to rely on wind, solar or tidal energy on the country's remote islands (MPMA, 2015b). Regarding future projects, construction of a new hydroelectric plant is planned in Sendje, which will have a generating capacity of 200 MW. A 24 MW thermal plant is also planned for Bata as well as a 3.2 MW hydroelectric mini-plant in Bikomo.

The impact of the energy sector on forests is mainly linked to the extension of the electricity distribution network in villages and the building of hydroelectric dams (e.g. the Sendje hydroelectric plant on the Wele river). Dam building has a significant impact on biodiversity because it affects basins and rivers that provide water downstream, as well as reservoir areas due to the flooding. Forests play a key role in reducing clogging and damage to turbines caused by soil erosion, which significantly increase the maintenance cost of hydroelectric plants and reduce their productivity. The efforts needed to increase access by rural communities to fuel and energy sources in order to reduce the workload of women and children should seek to limit any negative impact on forests as much as possible.

The energy sector is the responsibility of the Ministry of Industry and Energy, to which the Directorate-General for Energy reports.

Environmental legal framework

Productive and economic activities in forest areas are regulated by Law 7/2003 on the Regulation of the Environment, which sets out the duties and obligations that must be fulfilled to reduce environmental impacts and achieve sustainable development.

Law 7/2003 on the Regulation of the Environment enshrines the guidelines of international conventions and establishes basic standards for the conservation, protection and rehabilitation of the environment, and promotes the sustainable use of natural resources with the aim of achieving sustainable human development in the country. It sets out two main objectives for

this purpose: achieving a high degree of conservation and protection of the national environment; and establishing an administrative intervention system for the environment.

The main elements established by this law are:

- All businesses, whether publicly or privately owned, that may affect the environment are subject to the law (Article 3). Each public body, within the scope of its powers, shall ensure the maintenance and conservation of natural resources throughout the country, irrespective of their ownership or legal status, considering the proper use and restoration of natural resources (Article 11). Public and private projects involving the implementation of works, installations or any other activity covered by this Law must be submitted in advance (Article 52) for an environmental impact assessment (Article 49).
- A National Corps of Environmental Inspectors is set up with the mission of ensuring an environmental impact assessment before, during and after any activity or project that is likely to have a negative impact on people, fauna, flora, soil and other natural assets (Article 59).
- CONAMA is being set up as a consultative and cooperation body for implementing the law. The following Committees will be attached to this body, among others: the Committee on Natural Protected Areas, the Committee on Wildlife and the Committee on Environmental Impact.
- INCOMA is being set up with responsibility for implementing the Law on the Regulation of the Environment, evaluating and assessing environmental impact, reporting activities that give rise to environmental risk, and suggesting measures for re-establishing the environmental balance (Articles 155 and 156). The National Environment Fund is also being established (Articles 155 and 157).
- The ministerial department competent in each case will be responsible for planning in order to ensure natural resources are appropriately managed. Natural resource management plans are being set up as a tool (Article 13). No actions involving sensitive processing of the physical and biological environment can be carried out while the Management Plan is entering into force. Until the Plan is approved, no permit, licence or concession enabling actors to carry out physical or biological processing can be granted (Article 16).

This Law needs to be supplemented with specific sector regulations (e.g. draft Mining Regulations) that establish an institutional framework, obligations, technical instruments, procedures, monitoring and control systems and penalties to ensure that the sector is developed with a sustainable approach.

I.4.3. CHALLENGES

The main challenge for compliance with Law 7/2003 on the Regulation of the Environment concerns the institutional framework. The country's institutional framework is characterized by frequent changes of authorities, repeated ministerial reshuffles, insufficient resources, understaffing (e.g. in the National Environmental Inspectorate), lack of clarity in the responsibilities of each institution, shortage of transport and equipment for proper environmental control, and limited access and control by women to/over productive resources and local services and institutions.

Institutional strengthening would encourage the application of Law 7/2003 on the Regulation of the Environment, and allow for the performance and monitoring of environmental impact assessments on public and private projects and businesses; the strengthening of the National Environmental Inspectorate; the establishment of the National Committee for the Environment, which is not yet operational; improvements in consultation processes with stakeholders; the establishment of the National Fund for the Environment; and the preparation of natural resource management plans.

It is also necessary to continue and strengthen inter-institutional and intersectoral coordination to promote integrated and sustainable management, allow multiple uses to be combined and reduce the impacts on forests, soil, air, and water resources.

The country is investigating different energy sources in order to develop the energy sector. Energy conversion, based on reducing dependence on fossil fuels and replacing them with renewable sources, requires an analysis of the country's energy matrix. To facilitate decision making that is based on weighing advantages and disadvantages,

this analysis should consider costs, vulnerability to external factors, risks, contribution to global warming and the impact on the country's forests and natural resources.

The land planning aspect will encourage coordination between sectors and the development of regulations for various productive activities.

I.4.4. LINKS BETWEEN SECTORS AND CLIMATE CHANGE

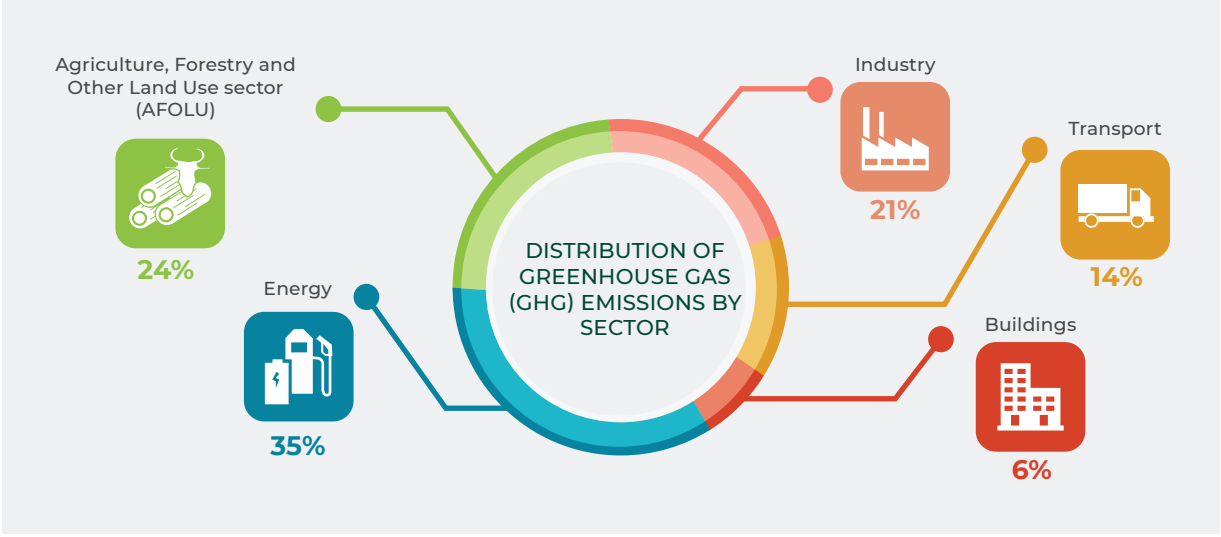
Globally, energy is responsible for approximately 35 percent of all anthropogenic greenhouse gas emissions. The various energy sources (e.g. oil, coal, gas, nuclear and renewable energies, such as water, geothermal, wind, solar and bioenergy) generate emissions linked to extraction, conversion, storage, transmission and distribution, as well as emissions linked to land-use changes or loss of tree cover. Mitigation options in the energy sector include improving energy efficiency; substituting low-carbon energy for fossil fuels (e.g. coal, which is a very significant source of emissions); using renewable energy (low-carbon and with potential to increase energy efficiency); using nuclear energy; and carbon capture and storage (IPCC, 2014). Preventing energy development from contributing to forest loss is an additional mitigation measure.

In Equatorial Guinea, the contribution made by the energy sector to deforestation and forest degradation (i.e. emissions associated with the AFOLU sector) during the period 2004–2014 is mainly linked to growth in the electricity distribution grid, which has received substantial investment in recent years to ensure an energy supply throughout the country. The proportional impact of electricity grid expansion on deforestation and forest degradation was 3 percent and 5 percent respectively during the period 2004–2014 (see Table I.4).

Mining generates greenhouse gases related to the process of extraction, exploitation, treatment and transport (e.g. blasting, machinery and mineral processing) in addition to other environmental and social impacts. Mining can also generate emissions linked to land-use change or forest loss. In the case of Equatorial Guinea where no large mining operations are being carried out, the main impact on forestry is due to clearing and uncovering work to open up access to aggregate quarries. As shown in Table I.4, during the period 2004–2014, quarries accounted for 3 percent of deforestation in the country (2 821 ha) and 5 percent of forest degradation (10 500 ha). Tendering and contracting planned for 2019 could significantly increase forest loss linked to mining if no mitigation measures are taken.

The construction sector is responsible for 6 percent of global emissions. Construction-related emissions are mainly related to energy use, and mitigation

FIGURE I.7. GREENHOUSE GAS EMISSIONS BY SECTOR



Source: FAO, 2016c.

TABLE I.4. DEFORESTATION AND FOREST DEGRADATION CAUSED BY INFRASTRUCTURE EXPANSION IN 2004–2014

DRIVER	UNDERLYING DRIVERS	Deforestation (ha)	%	Degradation (ha)	%
Infrastructure expansion	Sand and gravel extraction (quarries)	2 821	3%	10 496	5%
	Expansion of transport routes	15 517	18%	43 599	19%
	Urban expansion	56 426	65%	10 496	5%
	Other public and private company services	5 643	7%	6 459	3%
	Expansion of the electricity grid	2 821	3%	11 303	5%
	Subtotal	**83 228**	**96%**	82 353	37%

Source: MAGBMA y FAO, 2018.

options are therefore concerned with improving energy efficiency. The sector also generates emissions due to land-use change or forest loss. As Table I.5 shows, the expansion of infrastructure in Equatorial Guinea (the development of transport routes, urban expansion, extension of the electricity grid and the opening of quarries) has been the main driver of deforestation (with a proportional impact of 96 percent) and the second driver of forest degradation (with a proportional impact of 36 percent) during the period 2004–2014 (MAGBMA and FAO, 2018).

It is believed that infrastructure will grow at a slower rate in the future, due to the economic recession and fulfilment of much of the planned investment. However, there is a significant risk of deforestation and indirect forest degradation related to infrastructures already built, since they facilitate access to forests and the development of productive activities.

I.4.5. OUTCOMES AND OUTPUTS

Developing the energy, mining and construction sectors as a means of contributing to the country's economic diversification can be carried out with a sustainable green development approach designed to reduce and minimize impact on forests and increase forest carbon stocks. The outcomes and outputs proposed in PN 4 are set out in Table I.5.

TABLE I.5. OUTCOMES AND OUTPUTS OF PN4: MINING, ENERGY AND CONSTRUCTION WITH REDD+:

OUTCOMES	OUTPUTS	RELATED DOCUMENTS
4.1. Governance of the environment and the mining, energy and construction sectors has been improved, helping reduce the impact on forests.	4.1.1. MAGBOMA strengthened, by clearly defining its responsibilities and providing it with more human resources (encouraging greater representation by women), technicians, equipment and technology to comply with the Law on the Regulation of the Environment, including the INCOMA and the National Environmental Inspectorate.	• Law 7/2003
	4.1.2. Environmental technicians employed by Ministries with links to the mining, energy and construction sectors, facilitating the incorporation of environmental aspects in general operations and ensuring production activities under Ministerial responsibility comply with environmental laws.	• Law 7/2003
	4.1.3. Standards in the mining, energy and construction sectors for the quantification, valuation, mitigation and monitoring of environmental impact on forests developed, applied and disseminated. This action: • limits and mitigates forest damage by future mining concessions, promoting low-impact mining • encourages construction alternatives with lower emissions and less forest loss • promotes energy efficiency and renewable energies. Analyses the energy matrix, considering the impact on forest and contribution to global warming • encourages forest or agroforestry restoration of affected areas • companies employ environmental technicians to ensure compliance with regulations.	• Law 7/2003 • Mining Regulation Standard (under preparation)
	4.1.4. The National Environment Fund has been set up and has an action plan and operational structure that funds forest protection and conservation activities.	• Law 7/2003
4.2. Intersectoral and interregional planning and coordination for the mitigation of negative environmental impacts on forests has been strengthened through CONAMA.	4.2.1. Internal regulations for environmental permit deliberation, decision making and analysis developed.	• Law 7/2003
	4.2.2. Funding sources ensured for the early years of CONAMA's operation.	• Law 7/2003
	4.2.3. Technical capacities of CONAMA members (representatives of the relevant Ministries) developed for fulfilment of their functions according to Law 7/2003 and internal regulations.	• Law 7/2003
	4.2.4. CONAMA brings together the institutions responsible for the various productive sectors through platforms and/or forums for coordination, consultation, planning and decision making that contribute to forest and environmental conservation. CONAMA encourages greater environmental focus in the various sectors and greater inter-institutional and intersectoral coordination.	

OUTCOMES	OUTPUTS	RELATED DOCUMENTS
4.3. An ongoing process of training and technical advice for public employees and private operators supports compliance with Law 7/2003 on the Regulation of the Environment, and other supplementary regulations, and encourages other sectors to contribute to the protection and restoration of forests and other ecosystems.	4.3.1. Plan for awareness raising, training and ongoing dissemination of the legal framework and application of Law 7/2003 implemented in public entities and companies.	• Law 7/2003
	4.3.2. Technical training for the quantification, valuation, mitigation and monitoring of environmental impact on forests, specifically in relation to the preparation of environmental impact studies and analysis of the country's energy matrix.	• Law 7/2003
	4.3.3. Forest ecosystem restoration programme (e.g. in exploited areas, such as quarries or unrestored construction areas; and in the catchment areas of hydroelectric power plants managed by the Equatorial Guinea Electricity Company), including the drawing up and implementation of a restoration plan to reduce turbine clogging and damage caused by sediments.	

I.5. PN 5: GOVERNANCE FOR REDD+

I.5.1 PURPOSE

The purpose of PN 5 on governance for REDD+ is to achieve the following:

> *REDD+ implementation and integrated land management are carried out under a participatory, transparent, inclusive and decentralized governance system. This considers the needs, customs and opinions of Equatoguinean men and women, as well as economic, social and environmental aspects, and allows the dissemination of public information and accountability.*

PN 5 will make it possible to address the drivers of deforestation and forest degradation in an integrated and participatory manner with the aim of reducing carbon emissions associated with forest loss, managing the territory in an integrated manner and promoting sustainable development.

Appropriate governance for REDD+ will encourage compatibility between the country's development agenda and the conservation of its natural resources, especially forests and biodiversity; inter-institutional and intersectoral participation and coordination; institutional strengthening; the monitoring of environmental and socio-economic impacts of REDD+; and greater efficiency and equity.

The expected outcomes to achieve this purpose are:

- CP-REDD+, as the highest authority for decision-making, planning and monitoring of the REDD+ process, has been strengthened through the participation of stakeholders from different institutions and sectors, high-level representation, the regular organization of discussion platforms, and the dissemination of information on its actions and decisions related to REDD+.
- CN-REDD+, as the executive body for technical advice, has been implemented and strengthened. It has the resources and capacity to manage the REDD+ process, supporting participating government, academic and civil society institutions.

- A decentralized REDD+ coordination and implementation system is in operation at the regional and provincial level.
- A national information platform, with the participation of the media, communication units of Ministries and other institutions, coordinates and strengthens the process of generating and disseminating information and knowledge related to REDD+.
- A Safeguard Information System collects information on the social and environmental impact of the REDD+ process and the mitigation of possible negative effects, considering the specific impacts on men and women.
- A complaint mechanism actively resolves conflicts relating to the REDD+ process.

I.5.2. BACKGROUND

Equatorial Guinea made great progress during its preparation for REDD+. This progress must now be consolidated for the proper implementation of REDD+ actions and investments.

In 2014 official approval of Equatorial Guinea's CP-REDD+ and its executive arm CN-REDD+ was given by means of Resolution 50/2014. CP-REDD+ is co-chaired by the Directorate-General for the Environment and the Directorate-General for Forestry.

Although CP-REDD+ and CN-REDD+ were officially set up in 2014, their composition must be revised to include all relevant actors and define their roles and coordination with the bodies involved in the national strategy to combat climate change.

In 2016, a temporary body, the National Steering Committee for developing the REDD+ National Investment Plan (CP PNI-REDD+) was set up under a project funded by CAFI. The Presidency of CP PNI-REDD+ was assumed by the Directorate-General for Planning and Programming of Public Investments, which is answerable to the Ministry of Finance, Economy and Planning. The Directorate-General for Environmental Conservation, answerable to MAGBOMA, assumed the Vice Presidency.

The members of CP PNI-REDD+ included representatives of the Senate and Parliament, the Directors-General of various Ministries and representatives of civil society, the business sector, academia and international cooperation.

CP PNI-REDD+ provided a platform for discussion, review and approval of the REDD+ readiness phase documents package, including PNI-REDD+. This temporary Committee, linked to CAFI, worked effectively, achieving high-level cross-sectoral coordination.

In 2015, Equatorial Guinea defined its commitment to the global fight against climate change in its NDCs under the Paris Agreement (MPMA, 2015b), which was definitively ratified by the country in July 2018. The set of commitments to adapt to climate change and mitigate greenhouse gas emissions states a specific target to reduce emissions compared to 2010 levels by 20 percent by 2030 and 50 percent by 2050. The NDCs were used as a basis for defining the strategic goals of EN-REDD+

Decentralization

The REDD+ readiness preparation proposal (RPP), specifically included subnational representation by provinces, districts and local communities) on the CP-REDD+ (MPMA, 2014) by setting up:

- interprovincial REDD+ representations, which would be chaired by the Governor of the province with the same members as CP-REDD+, with the difference that, at the regional level, the administrative hierarchy established by the government would be respected (Governor, regional delegates, local civil society representatives, community representatives and producer representatives);
- representatives of REDD+ for each district to inform interprovincial representations of their jurisdictions' views and feedback information on REDD+ to their own districts; and
- REDD+ representations in village councils to facilitate the work of the CN-REDD+ in these local entities. It was proposed that each village council should have a REDD+ representative, supported by seven council members.

With the readiness proposal, the EN-REDD+ recommend strengthening institutions and creating a decentralized framework for REDD+ that included different administrative levels and village councils.

Communication and dissemination

Communication and information on key aspects for REDD+, both in terms of circulating general information to people about forests and REDD+, and generating and systematically processing specialized technical legal information that is accessible to the public, takes into account the different levels of education and information possessed by men and women from different socio-economic and ethnic groups.

One of the indirect drivers of deforestation and forest degradation is low awareness of the collective environmental good, and a limited knowledge of the value of forests, sustainable forest management and existing legislation.

In response to the need for greater public awareness, the country is developing ongoing communication campaigns to circulate the importance of forests and biodiversity (Biodiversity Week or International Forest Day). Within the framework of REDD+, participatory processes (with authorities, opinion leaders, media professionals and men and women from communities) and specific workshops on REDD+ for journalists and communicators are also being promoted to encourage greater media coverage of the REDD+ process and the importance of forests.

Considerable progress has been made in recent years, with the generation and dissemination of baseline information. For example, the National Institute of Statistics of Equatorial Guinea (INEGE) has published the first Statistical Yearbook (INEGE, 2017), the first Population Census (INEGE, 2017) and the first General Agricultural Census (INEGE, 2015). The Equatorial Guinea National "Horizonte 2020" Agency periodically presents data on the progress of PNDES 2020, while the Government website includes news on the Presidency of the Republic, the Government, the economy and culture, and economic and social statistics[6].

Significant progress has also been made in the forestry sector, including the Atlas forestal de Guinea ecuatorial, published in 2013 and updated in 2016 (MAB and WRI, 2013; 2016), and the Study on the drivers of deforestation and forest degradation in Equatorial Guinea 2004-2014 (MAGBMA y FAO, 2018).

[6] Available at www.guineaecuatorialpress.com

Safeguard systems

The implementation of REDD+ actions has the potential to generate social and environmental benefits, in addition to reducing emissions. However, it can also have negative social or environmental effects (e.g. conflicts over land use, exclusion of communities from decision making, conflict over land ownership, displacement of deforestation to other areas). The UNFCCC has established a number of safeguards to reduce or avoid these negative impacts. It also calls on countries that promote and support such safeguards during the implementation of REDD+ actions to develop a system to provide information on how these safeguards are being addressed and respected (the Safeguard Information System) and to report back to it on this subject.

EN-REDD+ establishes actions needed to develop the Safeguard Information System and proposes a complaints mechanism to address people's concerns and complaints regarding REDD+. Both will be established according to the principles of Law 7/2003 on the Regulation of the Environment, and commitments made by Equatorial Guinea in the various international conventions on the environment[7] and gender equality[8].

Multiple sources of information will be considered when developing the Safeguard Information System, such as the National Global Forest Resources Assessment (FAO) report; reports generated under the Convention on Biological Diversity (CBD); the report on the State of the Forest in Central Africa; and the report of the Central African Forest Observatory, a body of the Central African Forest Commission (MPMA, 2014). Other national institutions holding information relevant to the Safeguards Information System are INCOMA; INDEFOR-AP; the Directorate-General for the Environment, which reports to MAGBOMA; INEGE; the Ministry of Social Affairs and Gender Equality and various cooperation agencies.

[7] Central African Forests Commission Treaty; Convention on International Trade in Endangered Species of Wild Fauna and Flora; Convention on Biological Diversity; United Nations Framework Convention on Climate Change; United Nations Convention to Combat Desertification; Agreement on the Conservation of Nature and Natural Resources; Central African Forest Commission; Yaoundé Declaration; Convergence Plan for the Conservation and Sustainable Management of Central African Forest Ecosystems; Central African Forest Initiative.

[8] Convention on the Elimination of all forms of Discrimination against Women; Beijing Declaration and Platform for Action; African Charter on Human and People's Rights.

I.5.3. CHALLENGES

Public investment

During the period 2010–2016, public investment has concentrated on infrastructure development for road building (39 percent), electricity generation (8 percent), ports (7 percent) and open development (6 percent), with limited consideration of environmental impact mitigation and damage compensation. Despite the major programme "Equatorial Guinea, ecological model" provided for in PNDES 2020, which aims to promote actions to ensure environmental protection, investments associated with the environment have accounted for approximately 3 percent of total resources and have mainly related to the construction of pipelines, septic tanks and sanitary sewers (ANGE2020, 2017).

Concentrating public investment in a single area hinders economic diversification in accordance with sustainable and inclusive criteria and a multisectoral approach, as well as the integrated development of local sectors.

REDD+ Steering Committee and REDD+ National Coordination

CP–REDD+ and CN–REDD+, which have been officially established, both require resources and technical, human and financial support to be able to continuously exercise their assigned functions.

The composition of CP–REDD+ must be reviewed to ensure intersectoral and institutional coordination at the highest level, the representativeness of all social actors, and decision-making with the greatest possible consensus.

The CN–REDD+ organization must be geared to:

- extending the functions associated with the Safeguard Information System;
- coordinating the Programme and Project Development Unit with the Ministries and Directorates-General linked to the various sectors;
- vertically coordinating decentralized levels; and
- defining the institutional framework for financing REDD+ (i.e. who will coordinate access to different sources of REDD+ funding and how).

The institutional structure of REDD+ must be made part of a higher national structure linked to climate change.

Information availability, access and dissemination

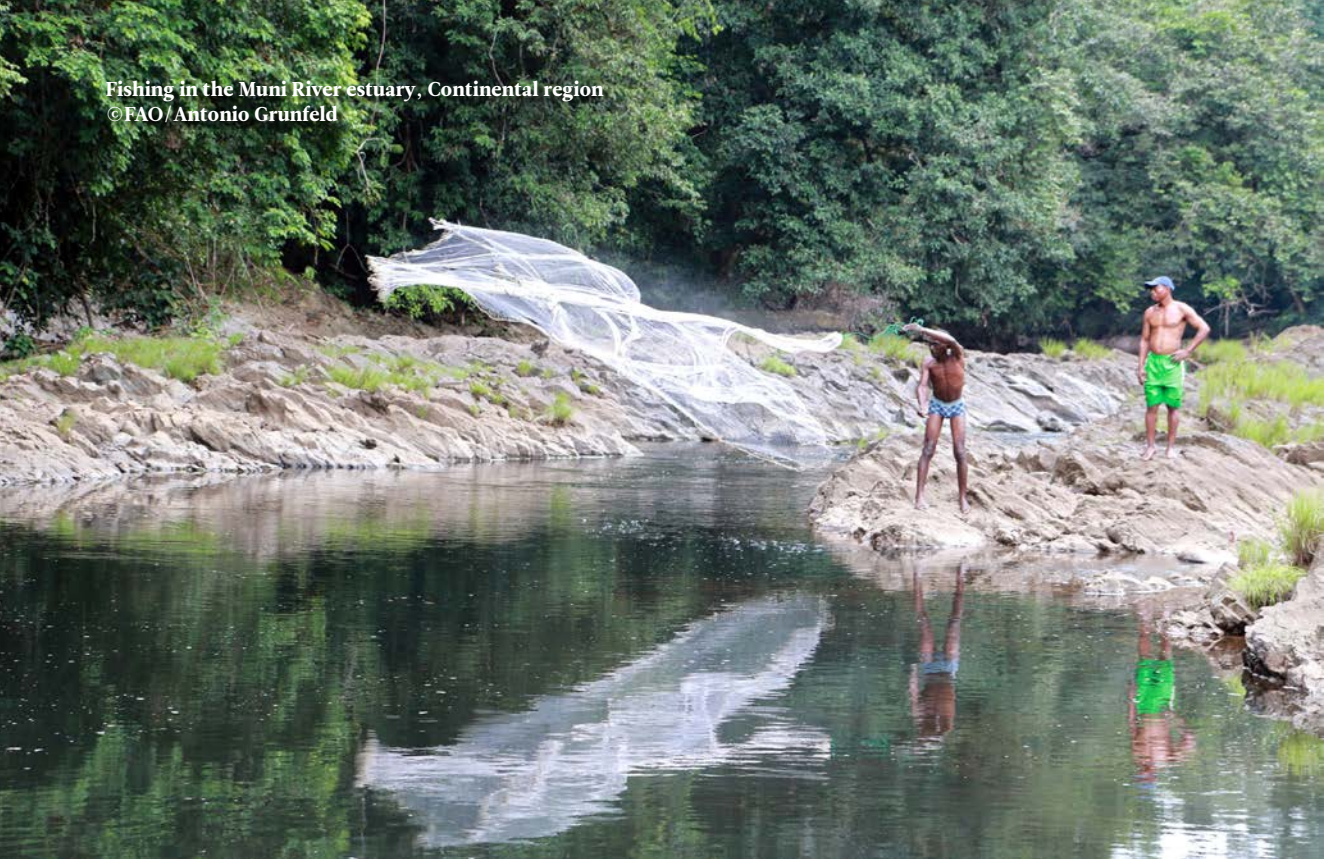
Despite progress made in terms of access to information and information availability and dissemination, there is still a lack of systematically organized and accessible information on laws, sectoral statistics, policies, mapping, technical standards, and case studies. There is also a lack of data broken down by gender with the aim of acknowledging gender roles and responding to the different needs and priorities of men and women. This lack of information is an obstacle to decision-making, promotion of good land management practices and awareness raising among men and women.

An information platform or system would facilitate the work of forestry institutions and all social agents involved in land management. The platform could include various modules, such as the following:

- mapping and information on land cover and use, forest area and land registry;
- identification of tree species;
- forest inventory;
- emission factor database;
- virtual library of documents and maps; and
- multimedia.

Lack of information sources also makes it difficult to collect data on the way that REDD+ safeguards are addressed and respected. This requires data on biodiversity, national forests and respect for community rights and knowledge.

Communication processes on environmental issues must be coordinated and designed according to different target groups to change perceptions of the importance of forests and improve land use practices. An initial assessment is required to find out the true situation (i.e. the knowledge, interest and involvement of the population in environmental management and the sustainable use of forests).



Fishing in the Muni River estuary, Continental region
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I.5.4. LINKS BETWEEN GOVERNANCE AND CLIMATE CHANGE, DEFORESTATION AND FOREST DEGRADATION

REDD+ requires effective, efficient and equity-enhancing governance. A weak governance system favours deforestation and forest degradation and is therefore a major underlying driver and one of the main challenges to the success of the process.

In the case of Equatorial Guinea, the plan is to strengthen the legal, regulatory and institutional framework; land planning and decision-making processes; inter-institutional coordination; transparency, access to public information and public participation.

I.5.5. OUTCOMES AND OUTPUTS

The outcomes and outputs proposed in PN 5 are set out in Table I.6.

TABLE I.6. OUTCOMES AND OUTPUTS OF PN 5: GOVERNANCE FOR REDD+

OUTCOMES	OUTPUTS	RELATED DOCUMENTS
5.1. CP-REDD+, as the highest authority for decision-making, planning and monitoring of the REDD+ process, has been strengthened through the participation of stakeholders from different institutions and sectors, high-level representation, the regular organization of discussion platforms, and the dissemination of information on its actions and decisions related to REDD+.	5.1.1. New resolution on CP-REDD+, its statutes and its internal operating rules.	• Planned NDCs • EN-REDD+ • Decree 50/2014 • Law 1/1997 • CN-REDD+ manual
	5.1.2. Approved and implemented CP-REDD+ workplan that defines objectives, activities, timelines, budget and responsibilities, and promotes dialogue and coordination between multiple sectors and stakeholders and the integration of REDD+ into national economic and social development plans.	
	5.1.3. CP-REDD+ information and communication plan to disseminate the content of its decisions, actions and subsequent results and provide information for national development plans.	
5.2. CN-REDD+, as the executive body for technical advice, has been implemented and strengthened. It has the resources and capacity to manage the REDD+ process, supporting participating government, academic and civil society institutions.	5.2.1. New resolution on CN-REDD+.	• NS-REDD+
	5.2.2. Updated and approved CN-REDD+ operating statutes and regulations.	• CN-REDD+ manual
	5.2.3. Specialist study conducted to determine the institutional framework and operation of the financing mechanism for REDD+ implementation.	• Readiness preparation proposal for REDD+ (RPP) • EN-REDD+
	5.2.4. National REDD+ capacity-building plan.	• EN-REDD+
	5.2.5. Incorporation of REDD+ into the institutional structure of climate change.	

OUTCOMES	OUTPUTS	RELATED DOCUMENTS
5.3. A decentralized REDD+ coordination and implementation system is in operation at the regional and provincial level.	5.3.1. Document on the decentralized organization for REDD+ implementation that includes levels, competences, workplan and information reporting systems.	• Readiness preparation proposal for REDD+ (RPP) • EN-REDD+
	5.3.2. Decentralized system operating and contributing to decision making, implementation and monitoring of REDD+.	
5.4. A national information platform – with the participation of the media, communication units of Ministries and other institutions – coordinates and strengthens the process of generating and disseminating information and knowledge related to REDD+.	5.4.1. Network of focal points in public and private media set up.	
	5.4.2. National communication programme geared to different actors, which raises awareness and provides training on the value of forests and the importance of the sustainable management, climate change REDD+, forest governance and FLEGT.	
	5.4.3. Continuous training programme for communicators on REDD+.	
	5.4.4. Information system on forests and other land uses updated and publicly accessible through a website, organized into modules that include sectoral information relevant to REDD+, standards, mapping, data from the National Forest Monitoring System and forest inventory.	
5.5. A Safeguards Information System collects information on the social and environmental impact of the REDD+ process and the mitigation of possible negative effects, considering the specific impacts on men and women.	5.5.1 A Safeguards Information System has been designed that includes the identification of possible information sources.	• Law 7/2003 • EN-REDD+
5.6. A complaint mechanism actively resolves conflicts relating to the REDD+ process.	5.6.1 Complaints mechanism set up that includes the definition of procedures for handling and resolving possible REDD+ conflicts and complaints.	• EN-REDD+

I.6. PIL I: LITORAL PROVINCE

Local integrated programme (PIL) I is located in the municipalities of Machinda, Bata, Mbini, Bitika, Kogo and Río Campo in the continental region.

I.6.1 PURPOSE

The purpose of PIL I in Litoral Province is to achieve the following:

> *Litoral Province Municipalities adopt a low-emission sustainable development model, which promotes integrated and participatory management of land and forests; mangrove preservation and restoration; the sustainable and legal production and marketing of agricultural and forest products with links to markets in Bata; and the socio-economic and environmental benefits of protected areas.*

The expected outcomes to achieve this purpose are:

- Litoral Province and its municipalities have land-use plans and green urban plans. All these constitute the reference planning tool collectively agreed upon to balance environmental, social and economic needs and benefits.
- The communal and national forests of Litoral Province are managed in a sustainable manner.
- Mangroves are restored and used in a rational and sustainable manner due to restoration and conservation plans and the development of bioenergy production chains in adjacent communal forests. Together with the use of improved ovens, this reduces the exploitation of mangroves to obtain firewood for fish smoking.
- Agricultural and agroforestry production in Litoral Province are stepped up sustainably in degraded forest areas, which includes planning and strengthening value chains, promoting the development of small and medium-sized production and food processing companies, and linking production to markets in Bata to meet food requirements.

Wele River, village of Alen, Continental region
©FAO/Antonio Grunfeld

- Protected areas in the Litoral Province are managed in a sustainable and participatory manner, contributing to the fight against climate change, the protection of biodiversity and the development of economic activities compatible with protection objectives.
- REDD+ is implemented in Litoral Province municipalities under a participatory, transparent, inclusive and decentralized governance system.

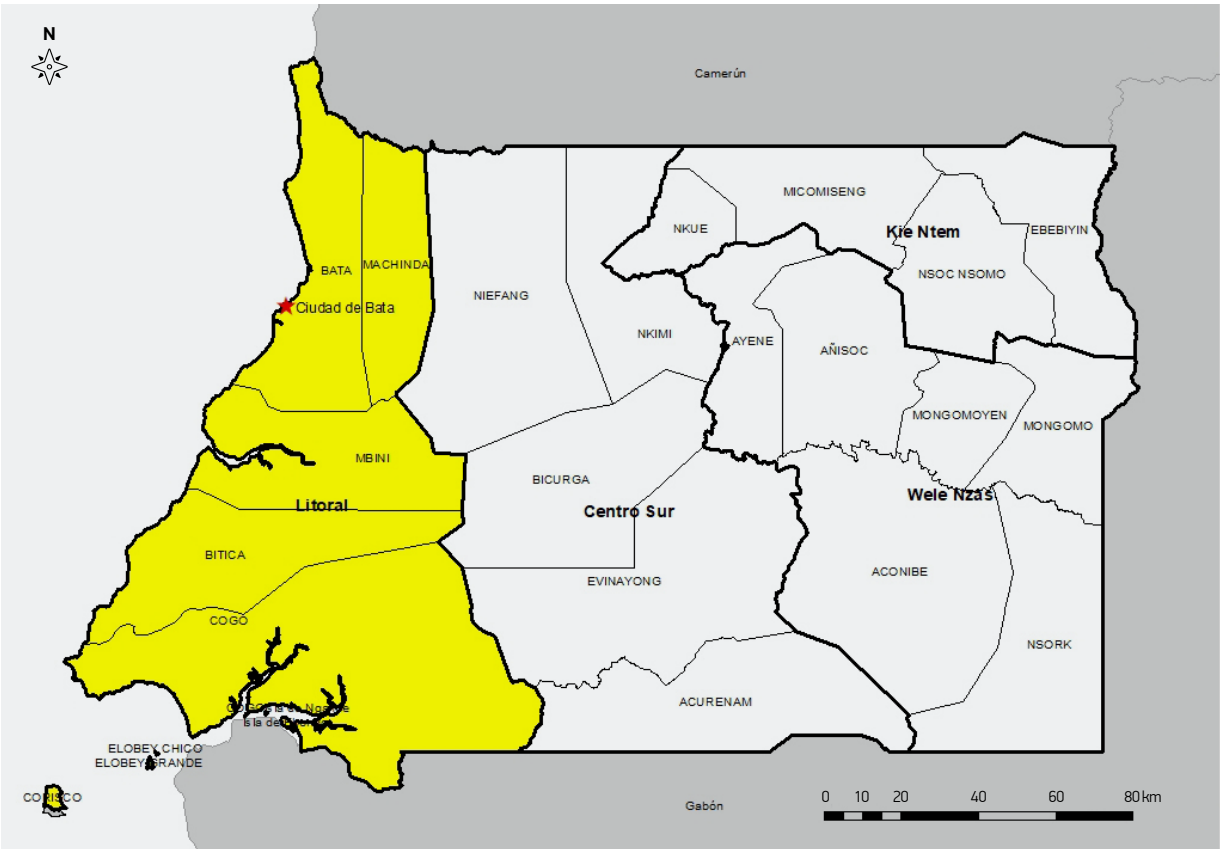
I.6.2. CHARACTERISTICS OF THE PIL I TERRITORIAL JURISDICTION

Location

The PIL I territorial jurisdiction corresponds to Litoral Province, which is made up of three districts (Bata, Cogo and Mbini) and seven municipalities (Machinda, Bata, Mbini, Bitika, Cogo and Río Campo, as well as the municipality of Corisco, which includes the islands of Corisco, Elobey Grande and Elobey Chico). The municipality of Bata contains the city of Bata, which is the main urban centre in the continental region and home to a major trading port, an export and import point for many goods, including timber (Figure I.8).

Litoral Province is located in the west of the continental region along the Atlantic coast. The area of the PIL I territorial jurisdiction is 694 025 ha, and 92 percent of the area is covered by forests. Table I.7 summarizes information on Litoral Province.

FIGURE I.8 TERRITORIAL JURISDICTION OF PIL I



Population

Litoral Province currently has the largest population in the country and the highest population growth rate (1.5 percent) recorded between 2001 and 2015, which is above the national average (1.34 percent), as shown in Figure I.9. Most of the population is urban (94 percent) and located in Bata, the biggest city in the region.

The PIL I territorial jurisdiction contains 347 villages. Many of these are located on the roads connecting the city of Bata to other municipalities. According to data from the National Institute of Forestry Development (INDEFOR), Bata is the municipality containing the largest number of settlements.

Flora and fauna

The continental region offers great biodiversity in terms of flora and fauna. The vegetation originally consisted mostly of rainforest, and swampy, floodplain forests. At present, the area is mainly given over to a mosaic of forest areas in different stages of regeneration, cultivated areas and temporary fallow areas (bicoro).

The coastal mangroves are one of the most distinctive features of Litoral Province. Mangroves are very important as carbon reservoirs. They are areas of high biological diversity and highly productive ecosystems. They perform an important role in protecting against erosion, wind and waves. In the 1990s, the country's mangroves covered an area of nearly 26 000 ha. Although few data are available on their current status, they are believed to be highly degraded.

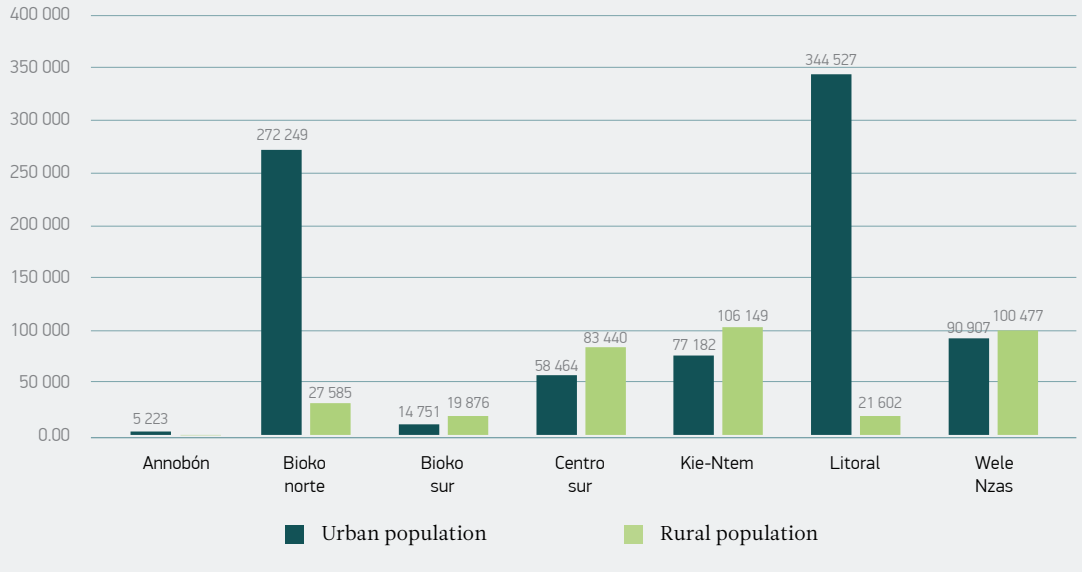
The River Muni estuary, Nendyi beach and Punta Llende are places especially rich in biodiversity of flora and fauna, with mangroves and numerous animal species, including manatees, elephants, turtles, hippopotamuses, migratory birds, gorillas and other primates.

TABLE I.7. GENERAL INFORMATION ON LITORAL PROVINCE

VARIABLE	VALUE
Land area (ha)	694 025
Forest area (2014)	92%
Annual deforestation rate in the period 2004–2014	Very high (~0,7%)
Annual forest degradation rate in the period 2004–2014	High (~0,8%)
Number of protected areas	6
Area under the Conservation Domain (ha and as a percentage of total area)	189 889 (27%)
Number of communal forests (2016)	~30
Communal forest area (2016) (ha and as a percentage of total area)	37 100 (5%)
Number of forest plots (2016)	~9
Area of forest plots (2016) (ha and as a percentage of total area)	19 544 (3%)
Number of harvesting contracts in national forests (2016)	~25
National Forest area (2016) (ha and as a percentage of total area)	301 872 (43%)
Number of agricultural holdings surveyed per province (2015)	2.046
Area of agricultural holdings surveyed per province (2015) (ha)	5 696
Number of inhabitants (2015)	366 130
Urban population (2015)	344 527 (94%)
Rural population (2015)	21 602 (6%)
Number of villages registered	347
Number of households (2015)	79 243
Population growth rate in the period 2001–2015	1,5%

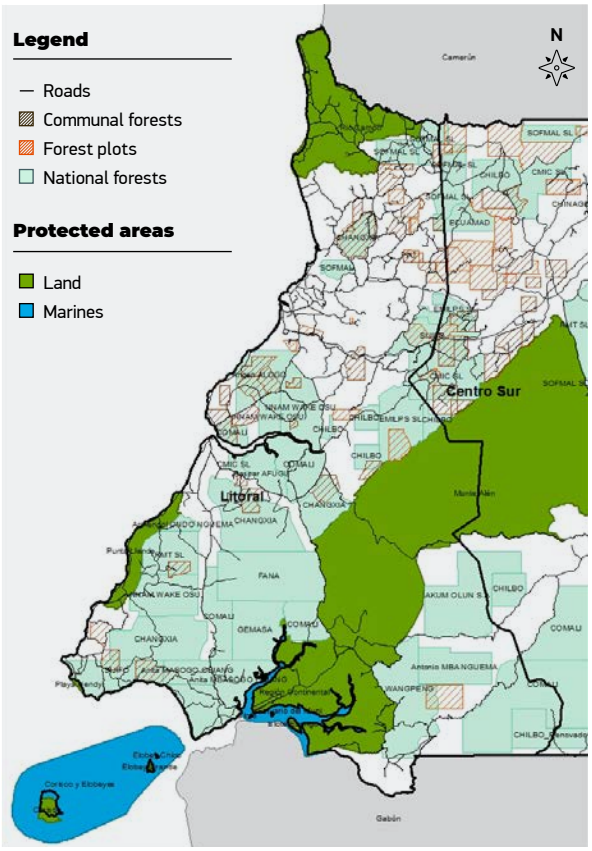
Source: INEGE, 2015; INEGE, 2016; MAGBMA y FAO, 2018; MAB y WRI, 2016.

FIGURE I.9. URBAN AND RURAL POPULATION IN THE PROVINCES OF EQUATORIAL GUINEA (2015)



Source: INEGE, 2015.

FIGURE I.10 TERRITORY ATTRIBUTED TO PRODUCTION AND CONSERVATION DOMAINS IN PIL I



Protected areas

Litoral Province contains six of the 13 protected areas recognized in the country, representing 28 percent of the area of PIL I: the River Campo nature reserve, the Punta Llende nature reserve, the River Muni estuary nature reserve, the nature reserve of Corisco and Elobeyes, the Nendyi beach scientific reserve and the western part of the Mount Alén National Park (Figure I.10).

Three of these protected areas have technically validated management plans (River Campo, Mount Alén and River Muni). During the period 2004–2014, some forest areas in the protected zones became degraded, mainly at the edges of highways and paths (MAGBMA and FAO, 2018).

Part of the country's rich fauna and flora are concentrated in these protected areas, and there are a great variety of endemic plant and animal species. This biodiversity represents an opportunity for the development of sustainable activities to promote the conservation of these ecosystems and support local populations.

The River Campo nature reserve has a technically validated management plan and an eco-museum for turtle observation. It has yet to develop other infrastructure for park management and visitor reception. During the consultation processes conducted in the municipality of Machinda, the local people reported their concern about the presence in the interior of the River Campo reserve of hunters and *serroteros* who hunt wild animals (e.g. deer, porcupines, monkeys) and fell very commercially valuable timber species for sale in Bata. The number of park guards attached to INDEFOR operating the area is insufficient to cover control and surveillance activities.

The Mount Alén National Park is known for its great biodiversity and is of great interest to national and international visitors. More than 105 species of mammals have been listed, including 16 species of primates. A management plan for the national park was drafted in 2009 and technically validated in 2010 with the support of the non-governmental organization Friends of Nature in Equatorial Guinea and the cooperation of SEO/BirdLife (ANDEGE, 2010). The Mount Alén National Park has offices, laboratories, housing for workers and researchers and a visitor centre, which is not currently operational and needs some maintenance. Programmes were developed to support the local people, such as the opening of commissaries, captive breeding of native species, transportation of agricultural products to the cities and a public health programme. Lack of funding limits infrastructure operability, the implementation of the management plan, and the development of ecotourism.

I.6.3 MAIN PRODUCTIVE ACTIVITIES

Agriculture

According to the 2015 Agricultural Census (INEGE, 2015), Litoral Province is home to 2 046 registered farms with a total area of 5 696 ha. They mainly grow traditional products, such as malanga, cassava, yam, maize, sugar cane and various vegetables, as well as fruits such as plantain, papaya, watermelon, mango, avocado and oranges.

People who participated in field consultations in Machinda indicated that local agriculture is characterized by subsistence and small-scale farming, and the marketing of surpluses. Most producers are of advanced age, as young people migrate to cities in search of better education

and work opportunities, which results in lower agricultural yields. Farmers practice shifting cultivation system, leaving the land fallow for five years or more and using traditional techniques such as clearing, slashing and burning. No machinery is used for soil preparation or harvesting, and no fertilizers or pesticides are used.

Small-scale farmers take their produce to the city of Bata, the biggest consumer market, to sell surplus production. Wholesale marketing channels are beginning to develop, although they are still insufficient. Producers are occasionally visited by transporters, who buy their production to sell it in the city. There are hardly any farmer associations or cooperatives, and there are no financing mechanisms for producers.

There are some commercial farming initiatives. For example:

- Peanut producers in the municipality of Machinda market their produce in one of the largest supermarket chains in the country, located in the city of Bata.
- Pineapple is also grown in the municipality of Machinda, and is peeled, cut up, packaged and sold to another supermarket chain. Both peanuts and pineapples are marketed as local seasonal products.
- In Mbini, there are also similar initiatives for the commercial production of coconut oil, which is sold locally.

In the PIL I territorial jurisdiction, there are no food industries or cold chains for transport and supply. This usually results in the loss of surplus production when it is not sold quickly. This creates high opportunity costs for producers.

Forest harvesting

Forestry operations are carried out within various categories in Litoral Province (national forests, communal forests and forest plots). There is a greater concentration of forest plots and communal forests in the north and centre of the province (Bata, Machinda and Mbini), and a greater concentration of forest harvesting contracts (concessions) in the centre and south (Mbini, Bitika) (Figure I.11).

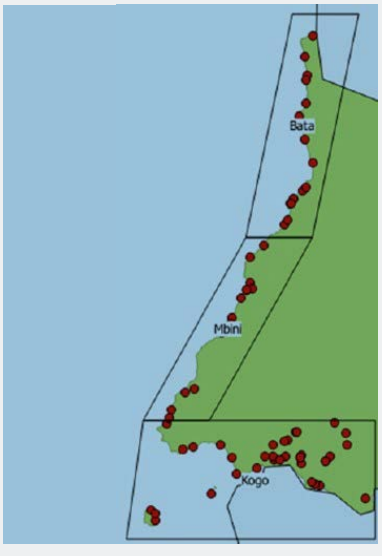
There are 25 harvesting contracts in the province with large-scale exploitation for export, as well as 27 registered communal forests. In cases where commercial forest harvesting contracts overlap with communal forests, the inhabitants can negotiate the benefits to be left by the timber company within the village council. Timber companies also establish individual agreements with families to harvest timber from the forests they customarily own.

In 2019, as a result of Ministerial Order 4/2017 and Presidential Decrees 7/2017 and 182/2018, commercial timber harvesting activities were virtually paralysed pending the regularization of companies. Permits for harvesting in communal forests and forest plots were also subject to compliance with established legal formalities.

Fishing

Fishing is an important productive activity in the Litoral Province and constitutes one of the priority pillars established by PNDES 2020. According to the Census of Small-Scale Fishing in Equatorial Guinea, in Litoral Province there are currently 657 active vessels, 1 031 fishers (out of 2 023 active within the country as a whole) and approximately 50 landing points along the coast. The municipality of Cogo accounts for the largest number of boats in the country (334). However, Bata, with fewer boats (115) and more fishers, has a greater capacity for small-scale fishing due to the number of motorboats. Eighty-three percent of the boats listed in the census are dug-out canoes (mainly made from okume, although sometimes pala loco, tabaca or morera are used). Eight percent are plank-built canoes and 9 percent are boats made out of fibreglass.

FIGURE I.11 LANDING POINTS IN LITORAL PROVINCE



Only 32 percent of the boats have engines, with power ratings of between 2 and 75 horsepower. The types of fishing gear used are hand lines (the most common), set nets, set long lines, drift nets and underwater spearfishing.

Fishing activities put pressure on the forests from the construction of boats and the use of wood, particularly mangrove wood, for drying and smoking fish. Fish drying and smoking are not always carried out efficiently, but recent experiences in the province have significantly reduced the consumption of mangrove wood thanks to the use of improved ovens..

Tourism

Tourism activities are still in the early stages, but the province of Litoral has great national and international potential due to the existence of six protected areas where tourism infrastructure is beginning to be constructed, and the high percentage of the urban population.

To enhance tourism as a source of income for the country and local people, levels of coordination between the INDEFOR and the Ministry of Tourism must be improved. Updated joint management plans must be drawn up with the participation of local people, and infrastructure and trails must be built and maintained.

Tourism activities combined with landscape and natural resource protection are some of the options the country is considering to help reduce pressure on natural resources. The tremendous cultural diversity and the variety of natural enclaves along the coast and inland offer significant potential for sector development.

Some initiatives are in place to promote and encourage ecotourism practices in Litoral Province. These include guided tours and the observation of ecosystems, flora and fauna, as well as diving, hiking and living with rural communities. Foreigners (mainly Westerners present in the country for work reasons) usually comprise the main group interested in this type of tourism.

Mining

The PIL I territorial jurisdiction includes 18 quarries, 11 of which have no rehabilitation project. According to the call for tenders planned for mining contracts in 2019, there is believed to be potential for the mining of bauxite and diamonds and other minerals.

I.6.4. FOREST STATUS

During the period 2004–2014, the land in PIL I showed a very high rate of deforestation and a high rate of forest degradation (Figure I.12).

The two areas that experienced the most deforestation are located around the city of Bata and on the River Wele. Between 2012 and 2013, building began on the Sendje hydroelectric plant on River Wele. This will be the largest plant in the country and is expected to be operational by 2021. Plant construction led to significant loss of tree cover (visible in satellite images from 2013 onwards), which has increased since work began (Figure I.13). When hydroelectric power plants are built, forest loss is driven by dam construction, the creation and flooding of the reservoir and open quarries in the vicinity, as well as by increased pressure on forests by workers who settle in the area.

FIGURE I.12 MAP OF DEFORESTATION AND FOREST DEGRADATION IN PIL I IN 2004–2014

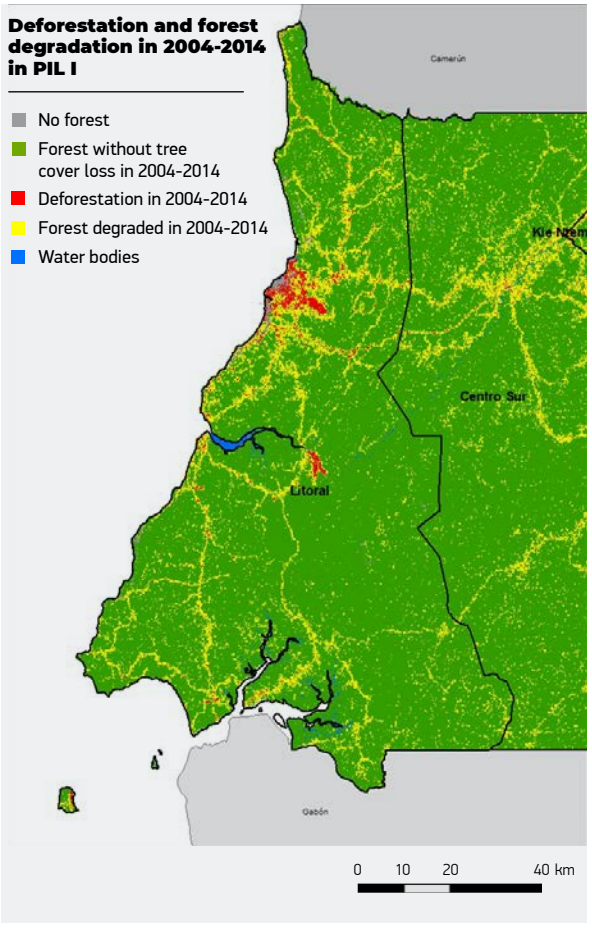
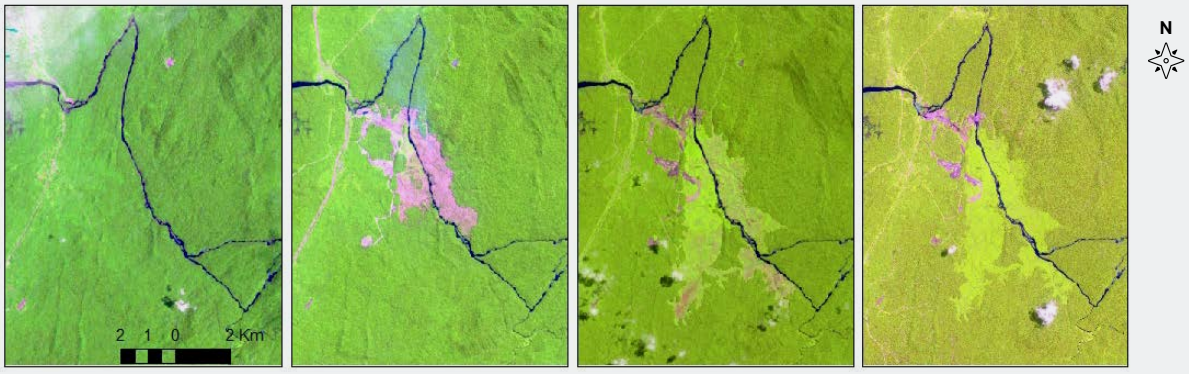


FIGURE I.13 LOSS OF TREE COVER ON THE WELE RIVER



Note: The forest is shown in dark green, bare soil in pink and the start of plant regeneration in pale green.

Sources: Landsat satellite images

Degraded forest areas are mainly concentrated around inhabited areas and along roads and paths. The perception of the people consulted in 2017 (village of Ayamiken) and in 2018 (town of Machinda) is that forest loss has been accentuated in recent years. This has been associated with the expansion of urban centres, the growth in infrastructure, and increased timber activity.

I.6.5. CHALLENGES FOR REDD+ IN THE PIL I TERRITORIAL JURISDICTION

In a context of rapid economic development, forest loss is closely related to the lack of provincial or municipal land-use plans, urban plans in cities and forest management plans throughout the country. Insecurity and lack of clarity in land tenure is also a limiting factor for land-use planning and sustainable land management.

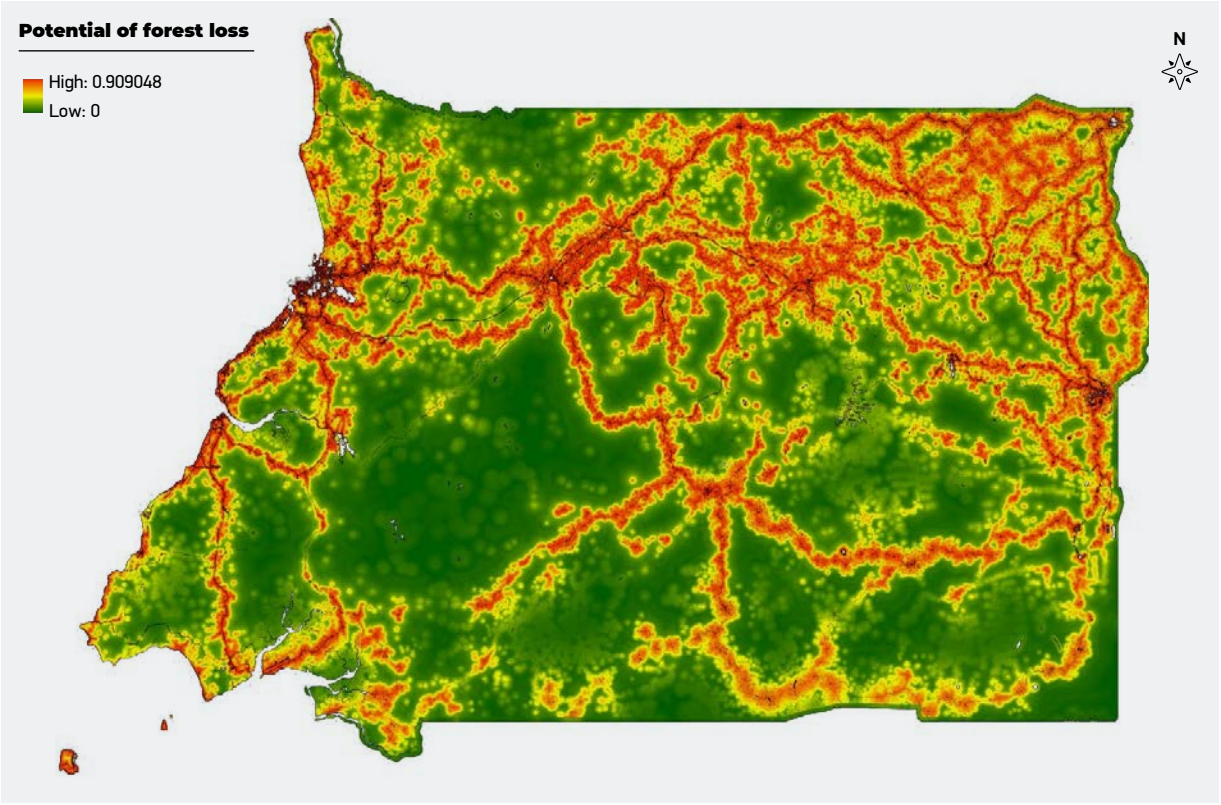
Bata is a commercial hub where a large number of goods are exchanged and is also the location of the import and export port. However, this business hub is not properly organized or linked to any value chain. This would enable the development of processing industries in the province that would increase the value of forest and agricultural products, which could generate employment for the population and reduce illegal and unsustainable production and marketing.

Agricultural activities are carried out without a Land-use Plan that defines the sites with the greatest socio-economic and environmental potential. Agricultural production is scarce and not very diverse, with technical deficiencies and no storage processes or post-harvest processing. It is not linked to any value chain or markets.

Timber companies operate without management plans to ensure the sustainability of their operations, and export timber without prior processing. People benefit little from forest harvesting and there is little experience of community forest management or the development of producer associations and small and medium-sized forest or agroforestry enterprises that operate legally and market their production in formal marketplaces.

Fishing activities have a significant impact on forest resources in Litoral Province. This impact is largely related to the construction of dug-out or plank-built canoes and the use of wood obtained mainly from mangroves for smoking fish. Mangroves, which are woodlands of great ecological importance and ecosystems responsible for capturing and fixing large amounts of carbon, are currently exposed to a high risk of deforestation and forest degradation due to coastal infrastructure and the use of mangrove wood as firewood. Figure I.14 shows the spatial modelling of future tree cover losses and the high risk in mangrove areas.

FIGURE I.14 SIMULATION SHOWING POSSIBLE LOCATION OF FOREST LOSS IN THE CONTINENTAL REGION



Source: MAGBMA and FAO, 2018.

A joint action plan is needed to promote mangrove conservation and restoration with the participation of all stakeholders and sectors. This could include:

- promoting improved fish drying ovens to increase efficiency and reduce pressure on the mangroves;
- developing management models for communal forests and small and medium-sized enterprises, whose production is linked to sustainable and formal value chains to meet bioenergy demands for fish smoking (or other forestry products and services); and
- implementing community mangrove restoration programmes.

Protected areas established by the INDEFOR lack the human, financial and technical resources to develop management plans, conduct scientific research and monitoring, and address poaching activities. A renewed impetus is needed to encourage the joint management and participation of local communities, ecotourism development, and the promotion of these areas to local and foreign visitors.

Public investment in Litoral Province increased by 23 percent during the period 2010–2017. Out of this, 96.5 percent was allocated to activities related to infrastructure construction, improvement or maintenance. No investments were related to environmental security programmes or the promotion of Equatorial Guinea as an ecological model.

There is a need to improve and expand mechanisms for participation in land management, including government institutions, civil society and rural communities, and procedures for stakeholders to express their concerns or complaints.

I.6.6. OUTCOMES AND OUTPUTS

Table I.8 shows proposed outcomes and outputs of PIL I, and their relationship with national legislation and policies.

TABLE I.8. OUTCOMES AND OUTPUTS OF PIL I

OUTCOMES	OUTPUTS	RELATED DOCUMENTS
I.1. Litoral Province and its municipalities have land-use plans and green urban plans. All these constitute the reference planning tool, collectively agreed to balance environmental, social and economic needs and benefits.	I.1.1. Litoral Province Provincial Land-use Plan formulated in a participatory manner following the guidelines of the National Land-use Plan.	• Law 1/1997 • Law 7/2003 • Law 8/2005 • PNAF
	I.1.2. Municipal land-use plans drawn up in a participatory manner in accordance with the guidelines of the National Land-use Plan and the Provincial Land-use Plan; land tenure is clarified and secured.	
	I.1.3. A Green Urban Plan for the city of Bata, which promotes urban and peri-urban forests and orchards, ensures infrastructure development is conditional upon environmental impact assessments and considers the roles and needs of men and women.	
I.2. The communal and national forests of Litoral Province are managed in a sustainable manner.	I.2.1. Programme for the development of participative forest management models by communities and/or associations of small-scale producers for the production of bioenergy (fish drying), timber and non-timber forest products and timber processing.	• Law 1/1997 • Decree 97/1007 • PNAF • Decree 97/2017
	I.2.2. Plan of technical and financial support to timber companies for the development and implementation of forest management plans, low-impact harvesting, legal timber production and marketing, and the opening up of new markets.	
	I.2.3. Municipal markets and Bata market, organized with criteria of legality and sustainability, allowing diversification of the forest sector and the sale of forest products on national and international markets.	
	I.2.4. Forest restoration plan in the River Wele basin with the aim of recovering areas affected by construction work on the Sendje dam and mitigating soil erosion and consequent sedimentation and clogging of the dam; studies to assess and mitigate the impact of the hydroelectric plant on fauna and flora.	
I.3. Mangroves are restored and used in a rational and sustainable manner.	I.3.1. Mangrove restoration and management plan drawn up and implemented in a participatory manner.	• Law 1/1997 • Decree 97/1007 • PNAF • Decree 97/2017
	I.3.2. Programme to promote improved ovens.	
	I.3.3. Reduction of pressure on mangroves through bioenergy production in communal forests (see also I.2.1).	

OUTCOMES	OUTPUTS	RELATED DOCUMENTS
I.4. Agricultural and agroforestry production in Litoral Province is stepped up in sustainably in degraded foret areas.	I.4.1. Development of agroforestry value chains for commercial crops (e.g. coconut, palm) in degraded forests.	• PNIASAN • PNFS • EN-REDD+
	I.4.2. Associations of small-scale producers and small and medium-sized enterprises developed and strengthened along the entire value chain (cultivation, processing, distribution and marketing), which makes it possible to link local production and demand in the markets of Bata, increasing productivity and added value.	
I.5. Protected areas in the Litoral Province are managed in a sustainable and participatory manner, contributing to the fight against climate change, the protection of biodiversity and the development of economic activities compatible with protection objectives.	I.5.1. Greater knowledge among local people about the importance and benefits of protected areas.	• Law 7/2003 • EN-REDD+
	I.5.2. Improvement of joint management plans of protected areas, drawn up in a participatory manner, including economic options that are compatible with protection goals and generate greater benefits for local communities.	
	I.5.3. Community monitoring system for the conservation of protected areas in coordination with the National Forest Monitoring System.	
	I.5.4. Programme for the promotion and encouragement of ecotourism that offers the same opportunities to women and young people.	
I.6. REDD+ is implemented in Litoral Province municipalities under a participatory, transparent, inclusive and decentralized governance system.	I.6.1. Municipal platform for consultation and consensus on REDD+, which considers the needs and customs of men and women in local communities, promotes the reduction of inequalities and provides for the dissemination of public information and accountability.	• EN-REDD+
	I.6.2. Representatives of the municipalities of Litoral Province contribute information to the country's Safeguard Information System, which collects and disseminates information on the social and environmental impacts of REDD+ implementation and generates data for the mitigation of potential negative effects.	
	I.6.3. The inhabitants and representatives of Litoral Province municipalities are familiar with and use the National Conflict Resolution Mechanism for REDD+.	

I.7. PIL II: MUNICIPALITY OF NIEFANG

I.7.1 PURPOSE

The purpose of PIL II in the municipality of Niefang, located in the continental region, is to achieve the following:

> *The municipality of Niefang adopts a low-emission sustainable development model, which promotes integrated, sustainable and participatory land and forest management, links timber production to formal and sustainable value chains and marketing, encourages agroforestry systems and reduces the loss of tree cover.*

The expected outcomes to achieve this purpose are:

- The municipality of Niefang has a municipal Land-use Plan and green urban plans.
- National and communal forests in the municipality of Niefang are managed in a sustainable manner on the basis of inventories and management plans, developing value chains that incorporate small-scale producers (including women and young people) and small and medium-sized enterprises, promoting the timber processing industry and establishing public–private partnerships.
- Agricultural and agroforestry production in the municipality of Niefang is stepped up in a sustainable manner, building capacity through Farmer Field Schools; equitably strengthening value chains that incorporate small and medium-sized enterprises dedicated to food production, processing and marketing; and promoting strategic partnerships (anchor companies and contract farming).
- REDD+ is implemented in the municipality of Niefang under a participatory, transparent, inclusive and decentralized governance system.

FIGURE I.15 TERRITORIAL JURISDICTION OF PIL II

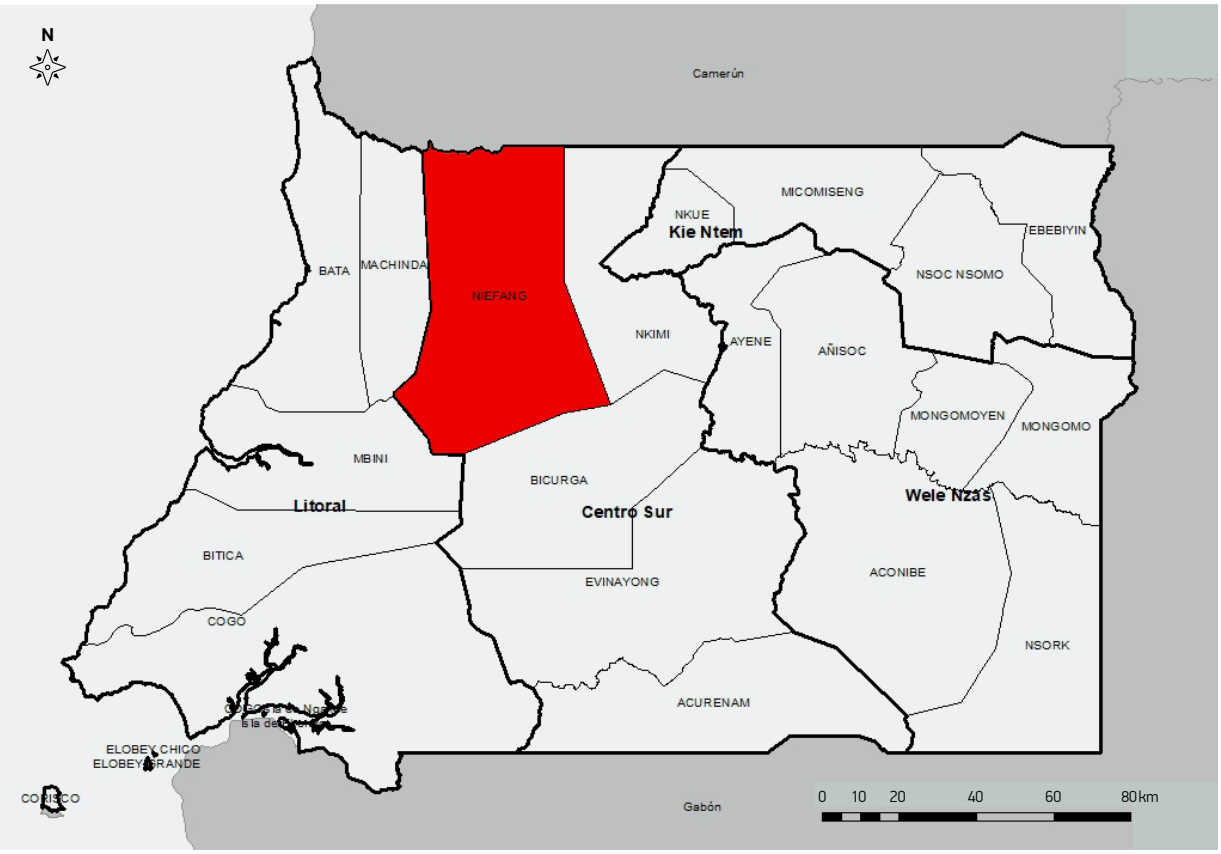


TABLE I.9. GENERAL INFORMATION ON THE MUNICIPALITY OF NIEFANG

VARIABLE	VALUE
Land area (ha)	202 470
Forest area (2014)	95%
Annual deforestation rate in the period 2004–2014	Low (~0,2%)
Annual degradation rate in the period 2004–2014	High (0,8%)
Number of protected areas (2016)	1
Area under the Conservation Domain (ha and as a percentage of total area)	36 060 (18%)
Number of communal forests (2016)	~19
Communal forest area (ha and as a percentage of total area)	24 828 (12%)
Number of forest plots	~17
Area of forest plots (ha and as a percentage of total area)	31 110 (15%)
Number of harvesting contracts in national forests	~17
National forest area (ha and as a percentage of total area)	67 386 (33%)
Number of villages registered in the municipality	89

Sources: INEGE, 2015. INEGE, 2016. MAGBMA and FAO, 2018. MAB and WRI, 2016.

I.7.2. CHARACTERISTICS OF THE PIL II TERRITORIAL JURISDICTION

Location

The territorial jurisdiction of PIL II corresponds to the municipality of Niefang, in the north of Centro Sur Province (Figure I.15). The area of the PIL II territorial jurisdiction is 202 109 ha, and 95 percent of the area is covered by forests. Table I.9 summarizes information on the municipality of Niefang.

Population

Centro Sur Province, of which the municipality of Niefang forms a part, had a population growth rate of 0.85 percent in the period 2001–2015, which is below the national average. Most of the population lives in rural areas (60 percent).

Protected areas

The municipality of Niefang includes the northern part of Mount Alén National Park (see the section on PIL I).

I.7.3 MAIN PRODUCTIVE ACTIVITIES

Agriculture

The region of Niefang has traditionally been one of the main centres of agricultural production in the continental region. During the colonial era, coffee growing predominated, and an agricultural experimental station was set up in this region. This was refurbished by the French Cooperation Programme in 2012 and is currently being managed by a Chinese company. Production experiments are carried out in the station with different staple grains and vegetables, which will later be disseminated throughout the region's rural communities. This region was also the location of the coffee collection centre and processing plant, as it was a strategic hub linking the main agricultural production provinces (Niefang, Micomiseng and Ebibeyin) with the capital, Bata. At present, coffee production has been practically abandoned, even though many producers still maintain their fields because coffee is a traditional crop. Most of the population practices subsistence farming, based on the cultivation of cassava, malanga and bananas. However, according to information provided by INPAGE, in recent years there has been an increase in the production of cash crops, mainly vegetables (tomatoes, onions and garlic) and fruit (avocado, citrus fruits and pineapple). This initial

hesitant progress has also coincided with a series of small pilot projects by several organizations aimed at encouraging more commercial production. For example, Proempresa, a social programme funded by Shell, is strengthening the pineapple value chain with small-scale producers and projects to foster horticulture and poultry farming through Farmer Field Schools promoted by FAO.

Forest harvesting

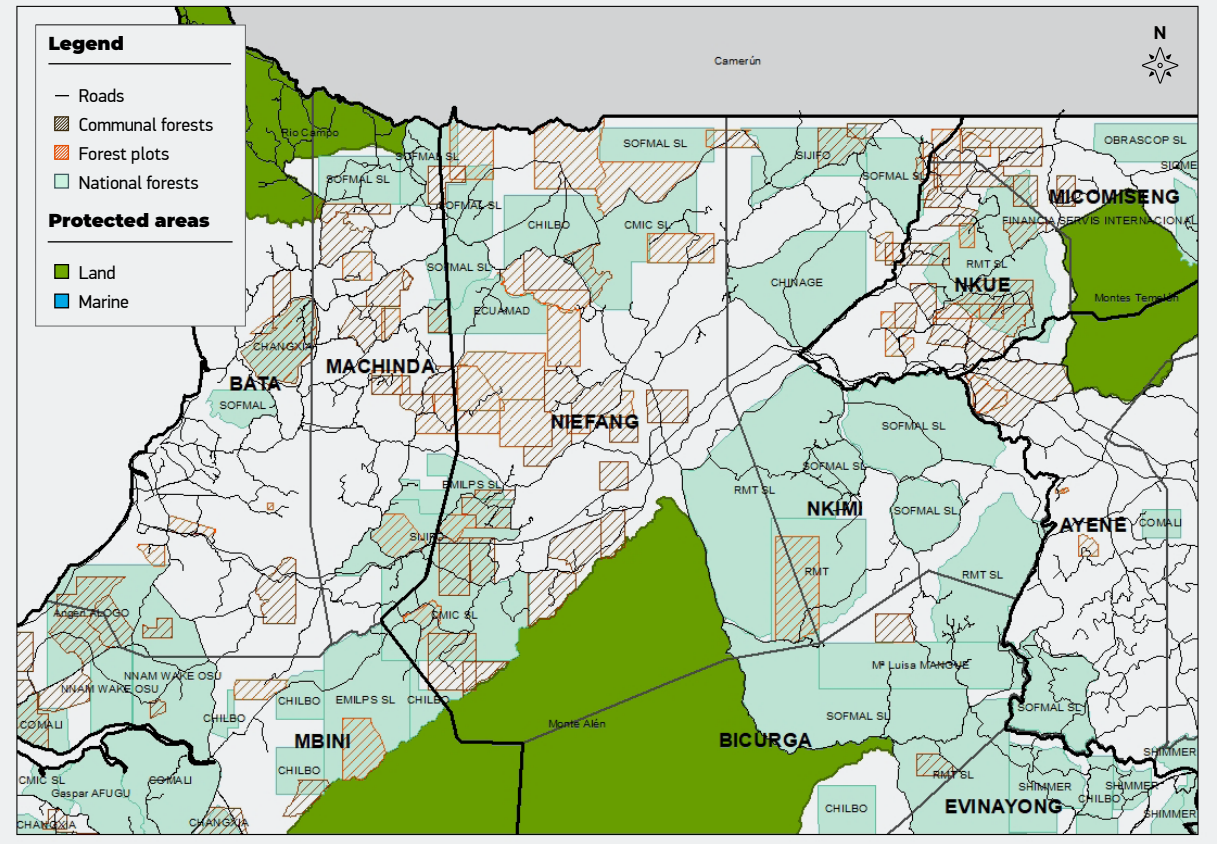
Many of the forests in the municipality of Niefang are registered in the Production Domain and include both harvesting contracts and communal forests and forest plots (see Figure I.16). This is also the location for the processing centre of one of the most important timber companies in the country in terms of harvested area and continuous presence: Río Muni Timberland. Currently, only 30 percent of the timber harvested in the country is processed. A timber assessment and certification process has been carried out in one of this company's holdings in conjunction with the Spanish authorities. However, this process could not be completed.

Consultations carried out in this region revealed the presence of many informal *serroteros* who operate in logging concessions that have been abandoned after exploitation, and in traditional community lands and communal forests. According to statements made by the technicians of INDEFOR, the proximity of the city of Bata (the main point of consumption in the country) has led to a significant increase in the presence of *serroteros*. Together with unsustainable practices by companies, this contributes to reducing the capacity of forests to regenerate.

Mining

Regarding the potential of the mining sector, information provided by the 2019 mining tender indicates the possible presence of iron and bauxite in the municipality.

FIGURE I.16 TERRITORY ATTRIBUTED TO PRODUCTION AND CONSERVATION DOMAINS IN PIL II



I.7.4. FOREST STATUS

Forest degradation in the PIL II area was high in the period 2004–2014 (Figure I.17).

I.7.5. CHALLENGES FOR REDD+ IN THE PIL II TERRITORIAL JURISDICTION

The main challenges for REDD+ in the municipality of Niefang are:

- the development of an agroforestry sector that will reduce pressure on forests while generating livelihoods for local communities that depend solely on subsistence farming and informal harvesting of forest products;
- a lack of experience in community-based land and forest management, including the absence of a formal value chain for timber that involves small-scale *serroteros*, which would allow for greater control and endogenous development in the interests of communities, and a more sustainable use of forest resources;
- the reluctance of companies to adopt sustainable forest management models based on concession inventories and management plans, and increase timber processing; and
- the greater barriers women face in accessing productive resources, agricultural support services, employment opportunities and climate-sensitive practices, and their lower representation in value chains

I.7.6. OUTCOMES AND OUTPUTS

Table I.10 shows proposed outcomes and outputs for PIL II.

FIGURE I.17 MAP OF DEFORESTATION AND FOREST DEGRADATION IN THE PERIOD 2004–2014 IN PIL II

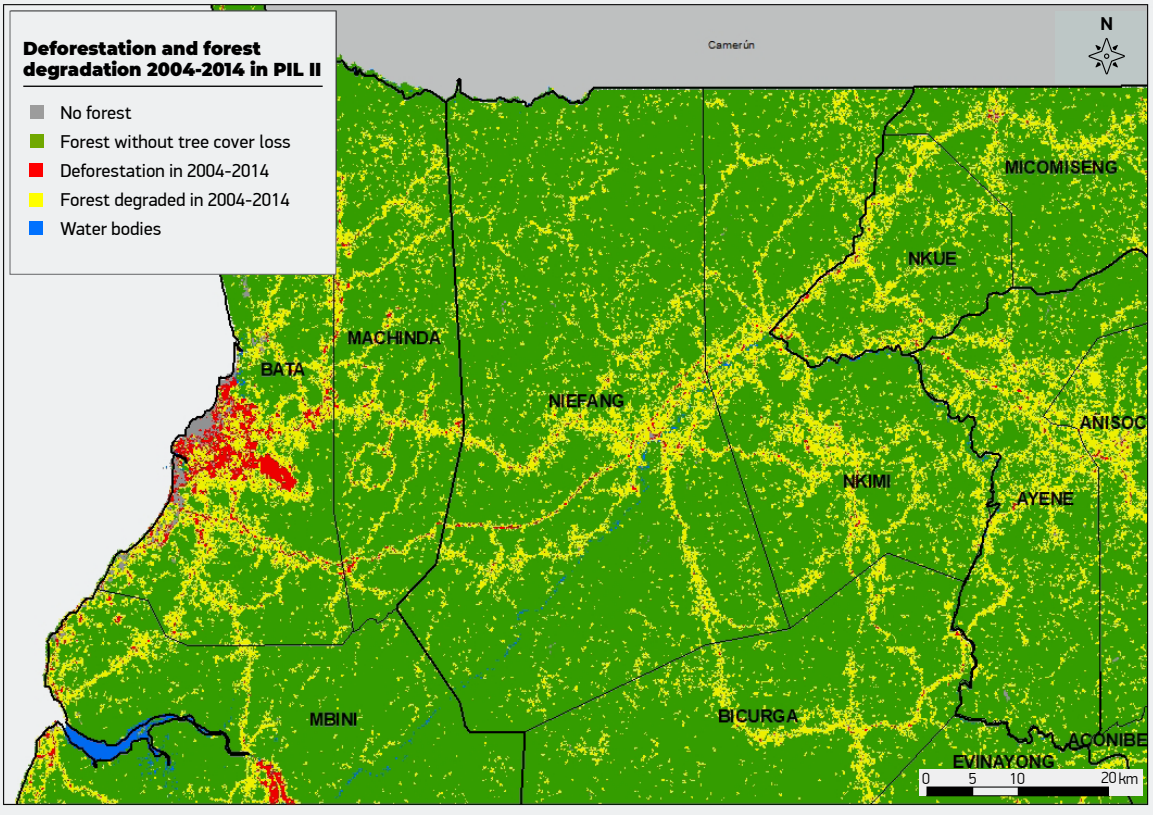


TABLE I.10. OUTCOMES AND OUTPUTS OF PIL II

OUTCOMES	OUTPUTS	RELATED DOCUMENTS
II.1. The municipality of Niefang has a municipal Land-use Plan and a green urban plan.	II.1.1. Municipal Land-use Plan drawn up in a participatory manner in accordance with the guidelines of the National Land-use Plan and the Provincial Land-use Plan; land tenure is clarified and secured.	
	II.1.2. Green Urban Plan for the city of Niefang, which promotes urban and peri-urban forests and orchards, and ensures that infrastructure development is conditional upon environmental impact assessments.	
II.2. National and communal forests in the municipality of Niefang are managed in a sustainable manner on the basis of inventories and management plans, developing value chains that incorporate small producers (including women and young people) and small and medium-sized enterprises, promoting the timber processing industry and establishing public–private partnerships.	II.2.1.Promotion of models for the participatory and equitable management of communal forests and forest plots by communities, associations and/or small-scale producers; and the development of a timber value chain, incorporating small producers and paying special attention to women and young people.	• Law 1/1997 • Decree 97/1007 • PNAF • Decree 97/2017
	II.2.2. Plan for technical and financial support to timber companies for the development and use of forest management plans and forest inventories, low-impact harvesting, legal timber production and marketing, public–private partnerships and partnerships with local communities, and the opening up of new markets.	
II.3. Agricultural and agroforestry production in the municipality of Niefang is stepped up in a sustainable manner, building capacity through Farmer Field Schools, equitably strengthening value chains incorporating small and medium-sized enterprises involved in food production, processing and marketing, and promoting strategic partnerships (for example, anchor companies and contract farming).	II.3.1. Development of agroforestry value chains for cash crops (e.g. coffee) in degraded forest through partnerships between companies and small producers (e.g. anchor companies, contract farming).	• PNIASAN • PNFS • EN-REDD+
	II.3.2. A municipal Farmer Field School builds capacities and contributes to the resurgence of farming activity on abandoned rural estates in order to boost horticultural production.	

OUTCOMES	OUTPUTS	RELATED DOCUMENTS
II.4. REDD+ is implemented in the municipality of Niefang under a participatory, transparent, inclusive and decentralized governance system.	II.4.1. Municipal platform for consultation and consensus on REDD+, which considers the needs and customs of men and women in local communities, promotes the reduction of inequalities and provides for the dissemination of public information and accountability.	• EN-REDD+
	II.4.2. Representatives of the municipality of Niefang contribute information to the country's Safeguard Information System, which collects and disseminates information on the social and environmental impacts of REDD+ implementation and generates data for the mitigation of potential negative effects.	
	II.4.3. The inhabitants and representatives of the municipality of Niefang are familiar with and use the National Conflict Resolution Mechanism for REDD+.	

I.8. PIL III: KIE-NTEM PROVINCE

I.8.1 PURPOSE

PIL III is located in the municipalities of Ebebiyin, Nkue, Nsok Nsomo and Micomiseng, in Kie-Ntem Province.

The purpose of PIL III in Kie-Ntem Province is to achieve the following:

> *Kie-Ntem Province adopts a sustainable, low-emission development model that encourages integrated land management, the restoration and sustainable management of forests, and the diversification and improvement of rural livelihoods. The model addresses the financial and dietary needs of households and makes it possible to reduce deforestation and forest degradation rates as well as underlying inequalities.*

The expected outcomes to achieve this purpose are:

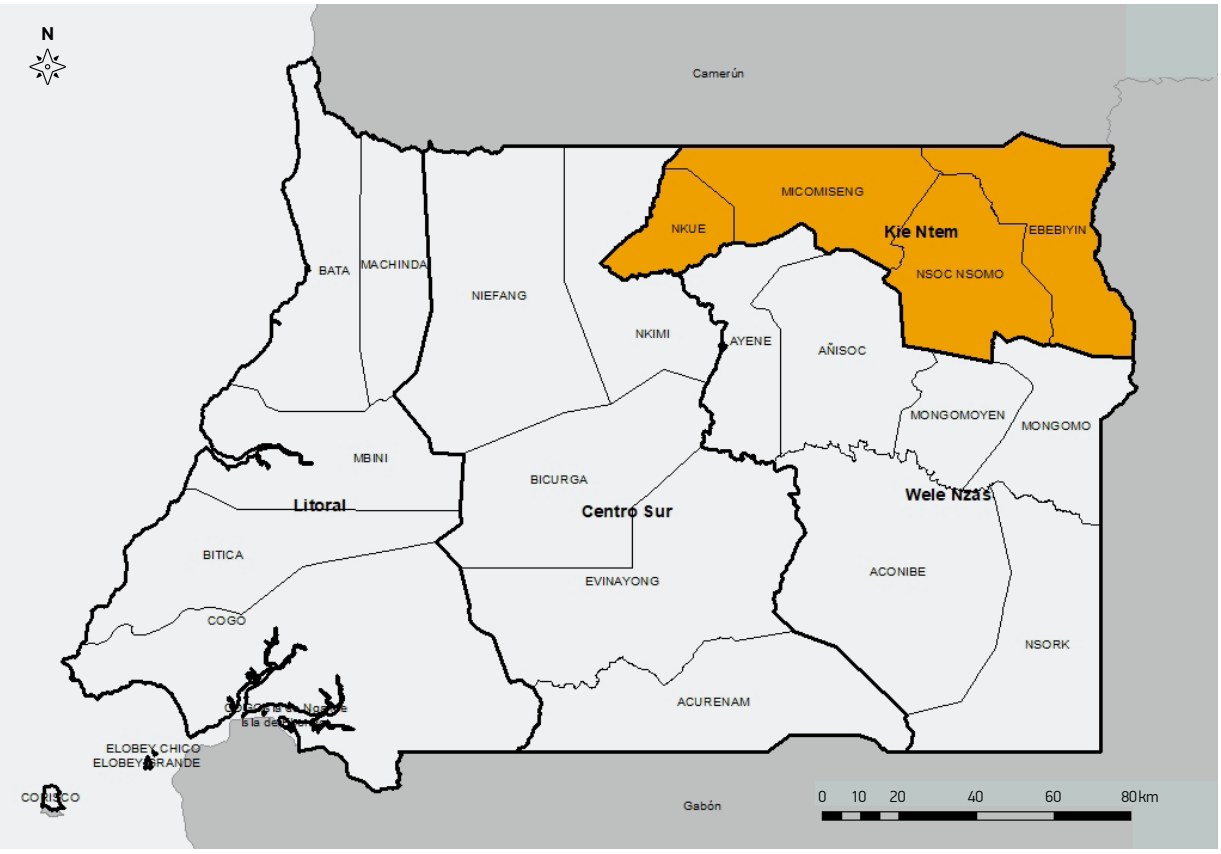
- Kie-Ntem Province has drawn up provincial and municipal land-use plans, and these plans constitute the collectively agreed upon reference planning tool.
- The degraded forest areas of Ebebiyin and Nsok Nsomo are being restored with the active participation of local people, and forests in the province are being managed sustainably.
- Agricultural, livestock and agroforestry production in Kie-Ntem Province is increasing sustainably and linked to value chains. The plans reduce the conversion of forests to new agricultural land, contribute to food security, and promote gender equity and the empowerment of women and young people.
- The protected areas of the Piedra Bere Natural Monument in Nsok Nsomo, and the Montes Temelón Nature Reserve in Micomiseng are managed and used in a sustainable and participatory manner, thus contributing to the fight against climate change, the protection of biodiversity, and the well-being of the local people, particularly neighbouring local communities.
- REDD+ is implemented in Kie-Ntem Province under a participatory, transparent, inclusive and decentralized governance system that considers the needs and customs of men and women of local communities, and allows the dissemination of public information and accountability.

I.8.2. CHARACTERISTICS OF THE PIL III TERRITORIAL JURISDICTION

Location

The PIL III territorial jurisdiction (Figure I.18) corresponds to Kie-Ntem Province, which is made up of the municipalities of Ebebiyin, Nsok Nsomo, Micomiseng and Nkue. The province is located in the north-eastern part of the country and borders on Cameroon to the north and Gabon to the east. The municipality of Ebebiyin shares a border with both countries and is a strategic location for trading. This cross-border trade area is highly relevant for the import and export of products, and the setting encourages an expansion in the number of business initiatives.

FIGURE I.18 TERRITORIAL JURISDICTION OF PIL III



The area of Kie-Ntem Province covers 323 315 ha, and 87 percent is covered by forests that are characterized by varying degrees of conservation.

Population

The population of Kie-Ntem Province was 183 331 inhabitants in 2015. The intercensal growth rate of 0.7 percent between 2001 and 2015 is below the national average (1.3 percent) (INEGE, 2015). Fifty-eight percent of the population of Kie-Ntem Province is rural and is located mainly in towns along the province's roads.

Kie-Ntem Province has a high density of settlements (418 villages), accounting for 32 percent of the total number of settlements in the continental region. This concentration of villages is due to trade activity and exchange with Cameroon and Gabon.

Many villages have grown up linked to the cultivation of extensive areas of cocoa since the 1940s. Cocoa production declined following the drop in coffee prices. Subsequently, young people emigrated during the oil boom to work in construction.

The low rate of population growth can be partly explained by this youth emigration.

Protected areas

The PIL III includes parts of two protected areas:[9] the Piedra Bere Natural Monument (20 454 ha) and the Montes Temelón[10] nature reserve (25 696 ha). Thirty-seven percent of the Piedra Bere area is located in the municipality of Nsok Nsomo, while 50 percent of Montes Temelón is located in Micomiseng (Figure I.19).

[9] Natural monuments are "natural areas of variable size that contain one or more natural or cultural features of exceptional value due to their rarity, uniqueness or political or cultural function, and which are protected and managed to perpetuate those features by removing any action or activity that damages or alters the environment in which they are located" (MAB and WRI, 2013).

[10] Nature reserves are "natural areas of any size, containing habitats, species or representative samples of the country's biodiversity. They may be inhabited by local people who use living resources in accordance with traditional practices and whose management is aimed at ensuring the maintenance of habitats or meeting the needs of certain species, controlling the impact of traditional customs, which, if they exist, are also the subject of conservation and study" (MAB and WRI, 2013).

TABLE I.11 GENERAL INFORMATION ON KIE-NTEM PROVINCE

VARIABLE	VALUE
Land area (ha)	323 315
Forest area (2014)	87%
Annual deforestation rate in the period 2004–2014	High (~0,3%)
Annual degradation rate in the period 2004–2014	Very high (~1,9%)
Number of protected areas	2
Area under the Conservation Domain (ha and as a percentage of total area)	20 686 (6%)
Number of communal forests (2016)	~17
Communal forest area (2016) (ha and as a percentage of total area)	17 090 (5%)
Number of forest plots (2016)	~4
Area of forest plots (2016) (ha and as a percentage of total area)	7 790 (2%)
Number of harvesting contracts in national forests (2016)	~6
National forest area (2016) (ha and as a percentage of total area)	56 637 (18%)
Number of agricultural holdings surveyed (2015)	6 996
Area of agricultural holdings (2015) (ha)	3 553
Population (2015)	183 331
Urban population (2015)	77 182 (42%)
Rural population (2015)	106 149 (58%)
Number of villages registered	418
Number of households (2015)	35 356
Population growth rate in the period 2001–2015	0,7%

Source: INEGE, 2015. INEGE, 2016. MAGBMA and FAO, 2018. MAB and WRI, 2016.

The Piedra Bere Natural Monument is not covered by a management plan and needs to be physically delimited. It is located within the Kie-Ntem Plateau on granitic soils. Its main characteristic is domed hill formations. These unique geological features are attractive for ecotourism because they afford magnificent views of the forest canopy[11].

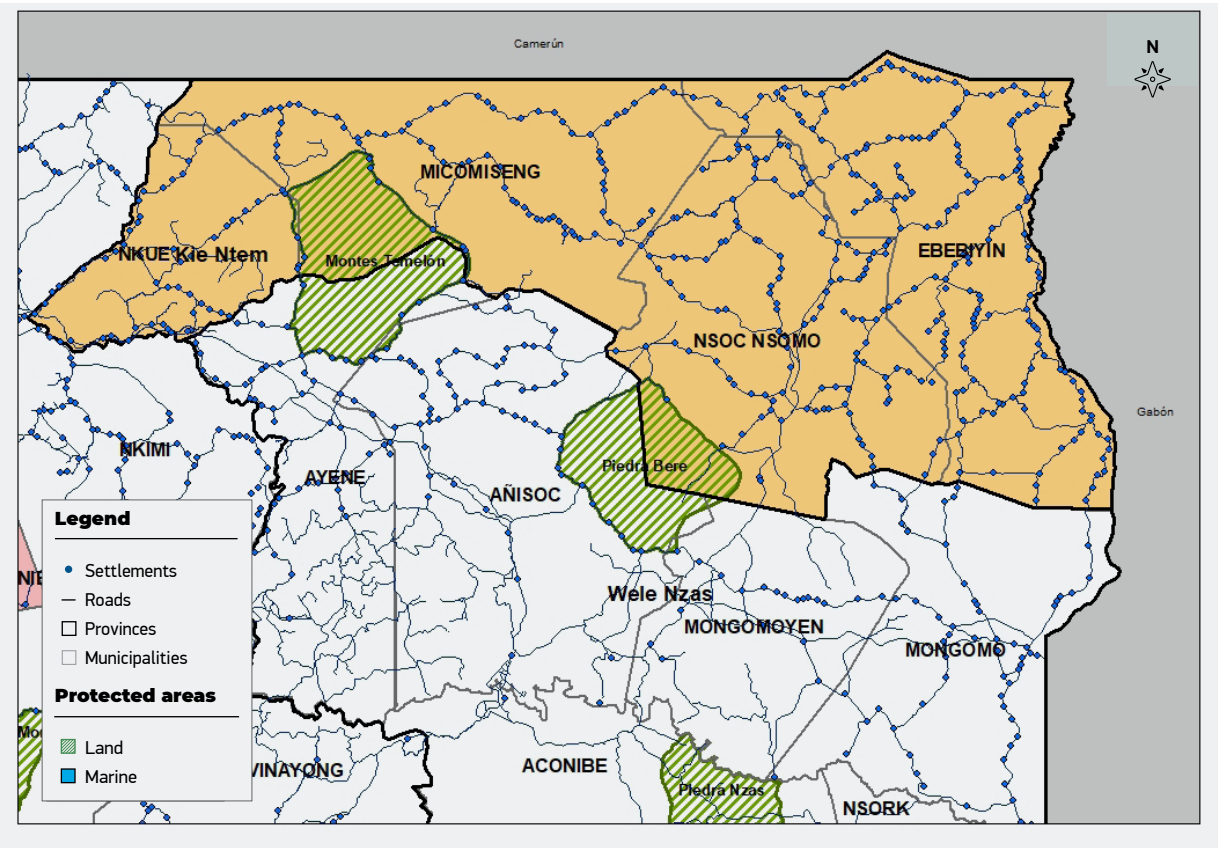
Despite being a mountainous environment, the area has suffered intense pressure from wild animal hunting, which is reflected in the current scarcity of some species. Large mammals have practically become extinct and it is now difficult to see gorillas, baboons or large antelopes, such as sitatunga (*Tragelaphus spekii*).

The management plan of the Montes Temelón Nature Reserve is currently being drawn up. The vegetation is very similar to that of Mount Alén, with secondary forest and rainforest. It is home to a great wealth of fauna, which has taken refuge in the Temelón Mountains in response to forest degradation throughout the continental region. It is noteworthy for the presence of gorillas, chimpanzees, wild boar, baboons and antelope. Farming is practiced only around villages and along roads and paths. The protected area has been left practically in its natural state because it is hardly affected by any human intervention[12].

[11] More information is available at: http://www.ikuska.com.

[12] More information is available here: http://www.ikuska.com.

FIGURE I.19 MUNICIPALITIES, ROADS AND PROTECTED AREAS IN PIL III



I.8.3. MAIN PRODUCTIVE ACTIVITIES

Agriculture

According to the General Agricultural Survey (INEGE, 2015), Kie-Ntem Province contains 6 996 farms with a total cultivated area of 3 553 ha, for an average of 0.5 ha per surveyed farm. Agricultural production consists mainly of cassava, peanuts, bananas, sugar cane, spices, okra, yams and fruit crops. Vegetables, such as lettuce, pumpkin and tomato, are also grown.

Farming activities are mainly done in the municipalities of Ebebiyin and Nsok Nsomo. Formerly a significant commercial farming area (coffee and cocoa), it is now home to many rural farms (commercial and shifting agriculture) around towns and roads. Trade in agricultural products is facilitated by cross-border markets. In the period 2004-2014, forest degradation was very high, probably due to agricultural activity.

The number of rural farms is much lower in the west of the province (Micomiseng and Nkue municipalities).

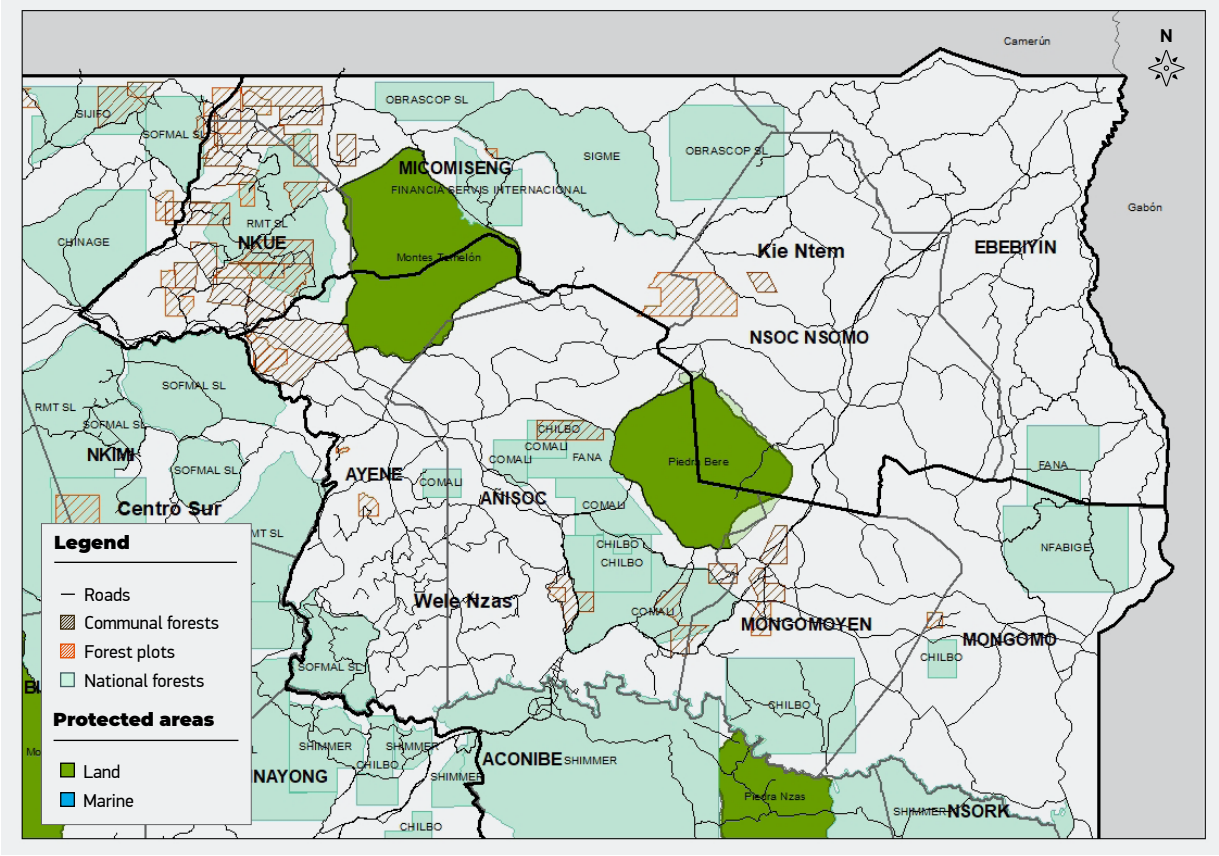
According to the experts consulted, agricultural production (in general, and in Kie-Ntem Province in particular) is not linked to value chains that allow for product storage, transport, marketing and processing. These chains are practically non-existent, and much of the food consumed by local people is imported.

Forest harvesting

To the east of the province, the municipalities of Ebebiyin and Nsko Nsom have no areas allocated as production forests in any category (national forests, communal forests or forest plots), as the remaining forests are highly degraded and contain few commercial species, which makes them unattractive for timber harvesting. However, small operational carpentry shops have been identified in the town of Ebebiyin.

In the west of the province, population and farmland density in the municipalities of Micomisem and Nkue is lower, and much of the area is registered as forests within the Production Domain (Figure I.20). In 2016, there were six contracts for harvesting in national forests, four forest plots and 17 communal

FIGURE I.20 TERRITORY ATTRIBUTED TO PRODUCTION AND CONSERVATION DOMAINS IN PIL III



forests (MAB and WRI, 2016). Rural families are hardly involved in forestry, as companies generally negotiate contracts with community leaders. Rural families also lack experience in organizing community work in the form of cooperatives or other types of association. Informal harvesting by *serroteros* is believed to be intense and they are believed to sell the timber individually in the larger towns.

I.8.4. FOREST STATUS

Although there are no updated data from a forestry inventory, the perception of those consulted while formulating the PNI-REDD+ is that the forests of Kie-Ntem Province are highly degraded. This assessment is in line with the high rate of deforestation and the very high rate of forest degradation estimated for the period 2004-2014 (MAGBMA and FAO, 2018).

Two different scenarios are present throughout the various municipalities of Kie-Ntem Province. On the one hand, Ebebiyin and Nsok Nsomo had very high levels of deforestation and forest degradation as a result of the number of human settlements and farming activities. This means that the forest area in Ebebiyin and Nsok Nsomo is less than the average for the continental region. Local forests are very degraded and contain hardly any species of commercial interest. After the abandonment of coffee and cocoa crops in Ebebiyin and Nsok Nsomo, the forest has not regenerated (this regeneration is observed on Bioko Island). In contrast, a large part of the municipalities of Micomiseng and Nkue is classified as production forests, particularly communal forests. It is also affected by a high level of forest degradation, although less than in the east of the province (see Figure I.21).

I.8.5 CHALLENGES FOR REDD+ IN THE PIL III TERRITORIAL JURISDICTION

The absence of a Land-use Plan means that rational and consensual land use is difficult. This is particularly important in the municipalities of Ebebiyin and Nsok Nsomo where the forests are very degraded. The Government aims to define land uses on the basis of the current state of the forests, their biophysical characteristics and existing socio-economic dynamics in the province, especially considering the large amount of trading activity in the tri-border area. The land tenure system is also a key factor in land-use planning.

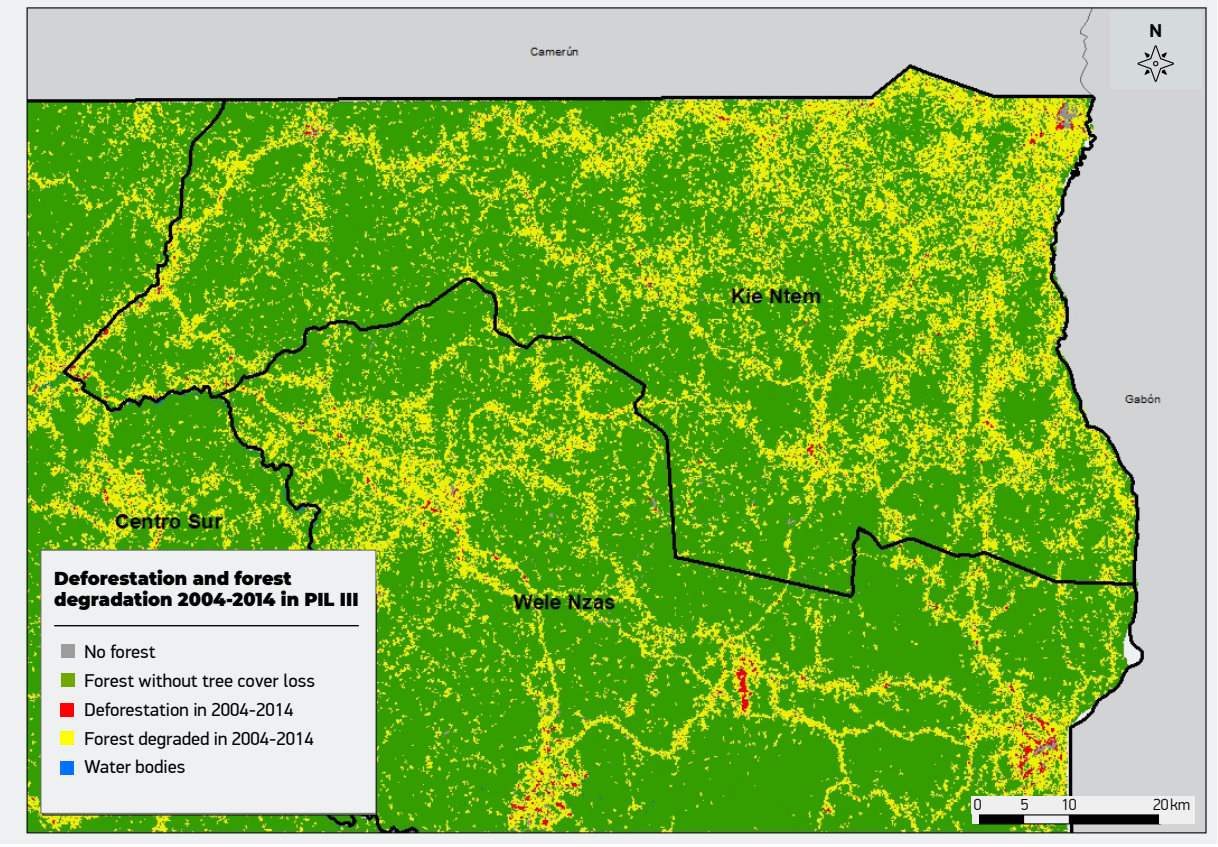
The state of forest degradation and the absence of natural regeneration require landscape restoration, which could include enrichment plantation, assisted regeneration and agroforestry systems. Restoration must be planned and carried out with the participation of stakeholders and with pre-established socio-economic and environmental goals.

As a preliminary step, biophysical and silvicultural characteristics must be identified and mapped to determine the feasibility and suitability of different restoration approaches.

Commercial agriculture puts significant pressure on forests, and this pressure is expected to intensify if mechanized and commercial agriculture is developed. To ensure compatibility between agricultural development and environmental sustainability, sustainable practices must be encouraged using a climate-smart approach. Agricultural value chains must be developed that link production to food distribution, storage and processing and marketing in local and tri-national markets, and promote the inclusion of women and young people in all stages of the value chains.

The Piedra Bere and Montes Temelón protected areas do not have management plans to ensure their effective conservation.

FIGURE I.21 MAP OF DEFORESTATION AND FOREST DEGRADATION IN THE PERIOD 2004–2014 IN PIL III



During the period 2010–2016, public investment in Kie-Ntem Province accounted for 4 percent of total public investment in the country, amounting to nearly USD 965 million. Investment in the province was concentrated in the programmes 'Infrastructure for Equatorial Guinea' (63 percent), 'Modern administration' (14 percent) and 'Water for all' (8 percent). Small amounts of under 1 percent were also allocated to social programmes in health, business, education, housing and electricity. No budget was allocated to the environment or productive development (ANGE 2020, 2017).

Lastly, integrated land management in Kie-Ntem Province requires the establishment of a provincial and municipal consultation and consensus process with stakeholders (including Government, civil society and men and women from different rural communities) for decision making, as well as mechanisms and procedures for complaints and concerns related to the REDD+ process.

I.8.6. OUTCOMES AND OUTPUTS

Table I.12 shows the proposed outcomes and outputs of PIL II, and their relationship with national legislation and policies.

Dock of Akalayong, natural reserve of the Muni River's estuary
©FAO/María Vidal Rigo

TABLE I.12 OUTCOMES AND OUTPUTS OF PIL III

OUTCOMES	OUTPUTS	RELATED DOCUMENTS
III.1. Kie-Ntem Province has drawn up provincial and municipal land-use plans. All these constitute the collectively agreed reference planning tool.	III.1.1 Kie-Ntem Provincial Land-Use Plan.	• Law 1/1997 • Law 7/2003 • Law 8/2005 • PNAF
	III.1.2. Municipal Land-use Plan in each of the four municipalities (Ebebiyin, Nkue, Nsok Nsomo and Micomiseng) that follows the guidelines of the National Land-use Plan and the Provincial Land-use Plan and is drawn up in a participatory manner; land tenure is clarified and secured.	
III.2. The degraded forest areas of Ebebiyin and Nsok Nsomo are being restored with the active participation of local people and forests in the province are being managed sustainably.	III.2.1. Biophysical and silvicultural/agroforestry characteristics of forests in Kie Ntem Province identified and mapped in order to determine the feasibility and suitability of different restoration approaches, considering the roles and priorities of men and women.	• Law 1/1997 • Decree 97/1007 • PNAF • Decree 97/2017 • Decree 182/2018
	III.2.2. Multipurpose, participatory restoration plan developed, including definition of restoration goals, selection of methods and assessment of possible negative social and environmental impacts on men and women.	
	III.2.3. Restoration plan implemented, including training activities, production of seedlings in community nurseries and/or direct seeding, planting and maintenance and improvement of soil quality, considering gender issues.	
	III.2.4. Programme to support enterprises, cooperatives and small and medium-sized forestry enterprises along the entire value chain of timber and non-timber forest products with technical, productive, organizational and commercial assistance and including women and young people.	
III.3. Agricultural, livestock and agroforestry production in Kie-Ntem Province is increasing sustainably. The plans reduce the conversion of forests to new agricultural land and contribute to food security, as well as promoting gender equity and the empowerment of women and young people.	III.3.1. Allocation of areas for the development of intensive farming for commercial purposes in the framework of the Land-use Plan.	• PNIASAN • PNFS • EN-REDD+
	III.3.2. Extension plan and technical assistance to improve the productivity of shifting and intensive agriculture, adopting a climate-smart and gender-sensitive approach.	
	III.3.3. Rural cooperatives developed, generating employment and agroforestry business opportunities.	
	III.3.4. Improved agricultural, agroforestry and inland fishery value chains, incorporating small and medium-sized enterprises and small producers' cooperatives into local and cross-border formal production, processing and marketing stages.	
	III.3.5. Sources of funding for accessible agricultural and agroforestry activities, including the development of agricultural insurance.	

OUTCOMES	OUTPUTS	RELATED DOCUMENTS
III.4. The protected areas of the Piedra Bere Natural Monument in Nsok Nsomo, and the Montes Temelón Nature Reserve in Micomiseng are managed and used in a sustainable and participatory manner, thus contributing to the fight against climate change, protection of biodiversity and the well-being of the local people, particularly neighbouring local communities.	III.4.1. Management plan for the Piedra Bere Natural Monument and management plan for the Monte Temelón Nature Reserve drawn up in a participatory manner.	• EN-REDD+ • Law 7/2003
	III.4.2. Local people acknowledge the importance and benefits of protected areas and contribute to their management and conservation.	
	III.4.3. Community monitoring system for the protected areas in coordination with the National Forest Monitoring System.	• EN-REDD+ • Law 7/2003
III.5. REDD+ is implemented in Kie-Ntem Province under a participatory, transparent, inclusive and decentralized governance system. This considers the needs and customs of men and women of local communities and allows the dissemination of public information and accountability.	III.5.1. Municipal consultation and consensus platforms for REDD+ with a specific Working Group on gender equity and the empowerment of women and young people.	
	III.5.2. Representatives of the municipalities of Ebebiyin, Nkue, Nsok Nsomo and Micomiseng contribute information to the country's Safeguard Information System, which collects and disseminates information on the social and environmental impacts of REDD+ implementation and generates data for the mitigation of potential negative effects.	• EN-REDD+
	III.5.3. The inhabitants and representatives of the four municipalities are familiar with and use the National Conflict Resolution Mechanism for REDD+.	

I.9. PIL IV: BIOKO ISLAND

I.9.1 PURPOSE

The purpose of PIL IV is to achieve the following:

Bioko Island adopts a low-emission sustainable development model that encourages integrated, sustainable and participatory land and forest management, the appropriation and conservation of forests by their inhabitants, and the diversification and improvement of rural livelihoods. The model addresses the financial and food needs of households, while reducing deforestation and forest degradation rates as well as underlying inequalities.

The expected outcomes to achieve this purpose are:

- The provinces of Bioko Norte and Bioko Sur and their municipalities have provincial and municipal land-use plans, green urban plans, and community land management plans. All these constitute the collectively agreed upon reference planning tool.
- The use and management of forests at a small-scale and/or community level for local consumption of timber and non-timber forest products is progressively regulated and structured to ensure environmental, social and economic forest sustainability, reducing the loss of tree cover and contributing to the well-being of rural women and men.
- Agricultural and agroforestry production on Bioko Island is stepped up sustainably, strengthening the value chains of the various crops and promoting regional production, processing and marketing, and empowering women and young people.
- Urban, energy and transport development is carried out in accordance with environmental criteria based on land-use plans and conditional upon environmental impact assessments.
- Pico Basilé National Park and the Luba Crater Scientific Reserve are managed and used in a sustainable and participatory manner, thus contributing to the fight against climate change, the protection of biodiversity and the well-being of the local people, particularly neighbouring communities.
- REDD+ is implemented in Bioko Island under a participatory, transparent, inclusive and decentralized governance system that considers the needs, know-how and customs of men and women of local communities, and allows the dissemination of public information and accountability.

Aleña Beach, Bioko Island
© FAO/Lorena Hojas Gascón

I.9.2 CHARACTERISTICS OF THE PIL IV TERRITORIAL JURISDICTION

Location

The PIL IV territorial jurisdiction (Figure I.22) consists of the provinces of Bioko Norte and Bioko Sur, which are subdivided into four municipalities: Malabo, Baney, Luba, Riaba. The municipalities with the greatest deforestation and forest degradation are Malabo and Riaba. During the period 2004–2014, Bioko Island as a whole had a very high annual deforestation rate (0.53 percent), well above the national rate (0.34 percent), and a forest degradation rate (0.35 percent) lower than the national average (0.89 percent).

The area of the PIL IV territorial jurisdiction is 194 311 ha, and 169 677 ha (88 percent) are forests (MAGBMA and FAO 2018).

Table I.13 shows general information on Bioko Island.

Population

The population of Bioko Norte Province, to which the city of Malabo belongs, is 299 834 inhabitants (2015). The intercensal growth rate was 1.87 percent between 2001 and 2015, which is higher than the national average (1.34 percent) (INEGE, 2015). Ninety percent of Bioko Norte Province's population is urban and lives mainly in Malabo, the country's capital (see Figure I.9). The population in Bioko Sur is much smaller (34 627 inhabitants), mostly living in rural areas (57 percent). The intercensal growth rate was 1.27 percent in the period 2001–2015, similar to the national average (1.34 percent).

The higher population growth and population density (173 inhabitants per km^2) in Bioko Island, compared to the continental region (35 inhabitants per km^2), are among the underlying drivers of deforestation and forest degradation on the island (INEGE, 2016).

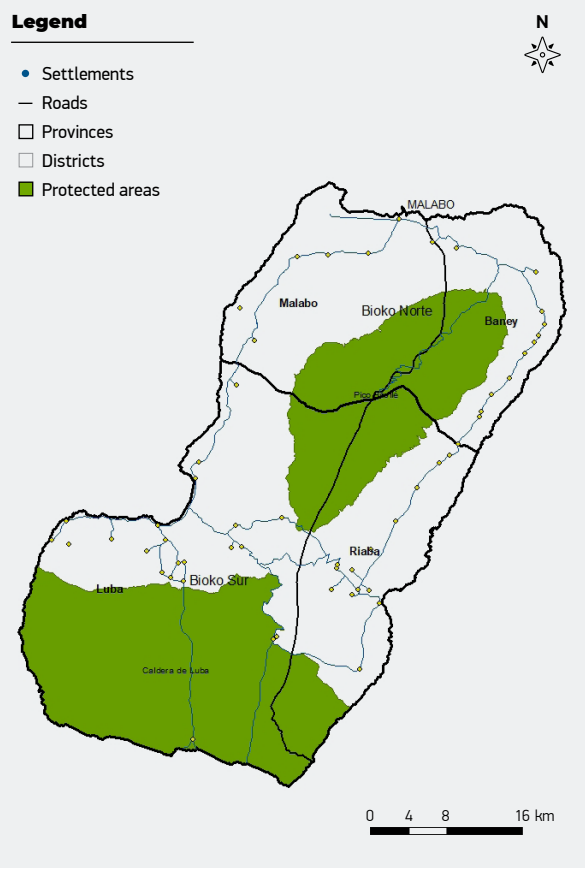
According to INDEFOR, there are 98 villages on Bioko Island, located mainly on the road circling the island and on the road connecting Luba to Riaba (see Figure I.22).

TABLE I.13 GENERAL INFORMATION ON BIOKO ISLAND

VARIABLE	VALUE
Land area (ha)	194 311
Forest area (2014)	88%
Annual deforestation rate in the period 2004–2014	0,5%
Annual degradation rate in the period 2004–2014	0,4%
Number of protected areas (2016)	2
Area under Conservation Domain (2016) (ha and as percentage of total area)	83 276 (43%)
Number of villages registered	98
Population (2015)	334 461
Urban population (2015)	287 000 (85%)
Rural population (2015)	47 461 (15%)
Number of households in the province (2015)	80 323
Population growth rate in the period 2001–2015	1,8%

Source: INEGE, 2015. INEGE, 2016. MAGBMA and FAO, 2018. MAB and WRI, 2016.

FIGURE I.22 TERRITORIAL JURISDICTION OF PIL IV



Flora and fauna

On Bioko[13] Island, the vegetation cover is mainly divided into two types: rainforest, located at an altitude below 700 m, and Afromontane Forest, above 700 m. The high altitude forests have hardly been exploited and are relatively intact due to their topographical inaccessibility. A total of 1 105 plant species have been recorded, and the composition is very similar to that on Mount Cameroon. Bioko and Annobón islands are home to a great variety of endemic plant and animal species due to their island status (de Wasseige *et al.*, eds, 2010). It is estimated that more than 40 plant species are endemic. Studies carried out also confirm a great diversity of animals: 104 bird species and approximately 65 mammal species, including 10 primate species, of which seven are endemic monkey subspecies. These monkey subspecies are threatened because the island's inhabitants hunt them for food (Zafra, 2008).

[13] No information is available on fauna and flora at the municipal level.

Protected areas

The central part of the island contains the Pico Basilé National Park[14] which extends between the four municipalities of Bioko (see Figure I.22). The total area of the national park is 32 238 ha. Although the protected area has a management plan, during the 2004–2014 period, forest degradation processes were observed within its confines, particularly in the central zone and along the borders near the city of Malabo.

According to the people consulted while formulating PNI-REDD+, poachers and *serroteros* often gain access to the borders of the protected area without the park guards being able to easily prevent them, partly because the guards' authority is not recognized. Illegal and artisanal activities have a negative impact on the area's biodiversity because they are not carried out according to a management plan that ensures environmental sustainability and biodiversity protection, and the generation of socio-economic benefits for people in the area surrounding Pico Basilé.

The Luba Crater Scientific Reserve[15] (51 038 ha) is located in the south of the island. This contains Ureca Beach, a nesting area for sea turtles. This area does not currently have a management plan.

The National System of Protected Areas is run by INDEFOR-AP, which operate from Bata. The following actions are pending to improve the management of protected areas: the development of joint management plans, which include community participation in decision making and protected area management; support to the creation and diversification of environmentally-friendly and climate-friendly productive activities in protected areas and their boundaries; and a decentralized of institutional structures that takes into account the local staff deployed by INDEFOR-AP to Bioko.

[14] National parks are "extensive natural areas in which one or more ecosystems have not been materially altered by human exploitation and occupation, where the air, water, soil, flora and fauna are of special interest for maintaining biodiversity and landscape, and managed with the main aim of preserving their values, eliminating any adverse factors and facilitating access by people for recreational, spiritual, educational or scientific purposes in a manner compatible with conservation" (MAB and WRI, 2013).

[15] Scientific reserves are "natural areas of varying size with special ecological and scientific interest, which are managed with the aim of wholesale preservation of ecological processes and of all living and non-living natural elements, as well as of preventing human occupation that is not conducive to scientific or, if applicable, educational purposes" (MAB and WRI, 2013).

I.9.3. MAIN PRODUCTIVE ACTIVITIES

Agriculture

Large cocoa and coffee plantations were cultivated on Bioko Island until Equatorial Guinea's independence. Cocoa was a key sector for the country's economy and population, particularly during the 1960s, although production is marginal now. According to FAO databases data (FAOSTAT), the production peak was reached in the 1960s, when it amounted to more than 38 000 tonnes per year, while production was only 746 tonnes in 2016. Large swathes of cocoa plantations were abandoned, and with time they grew back as secondary forests.

Residual amounts of cocoa and coffee are still being produced and exported today. Cocoa production takes place on farms owned by foreign companies that employ the population as sharecroppers or piece workers, or on family cocoa farms that are sometimes grouped into associations/cooperatives of about 20 producers. INPAGE has been running various initiatives to promote sector activities since 2012.

While the trend in cocoa and coffee production is declining, commercial horticulture is flourishing. Intensive horticultural farms are located along the Moka road and in the area of Alegre (Baloeri), where agricultural extension programmes are in operation. FAO has supported horticulture development through Farmer Field Schools in towns such as Baloeri, Basupú and Batoicopo. Information was shared on organic farming, cooperatives, the production of organic fertilizers and biopesticides, plant propagation and seed reproduction techniques, low-cost irrigation systems, and the use of a gender approach.

Subsistence farming is also practiced on Bioko Island, and the main crops are malanga, maize, plantains and banana[16]. Shifting agriculture on the island is based on alternating different crops on the same farm, clearing the land (cutting with a machete), preparing the land, and using grass and weeds as fertilizer. Unlike the continental region, land is not burned on the island because the soil is richer.

For the people consulted in Bioko in 2018 (see Annex IV) the main concern was not so much agricultural production but the conservation, transport and marketing of products. Shopkeepers do not go to villages to buy agricultural products, and when small producers manage to get their produce to market, most of it goes to waste because they cannot be sold. People who live in the countryside say that there is little demand, that shopkeepers prioritize imported products, and that there is no support for the export of Equatoguinean products. Furthermore, there are no preservation operations or initiatives for processing surplus (e.g. juices or jams) because the projects that have been started have not had sufficient continuity or support. Problems with marketing agricultural products make access to credit extremely difficult and generate frustration among farmers. There is also a lack of interest among young people.

Agricultural production is not linked to value chains that allow product storage, transport, marketing and processing. These chains are practically non-existent, and much of the food consumed by local people is imported from Cameroon, Spain and other countries.

Other problems cited are an increase in the age of producers due to migration to cities, the lack of long-term support for cooperative initiatives, and recent phenomena, such as lack of water in the dry season, a rise in the number of tornados and more crop pests and diseases.

According to Equatorial Guinea's Agricultural Management Plan, 31.4 percent of smallholders on Bioko Island have a title deed. This percentage, which is higher than in the continental region (4.8 percent), is linked to the fact that there is less shifting agriculture for subsistence production on Bioko Island since its soils are of better quality and crops can be rotated on the same farm. On the other hand, more stable farming models have emerged as changes in local customs have favoured the setting up of small private properties with legal tenure or registrations.

Other farming activities include domestic livestock production (chickens, goats, ducks and sometimes pigs and sheep), the production and sale of malamba and topé (palm wine) and ornamental plant cultivation (MAGBMA and FAO, 2018).

Women are responsible for most agricultural activities, although some tasks are shared. Men are more involved in cutting down forests to create farms, and women are more involved in establishing

[16] Other crops mentioned in consultations held on Bioko Island during development of the REDD+ National Investment Plan were: yam, aubergine, forest spice (buspeque), tomato, lettuce, cucumber, pepper, parsley, cabbage, carrot, atanga, benagualé bitalif, bologuí, cabachi, casamango, cran-cran, djacá, ebuchubuchu, epotó, esang, green, mangüeñas, ocro, ocombó, pepiló, topepán, tolepá, torahú, sahá, sisam, ventó, sawa-sawa, yacató, apple, mango, avocado, mandarin, orange, grapefruit, lemon, guava, pineapple, papaya, sweet potato, cassava and sugarcane.

and maintaining crops. Informal timber harvesting and hunting are predominantly male activities.

According to the General Census of Agriculture (INEGE, 2015), 2 134 farms with a total cultivated area of 3 628 ha were registered in Bioko Norte Province. In Bioko Sur Province, 1 928 farms with a total cultivated area of 1 710 ha were registered. Together, the two provinces account for 5 094 ha of production and 3 422 farm units or estates. No public information is available at the municipal level.

Forest harvesting

Large-scale roundwood harvesting and export has been banned on Bioko Island since 1991 (Decree 55/1991) and on all islands in the country since 1997 (Law 1/1997, Article 34). Decree 97/1997 states that the maximum annual roundwood production quota for the island region will be 10 000 m^3, which will "serve to meet the pressing needs of citizens as well as the operation of local industries". This means that commercial exploitation in the insular region may be authorized in forest plots and communal forests for local use. However, according to the most recent Forestry Atlas (MAB and WRI, 2016), there are still no forest plots or communal forests with registered title in Bioko or Annobón, which is one of the requirements for commercial or industrial timber harvesting. Subsistence forestry for self-consumption would be possible on the islands.

During consultations in Bioko's village councils in November 2018, the rural population reported an increase over the last five or seven years in the activity of *serroteros* who cut down trees on rural farms and forests belonging to the community for marketing in the country. In some villages, this small-scale logging is carried out with prior agreement with the farm owner and the trees are paid for. Other villages report that logging is carried out by *serroteros* from outside the community without prior agreement or without respecting the agreed number of trees, using intimidation and not respecting the authority of the village councils. The stolen timber is carried away at night. While some people reported that the logging frequency had decreased over the past two years because of the regulations on chainsaw operators passed in 2017 and 2018, in other villages, such as Basilé Bubi, there is great concern about the loss of local forests, and illegal and unauthorized logging has been reported to the authorities in their area.

Ministerial Order 2/2017, which lays down rules for the implementation of Presidential Decree 7/2017, prohibits the felling of trees for commercial purposes by chainsaw operators throughout the country. This Ministerial Order also states that all logging by chainsaw operators must be carried out by people of Equatoguinean nationality and by micro-enterprises that are incorporated and formally registered. Marketing of timber by these micro-enterprises will require a permit for purchase and sale. The Ministry of Industry will provide a space for selling these products in all districts and municipalities, and off-site sales will be totally banned.

In view of the legislation in force, the small-scale or informal timber harvesting still practiced on the island, and the financial difficulties faced by families and reported during consultations, it will be necessary to gradually formalize the harvesting of timber and non-timber forest products and promote community models of forest and land management. At the same time, the local market needs to be coordinated and formalized, which will include the development of municipal and district commercial distribution centres.

The inhabitants of Bioko use non-timber forest products (e.g. wild fruits, snails, crabs, medicinal plants, mushrooms, wild game meat) mainly for self-consumption, not for sale.

Tourism

The island has great tourism potential thanks to its abundant natural capital, the extent of its protected areas and beaches, and the country's priority economic development pillars. The proximity of protected areas to the capital is an added value that will encourage national and international tourism. Pico Basilé National Park benefits from a relatively good monitoring and conservation status thanks to the support of the non-governmental organization Ecoguinea, which has implemented a conservation plan, opened trails and improved infrastructure to establish management centres. This also allowed the hiring and training of several park rangers (members of local communities) who are now part of INDEFOR-AP.

Contracting by foreign companies

Some inhabitants of Bioko's village councils are currently, or have been, employed by foreign companies that have been established in their area and specialize in timber harvesting, aggregate mining, construction, intensive cocoa and lemon farming, or livestock production. However, these contracts are often ad hoc, and the local people criticize the companies for employing mostly foreign labour, having a negative impact on their local areas and not respecting the authority of the village councils.

I.9.4. FOREST STATUS

During the period 2004–2014, Bioko Island had a very high deforestation rate, particularly in the municipalities of Malabo and Riaba (Figure I.23). Most people from village councils consulted in 2017 and 2018 believe that the forests on Bioko Island are highly degraded and in poor condition. Given the financial needs of families due to the unfavourable economic situation and the return migration to rural areas, the local people believe that the situation of forests will worsen in the future with a consequent increase in farming activities and informal timber harvesting (MAGBMA and FAO, 2018).

The only two villages consulted where it is believed that the forest area will increase were Bariobé (municipality of Baney) and Ruiché (municipality of Luba), both located in former cocoa production areas. Local people there believe that the forest will continue to recover in the former cocoa farms as there are fewer and fewer farmers owing to migration to the cities and lack of interest by young people.

Deforestation on Bioko Island is concentrated in and around the city of Malabo. In the period 2004–2014, it was mainly caused by the expansion of infrastructure (mostly transport routes), urban settlements and aggregate quarries. In later years, new infrastructure has been developed, such as the new airport terminal, the new university, the new access road to the port of Luba, and the development of new urban districts (MAGBMA and FAO, 2018)

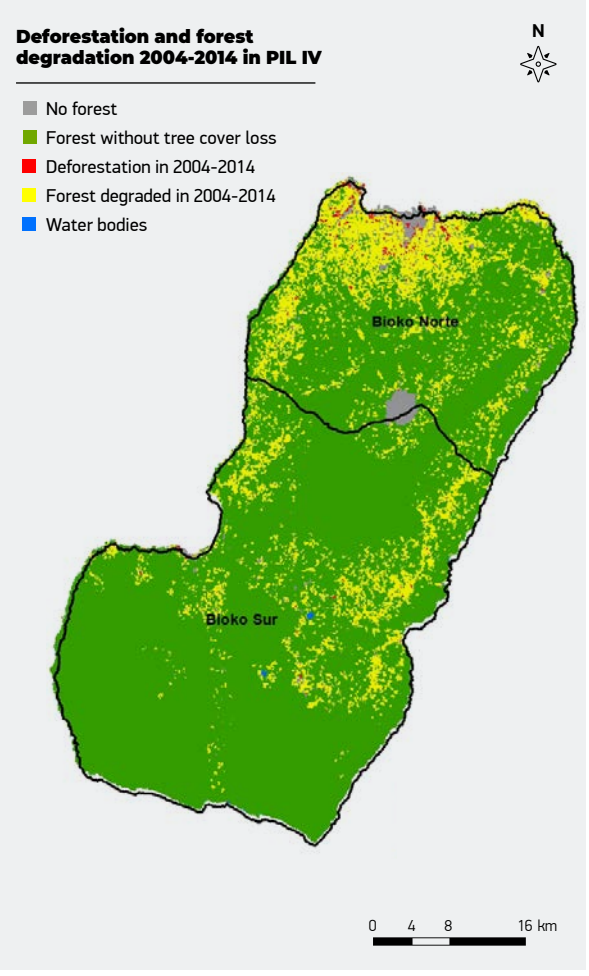
Degradation is mainly located in rural areas and caused by small-scale agriculture, informal logging and the raising of livestock.

I.9.5. CHALLENGES FOR REDD+ IN THE PIL IV TERRITORIAL JURISDICTION

Infrastructure construction has had a very significant impact on the forests of Bioko Island in recent years. Institutions find it difficult to apply Law 7/2003 on the Regulation of the Environment; ensure that environmental impact assessments are performed for the construction of new infrastructure; and carry out regular inspections.

Bioko Island has lost its former leading role in the production and export of cocoa and coffee and, like the rest of the country, is heavily dependent on food imports. Secondary forest is being regenerated on abandoned coffee farms, and local communities are returning to small-scale subsistence farming and marketing of surpluses, or embarking on horticultural production as a more profitable alternative.

FIGURE I.23 MAP OF DEFORESTATION AND FOREST DEGRADATION IN THE PERIOD 2004–2014 IN PIL IV



Agricultural value chains are basic, as there are no linkages to later storage, processing and marketing stages. The lack of economic opportunities that has characterized urban areas in recent years could give rise to a new exodus of people to the countryside, which could cause further forest degradation as a result of the opening up of new farms. On Bioko Island, there is a need to encourage climate-smart agriculture that takes into account traditional practices, improves soil productivity, allows for production diversification, contributes to food and nutritional security and improves the living conditions of inhabitants, both men and women.

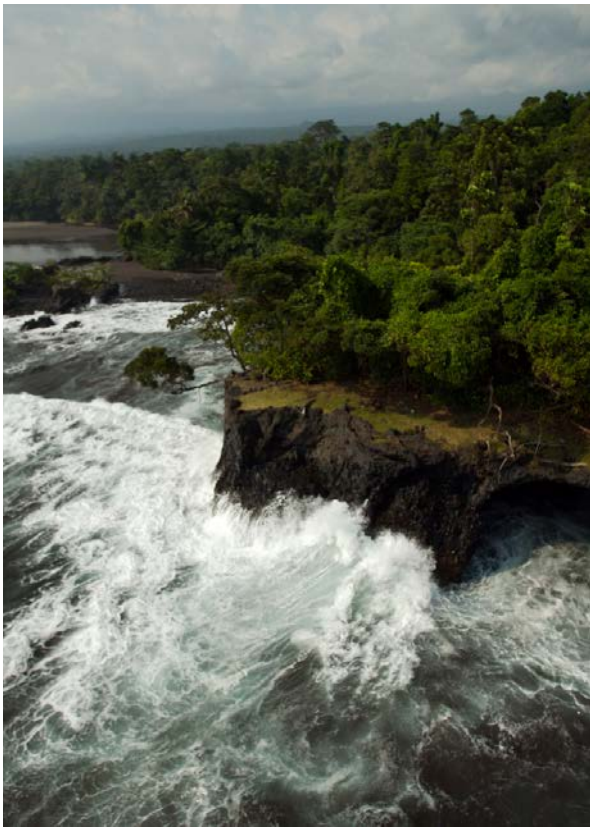
Forestry activities on the island, which are carried out informally despite the legislation in force, are a very important source of income for families in rural areas and meet the local demand for timber. In order to take advantage of forest resources on the island, in terms of timber and non-timber products, it is proposed to support forms of community forest management (already provided for in national legislation and plans) that involve communities in the management and preservation of their own forest resources, allowing them to share the social, economic and environmental benefits. This will involve supporting the forest tenure recognition process; developing inventories and sustainable forest management plans for the sustainable harvesting of timber and non-timber forest products on a small-scale in forest plots and communal forests; creating and legalizing forest micro-enterprises and/or developing other types of environmentally-friendly businesses to generate formal employment opportunities; supporting communities in controlling illegal logging; and ensuring the participation of local people (men and women) in forest and land decision making and management.

Protected areas represent 43 percent of the area of Bioko Island and are home to a significant part of the country's wealth of fauna and flora. There is a great variety of endemic plant and animal species on the Island. Currently, the island's two protected areas are affected by problems of forest degradation and poaching that are putting biodiversity at risk, particularly the primate and turtle populations.

The opportunity cost of not sustainably managing a national park such as Pico Basilé is high because of the loss of its natural capital and the lost opportunity to develop participatory management for the benefit of women and men in the communities.

Public investment on Bioko Island is intended mainly for the construction, expansion or improvement of infrastructure. During the period 2010–2017, investment in infrastructure accounted for 96.5 percent of public investment on the island. Public investment in agriculture and food security, forests or the environment is very low.

Lastly, integrated land management requires the participation of multiple social actors at governmental, civil society and rural community levels. Stable participation mechanisms need to be established, as well as procedures for affected parties to express their concerns or complaints (with adequate representation of women and young people).



Coastal monsoon forest, Punta Santiago, Bioko
©FAO/Ricardo Dominguez

I.9.6. OUTCOMES AND OUTPUTS

Table I.14 shows proposed outcomes and outputs of PIL IV, and their relationship with national legislation and policies.

TABLE I.14 OUTCOMES AND OUTPUTS OF PIL IV

OUTCOMES	OUTPUTS	RELATED DOCUMENTS
IV.1. The provinces of Bioko Norte and Bioko Sur and their municipalities have provincial and municipal land-use plans, green urban plans and community land management plans. All these constitute the collectively agreed upon reference planning tool.	IV.1.1. Bioko Norte and Bioko Sur Provincial Land-use Plan, which follows the guidelines of the National Land-use Plan and is drawn up in a participatory manner.	• Law 1/1997 • Law 7/2003 • Law 8/2005 • PNAF
	IV.1.2. Municipal Land-use Plan for the four municipalities, which follows the guidelines of the National Land-use Plan and the Provincial Land-use Plan, and is drawn up in a participatory manner; the system of tenure is revised, clarified and improved.	
	IV.1.3. Urban development plans for the cities of Bata, Riaba and the six urban districts, including urban and peri-urban orchards and forests, which make infrastructure development conditional upon environmental impact assessments.	
	IV.1.4. Development of community land management plans, including the development, coordination and regulation of small-scale forest harvesting as well as the promotion of forest micro-enterprises (local consumption) and other climate-friendly and environmentally-friendly economic initiatives.	
IV.2. The use and management of forests at a small-scale and/or community level, for locally consumed timber and non-timber forest products, is progressively regulated and structured in order to ensure environmental, social and financial forest sustainability, reducing the loss of tree cover and contributing to the well-being of rural women and men.	IV.2.1. Revised and simplified regulations and procedures governing small-scale forestry and encouraging the setting up of agroforestry micro-enterprises (local consumption) and other climate-friendly and environmentally-friendly initiatives.	• Law 1/1997 • Decree 97/1007 • PNAF
	IV.2.2. Technical assistance and funding programme for the development of community forest management systems on Bioko Island.	
	IV.2.3. Communal forests and forest plots on Bioko Island with registered titles and management plans agreed upon and implemented in a participatory manner, including women and men from local communities.	
	IV.2.4. Communal forest inventory of timber and non-timber products, and feasibility study of non-timber products with greater commercial potential, including their added value and value chain.	
	IV.2.5. Forest micro-enterprises and associations (timber and non-timber forest products), agroforestry and/or other environmentally-friendly micro-enterprises established and trained, generating formal employment opportunities and giving value to the forests and land.	
	IV.2.6. Municipal and regional markets set up for forest products, meeting criteria of legality and sustainability that allow sector diversification, the establishment of green value chains and the legal marketing of products from community forests and forest plots.	

OUTCOMES	OUTPUTS	RELATED DOCUMENTS
IV.3. Agricultural and agroforestry production on Bioko Island is stepped up sustainably, strengthening the value chains of the various crops and promoting regional production, processing and marketing, with the empowerment of women and young people.	IV.3.1. Subsistence farming increases its sustainability, productivity and marketing with a climate-smart approach through technical training in good agricultural and agroforestry practices (including sustainable traditional practices that have fallen out of use), production materials and access to financing sources.	• PNIASAN • PNFS • EN-REDD+
	IV.3.2. Technical training in agricultural practices (e.g. fertilizer use and pest and disease management) and the promotion of traditional agricultural practices that take advantage of forest clearings without felling trees.	
	IV.3.3. Extensive agricultural and agro-industrial production operates under sustainable production policies, rules, standards and incentives, based on the National Policy on Food Security and Nutrition.	
	IV.3.4. Producer cooperatives and value chains (including processing and marketing) are developed and strengthened through technical, financial, institutional and infrastructural service support.	
	IV.3.5. Sources of funding for farming and livestock activities, processing and storage initiatives and mechanisms to ensure food and health when crops fail.	
IV.4. Urban, energy and transport development is carried out in accordance with environmental criteria, based on land-use plans and conditional upon environmental impact assessments.	IV.4.1. District and municipal authorities trained in legislation related to infrastructure regulation.	• Law 7/2003
	IV.4.2. Environmental impact assessments of new energy and construction works on Bioko Island carried out and monitored.	
	IV.4.3. Mechanisms for monitoring compliance by companies in the energy, mining and construction sectors with their obligations to hire local labour (including training if necessary) recognize local authorities and respect existing land plans.	
IV.5. Pico Basilé National Park and the Luba Crater Scientific Reserve are managed and used in a sustainable and participatory manner, thus contributing to the fight against climate change, the protection of biodiversity and the well-being of the local people, particularly neighbouring communities.	IV.5.1. The local population is aware of the importance, benefits and regulations of protected areas.	• EN-REDD+ • Law 7/2003
	IV.5.2. Joint management plans, drawn up in a participatory manner, including economic options compatible with protection goals and generating benefits for local communities.	
	IV.5.3. National programme of scientific research inside protected areas.	
	IV.5.4. Community monitoring and surveillance system for the conservation of protected areas on Bioko Island, in coordination with the National Forest Monitoring System.	

OUTCOMES	OUTPUTS	RELATED DOCUMENTS
IV.6. REDD+ is implemented on Bioko Island under a participatory, transparent, inclusive and decentralized governance system that considers the needs, know-how and customs of men and women of local communities, and allows the dissemination of public information and accountability.	IV.6.1. Municipal consultation and consensus platform for REDD+, with a specific Working Group on issues of gender and the reduction of inequalities.	• EN-REDD+
	IV.6.2. Representatives of the provinces and municipalities of Bioko Island contribute information to the country's Safeguard Information System, which collects and disseminates information on the social and environmental impacts of REDD+ implementation and generates data for the mitigation of potential negative effects.	
	IV.6.3. The inhabitants and representatives of Bioko Island are familiar with and use the National Conflict Resolution Mechanism for REDD+	

I.10. **PIL V: ANNOBÓN ISLAND**

I.10.1 PURPOSE

The purpose of PIL V on Annobón Island is to achieve the following:

> *Annobón Island adopts a low-emission sustainable development model that respects its status as a protected area and promotes integrated management of the land and an improvement in food security and the living conditions of the local population.*

The expected outcomes to achieve this purpose are:

- Annobón Island has a joint management plan for the nature reserve that includes land-use planning. This constitutes a collectively agreed upon reference planning tool.
- The forests of Annobón Island are restored and managed sustainably, including enrichment with timber species in high local demand, favouring timber production for houses, canoes and as an energy source.
- Agricultural production is developed through climate-smart systems, diversifying production in family allotments and promoting small livestock farming to improve the food and nutritional security of local people.
- Urban development in the city of San Antonio de Palé, and the development of renewable energy sources and transport route construction are based on land-use planning with environmental criteria and dependent upon environmental impact assessments.
- REDD+ is implemented in Annobón Island under a participatory, transparent, inclusive and decentralized governance system. This considers the needs and customs of women and men of the island and allows the dissemination of public information and accountability.

I.10.2. CHARACTERISTICS OF THE PIL V TERRITORIAL JURISDICTION

Location

Annobón, which is a small island of volcanic origin with an area of approximately 18 km^2, is one of the seven provinces of Equatorial Guinea (see Figure I.24). The island is very isolated from the rest of Equatorial Guinea, and air and sea connections are irregular. It is located in the Atlantic Ocean, 600 km from Bioko Island and 363 km from the nearest point on the African mainland (Gabon).

Annobón Island has a land area of 2 031 ha and a forest area of 1 553 ha, corresponding to 76 percent of the island (MAGBMA and FAO, 2018).

All of Annobón Island is a protected area classified as a nature reserve. The reserve includes the land and sea area. It does not currently have a management plan.

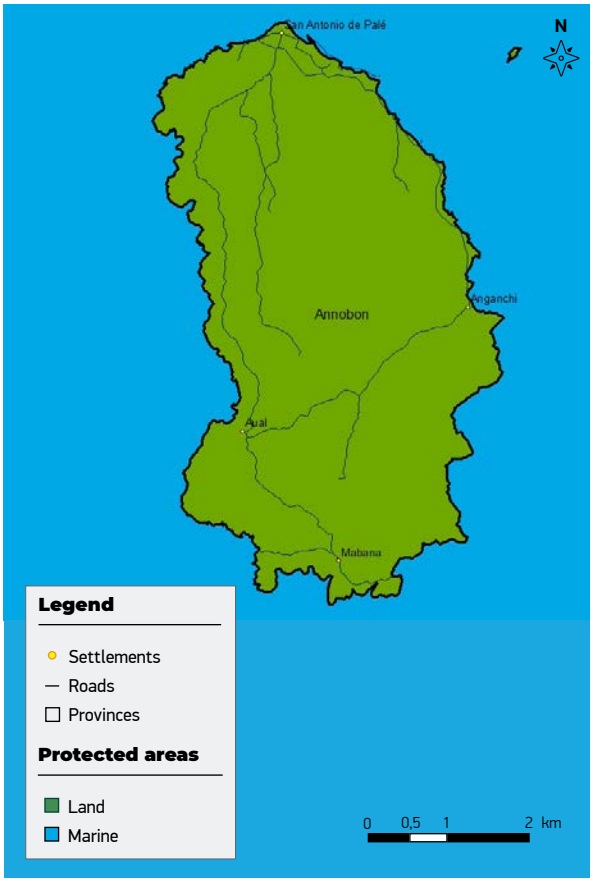
Table I.15 shows general information on Annobón Island.

Annobón has three prominent geographical features: the small caldera occupied by Lake Apot, which rises to more than 150 m in altitude and includes several parasitic cones projecting to heights of over 400 m; the crater in the south of the island; and a corridor between both formations, which joins the bays of San Pedro and Santa Cruz and is partially traversed by the River Anganchi.

Population

Annobón has a population of 5 233 (INEGE, 2015), which is equivalent to 0.42 percent of the country's total population. Its population growth rate during the period 2001–2015 was 0.31 percent, well below the national average (1.3 percent).

FIGURE I.24 TERRITORIAL JURISDICTION OF PIL V



The population is mainly concentrated in San Antonio de Palé, the provincial capital. There are three more population centres in the east (Anganchi), west (Aual) and south (Mabana) of the island. San Antonio de Palé is connected to the other population centres by footpaths or by sea using canoes.

Some of the younger people on the island migrate to the cities of Bata and Malabo in search of training and employment due to the lack of opportunities and the current economic situation on the island.

Flora and fauna

The island is divided into two parts by Lake Apot, and both parts have specific plant populations. The northern area features a semi-arid landscape of seagrasses during the dry season, while during the rainy season it is covered with dense, high herbaceous formations made up of coarse grasses. The south, exposed to the monsoon rains and protected against the dry north winds, is given over to tropical forest, although it differs from the forest of Bioko or the continental region due to the absence of numerous species. Up to 14 endemic species of vascular plants are known to grow on the island, and another six species are endemic to the Gulf of Guinea. An inventory of island resources could identify more endemic species. During the colonial period, the island was reforested with kapok and breadfruit trees. Both species are widely used by the population.

Annobón is of great biological importance within the Gulf of Guinea as a whole. For this reason, Law 8/1988 regulating wildlife, hunting and protected areas in Equatorial Guinea declared it a protected area. Despite the legislation, there are still no specific activities or protective measures on the island. Many species of mammals, birds, reptiles and freshwater fish are recorded, with a high rate of endemism.

The average temperature is 26.1˚C, with little annual thermal variation. The rainfall on Annobón (1 196 mm on average) is lower than in the other provinces of Equatorial Guinea and divided into two seasons: a wet season from November to May and a dry season from May to October.

I.10.3. PRODUCTIVE ACTIVITIES

Fishing

Fishing, which is the main productive activity of the Annobonese people, is carried out for self-consumption and for commercial purposes. Given the island's isolation, fish are the only

TABLE I.15. GENERAL INFORMATION ON ANNOBÓN ISLAND

VARIABLE	VALUE
Population of the province (2015) (inhabitants)	5 233
Number of households in the province (2015)	1 372
Population growth rate in the period 2001–2015	0,31%
Land area (ha)	2 031
Forest area (2014) (ha and as a percentage of total area)	1 533 (76%)
Annual deforestation rate in the period 2004–2014	Very high (0,7%)
Annual degradation rate in the period 2004–2014	Very high (1,4%)
Land area under Conservation Domain (ha)	2 031 (100%)
Number of protected areas (2016)	1
Number of villages registered	4
Number of agricultural holdings surveyed (2015)	396
Percentage of farms registered in the province out of the national total.	1,8%

Source: INEGE, 2015. INEGE, 2016. MAGBMA and FAO, 2018. MAB and WRI, 2016.

protein-based dietary option for local people. Men catch the fish, while women are traditionally responsible for drying and salting the fish.

The nature reserve, with its exclusive economic zone of 253 000 km^2, makes Annobón Island the province with the greatest potential for exploiting marine fishery resources. Annobón has the second largest small-scale fishing fleet in Equatorial Guinea. Two hundred and seven vessels are recorded in San Antonio de Palea: 199 kapok dug-out canoes, six plank-built canoes and a boat.

Only 7 percent of the boats are motorized. Canoes are also used for transporting people between the four towns on the island.

Each canoe can carry two people. Approximately 363 fishers have been recorded, with an average age of 46 years. Fishing is the island's main resource, and this also includes processing activities. There are seven fish processing cooperatives, which together employ approximately 180 people, mostly women. The main fish processed are flying fish, which are very abundant between October and March. They are salted and exported to Sao Tome, Malabo and Bata.

Agriculture

The inhabitants of Annobón (mainly women) are engaged in shifting agriculture. The main crops are bananas, yams, peanuts, sugar cane and cassava.

The Annobonese diet is based on fish and root vegetables grown on the island. Meat consumption is sporadic, occuring only when an animal (deer or porcupine) is caught, or when families have the opportunity to buy frozen meat, usually chicken. There are no pens on the island for raising any kind of small livestock. Plant-based food is imported and arrives on the boats used to transport construction materials.

When consulted in 2018, the inhabitants expressed their concern about the appearance of agricultural pests, such as whitefly, corn rootworm or various mites, which are decimating the production of mangoes, root vegetables and maize. They also expressed concern about the forms of shifting cultivation used by families of soldiers stationed on the island because they do not respect traditional systems.

San Antonio airport has been expanded to occupy the only flat areas of the island, which were previously farmland.

Forest harvesting

Timber is harvested from the kapok tree (*Ceiba pentandra*) and the product is used to build canoes for fishing and transport. The canoe usually lasts about one and a half years. Kapok trees are becoming increasingly scarce, and the price of timber is high. Firewood is normally obtained from shrubs, which are abundant throughout the island. It is estimated that each village cuts down 20 trees per year (representing approximately 80 trees in total).

Timber is taken from forests that have already been distributed among families on the island under customary law and have an assigned owner. Trees are felled using an axe, as the registered chainsaws (four in total) are not operational due to lack of fuel and spare parts.

There is no forest inventory on the island. The only timber species that is harvested is the kapok treee because there is no tradition of using other species. Mangoes, breadfruit trees and trees used for firewood are examples of other species traditionally used in forestry or agroforestry. Consumption of wood as cooking fuel is very high.

Tourism

Given its characteristics, the island offers significant potential for tourism, which remains undeveloped. Currently, air and sea connections are irregular, the hotel structure is very basic and tourist services are limited. Visitors use hostels belonging to families on the island. Recently, the Government promoted the building of a new hotel to encourage tourism.

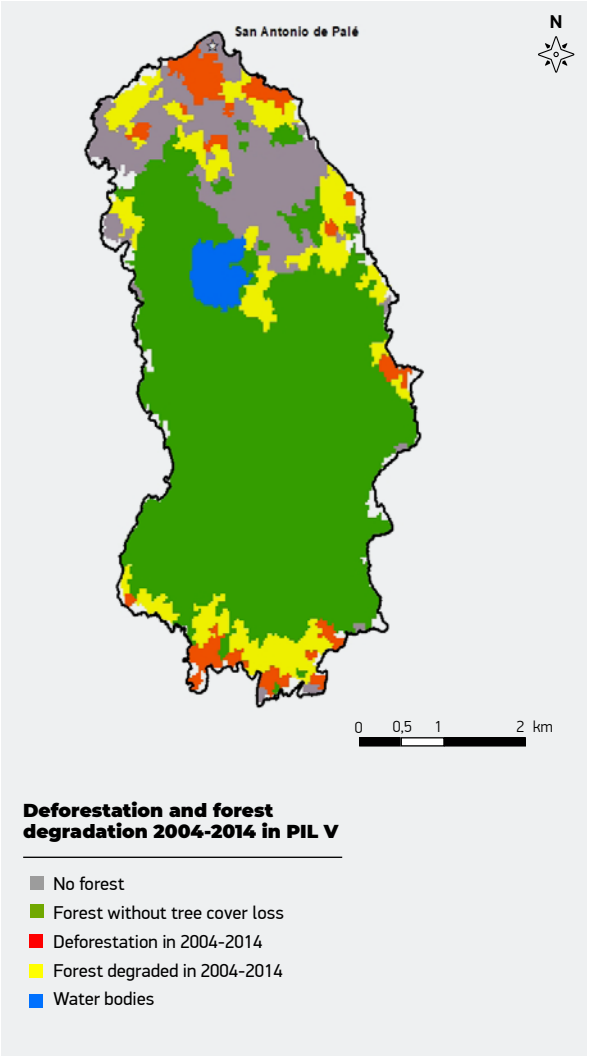
Construction

Construction projects generate very significant employment and income for island families, enabling them to buy products from the continental region. With the exception of this occasional income, commercial activity is very low, and the local people normally exchange products.

In 2018, there were four major construction projects in the pipeline:

- Construction of solar energy systems.
- Construction/expansion of the island's port and airport.
- The third project, which was approved but not implemented, was the construction of a ring road on the island. This was intended to connect San Antonio de Palé with the other three towns. The island's inhabitants are very

FIGURE I.25 MAP OF DEFORESTATION AND FOREST DEGRADATION IN THE PERIOD 2004–2014 IN PIL V



Annobón Island
©FAO/Ricardo Domínguez

keen for this project to go ahead, because it would make travel easier. However, it would involve an increase in deforestation and direct and indirect forest degradation, and require an environmental impact assessment. Despite the demand for this project, there is some concern over a possible increase in vehicles and their maintenance (e.g. disposal of oil, filters and parts). Many inhabitants think that Annobón Island would lose its originality and point out that it has the status of a nature reserve.

- A fourth project that could have a negative environmental impact is the development of two new urban districts (one south-east of the airport and another east of San Antonio). This would cause extensive loss of tree cover, mainly mangoes and kapok trees. The people consulted reported that these districts are located far from their current homes and the areas where they carry out their daily activities. Because of this, they would prefer to improve the current infrastructure of San Antonio and make their homes more inhabitable.

Other economic activities

In addition to fishing, there are several activities carried out that have less economic impact: handicrafts (necklaces for sale to foreigners), small shops (grocers, bakeries and hairdressers), small workshops (carpenters or masons), palm oil production, alcoholic beverage production (topé and malamba) and work for government institutions (civil service).

I.10.4. FOREST STATUS

Despite its small size and its status as a protected area, Annobón is the region of Equatorial Guinea that has suffered the greatest loss of forest in proportion to its area. During the period 2004 2014, deforestation and forest degradation were both much higher than the average for the country.

The annual deforestation rate was 0.67 percent, compared to the national average of 0.3 percent, and the annual forest degradation rate was 1.4 percent, compared to the national rate of 0.9 percent (see Figure I.25 and Table I.16).

Forest loss is related to shifting agriculture, the felling of timber to build canoes and for other domestic uses, and the construction of new public infrastructure, such as the new terminal at Annobón airport, the runway extension, the construction of the municipal stadium and a social housing area. The local people, when consulted in 2017, complained of the lack of specific forestry projects for the province and the lack of environmental awareness, and noted the need to develop economic alternatives to reduce pressure on forests (e.g. small mango jam companies, handicraft production).

It was also predicted that forest loss would continue to increase due to the traditional use of kapok, farming practices and infrastructure development.

TABLE I.16 RATE OF DEFORESTATION AND FOREST DEGRADATION IN EQUATORIAL GUINEA IN THE PERIOD 2004–2014

	ANNOBÒN		BIOKO		CONTINENT		EQUATORIAL GUINEA	
	ANNUAL %	ANNUAL AREA (HA)	ANNUAL %	ANNUAL AREA (HA)	ANNUAL %	ANNUAL AREA (%)	ANNUAL %	ANNUAL AREA (%)
Deforestation	0,67%	11	0,53%	953±189	0,32%	7 711±877	0,34%	8 676±897
Degradation	1,40%	23	0,35%	635±545	0,93%	22 352±4 571	0,89%	23 010±4 603

Source: MAGBMA and FAO, 2018.

Construction of a cayuco from a kapoc tree, San Antonio de Palé, Annobón Island
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I.10.5. CHALLENGES FOR REDD+ IN THE PIL V TERRITORIAL JURISDICTION

Given that the island's land and sea area is classified as protected, the first challenge is to develop a sustainable management plan that is in line with the objectives of biodiversity conservation and human development, and considers the island's isolated situation and the need to improve its food sovereignty and reduce dependence on imports. This plan must be developed with the active participation of all social agents to ensure that its future implementation has the necessary consensus and generates benefits for men and women equally.

No up-to-date information is available on the structure and condition of the island's forests. According to those consulted, selective harvesting focuses on a single species (kapok), whose abundance and sustainability could be endangered. Considering local needs and customs, it seems necessary to carry out enrichment activities with native species to ensure a sustainable volume of the species in the medium term. Given the timber consumption needs of local inhabitants, enrichment processes with native wood species must be established to ensure a volume that can be harvested sustainably in the medium term; reduce the import of timber from the mainland; and generate economic activity that is sustainable over time.

Farming practices must adopt a climate-smart approach that allows diversification, increases production and strengthens food sovereignty. Small livestock farming would also help diversify production and create job opportunities. The diversification of agricultural and livestock production would improve the food and nutrition security of the local people and future tourists. It would also enable them to avoid having to buy over-priced products from the mainland, as is currently the case.

Fishing activities involve building kapok-wood canoes, which are used both for fishing and for travel between the towns on the island. Because canoes last about two years on average, many trees have to be cut down each year. The local people report that there are fewer and fewer kapok trees available (each one has an assigned owner). This is a serious threat to the local traditional way of life.

Considering the small area of the island and its wealth of fauna and flora, building work could have a significant negative impact. This again highlights the need for rigorous environmental impact assessments and mitigation measures.

Promoting tourism means improving air and sea connections with the island, and developing hotel infrastructure, telecommunication and catering and tourism services (e.g. hiking, visits to smaller islands, diving trips). This requires the participation of local people and will require education, training and the use of a joint management scheme to improve employment opportunities and income generation.

Lastly, integrated land management will require participatory mechanisms and spaces for dialogue in decision making, the promotion of transparency and impact assessments. This will involve strengthening public institutions and social organizations, and the empowerment of women and young people.

I.10.6. OUTCOMES AND OUTPUTS

Table I.17 shows the proposed outcomes and outputs of PIL V, and their relationship with national legislation and policies.

TABLE I.17 OUTCOMES AND OUTPUTS OF PIL V

OUTCOMES	OUTPUTS	RELATED DOCUMENTS
V.1. Annobón Island has a joint management plan for the nature reserve that includes land-use planning. This constitutes a collectively agreed upon reference planning tool.	V.1.1. Joint management plan for the nature reserve formulated and implemented with the active participation of local people, including economic alternatives compatible with conservation objectives and a specific development plan for the fishing sector .	• Law 1/1997 • Law 7/2003 - Law 8/2005 • PNAF • EN-REDD+
	V.1.2. Provincial Land-use Plan, drawn up in a participatory manner following the guidelines of the National Land-use Plan; system of tenure revised and clarified.	
	V.1.3. Programme for the promotion and encouragement of ecotourism.	
	V.1.4. National programme of scientific research inside the protected area.	
	V.1.5. Community monitoring system for the conservation of the protected area in coordination with the National Forest Monitoring System.	
	V.1.6. Environmental awareness programme for local people on the importance and benefits of protected areas.	
	V.1.7. Provincial plan for the management and use of water, energy (giving priority to renewables) and waste.	
V.2. The forests of Annobón Island are restored and managed sustainably, including enrichment with timber species in high local demand, favouring timber production for houses, canoes and as an energy source.	V.2.1. A forest and wildlife inventory of Annobón Island carried out with the participation of local people and regularly updated.	• Law 1/1997 • Law 7/2003 - Law 8/2005 • PNAF • EN-REDD+
	V.2.2. Forest management and restoration plan, including enrichment with species of interest and the development of forest nurseries.	
	V.2.3. Technical assistance and funding programme for the development of community forest management systems.	
	V.2.4. Forest micro-enterprises and associations (timber and non-timber forest products), agroforestry and/or other established and trained environmentally-friendly micro-enterprises/associations that generate formal employment opportunities, add value to the forests and diversify forest products and services.	
V.3. Agricultural production is developed through climate-smart systems, diversifying production in family allotments and promoting small livestock farming, to improve the food and nutritional security of local people.	V.3.1. Subsistence farming increases its sustainability and productivity with a climate-smart approach through technical training for productive diversification with good farming practices, production material banks and access to funding sources.	• PNIASAN • PNFS • EN-REDD+
	V.3.2. Small-scale cattle raising developed through a training process.	
	V.3.4. Producer groupings developed and strengthened through technical and financial support.	

OUTCOMES	OUTPUTS	RELATED DOCUMENTS
V.4. Urban development in the city of San Antonio de Palé, and the development of renewable energy sources and transport route construction are based on land-use planning with environmental criteria and dependent upon environmental impact assessments.	V.4.1. Green urban plan for the city of San Antonio that encourages the development of orchards and urban and peri-urban forests.	• Law 7/2013
	V.4.2. Provincial authorities trained in legislation related to infrastructure regulation.	
	V.4.3. Energy production, consumption and saving plan based on renewable sources that limits and rationalizes wood consumption.	
	V.4.4. Environmentally-friendly mobility plan (land and sea).	
	V.4.5. Environmental impact assessments carried out for new works (e.g. airports, ports, hotels and power plants).	
	V.4.6. Mechanisms for monitoring compliance with obligations by construction companies.	
V.5. REDD+ is implemented in Annobón Island under a participatory, transparent, inclusive and decentralized governance system. This considers the needs and customs of women and men of the island and allows the dissemination of public information and accountability.	V.5.1. Municipal consultation and consensus platform for land management and REDD+, with a specific Working Group on aspects of gender and the reduction of inequalities.	• EN-REDD+
	V.5.2. Island representatives contribute information to the country's Safeguard Information System, which collects and disseminates information on the social and environmental impacts of REDD+ implementation and generates data for the mitigation of potential negative effects.	
	V.5.3. Island inhabitants and representatives are familiar with and use the National Conflict Resolution Mechanism for REDD+.	

Mangrove
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ANNEX II
INTERVENTION LOGICAL FRAMEWORK

The logical framework describes the expected outcomes and outputs as well as the indicators and means of verification, the baseline and the goals. Where no data are available and a specific study or analysis is required, the starting value (baseline) of the indicators is zero.

The main logical framework assumptions are:

- Decision makers acting at high political level effectively support the implementation of the REDD+ agenda.
- The Government allocates resources for implementing national and local investment programmes, and supplementary funding is secured through external sources.
- The participation of stakeholders (public administration, companies, communities, non-governmental organizations and civil society) in dialogue and consensus building, and the acceptance and ownership of the REDD+ process is encouraged as part of the country's development agenda.
- REDD+ planning and implementation are carried out within the framework of inter-institutional, intersectoral and intraregional coordination.
- Government technicians participate actively in the technical capacity-building process for implementing PNI-REDD+.
- Dialogue and consensus are generated in the timber business sector for implementing National Programme 2: "Sustainable forest management" (only applicable to the national programme).
- The impact of interventions on men and women is monitored to ensure that the most vulnerable groups benefit and that no one is left behind.

TABLE II.1 PNI-REDD+ LOGICAL FRAMEWORK

CHAIN OF IMPACTS AND OUTCOMES	INDICATORS			
	INDICATORS	BASELINES	TARGET	MEANS OF VERIFICATION
Impact 1: Equatorial Guinea has reduced its emissions from the AFOLU sector.	**I 1.1:** Greenhouse gas (GHG) emissions from the AFOLU sector (in tCO_2eq)	**BL 1.1:** National GHG emissions from the AFOLU sector 10 tCO_2eq /year in 2013.	**T 1.1:** Reducing emission from the AFOLU sector by 20% by 2030	**MV 1.1:** National communication to UNFCCC; Forest Reference Emissions Levels/Forest Reference Level (FRE / FRL); National Forest Monitoring System (NFMS)
Impact 2: People's living conditions have been improved through economic diversification using a sustainable and integrated land management approach.	**I 2.1:** Proportion of the population whose income is less than USD 1.25 per day, particularly in rural areas. **I 2.2:** Number and ratio of direct beneficiaries (directly supported) to total population in local integrated programme (PIL) areas.	**BL 2.1:** 76.8% of the population below the poverty line in 2006 (79% in rural areas). **BL 2.2:** At the outset, 0	**T 2.1:** Reduce the population below the poverty line by more than 10% by 2030 **T 2.2:** To be estimated for each PIL	**MV 2.1:** United Nations statistics, reports on Millennium Development Goals (*https://unstats.un.org/sdgs/indicators/database/*); World Bank Data **MV 2.2:** PIL documents and reports

CHAIN OF IMPACTS AND OUTCOMES	INDICATORS			
	INDICATORS	BASELINES	TARGET	MEANS OF VERIFICATION
Purpose of PN 1: Equatorial Guinea defines the combination of current and potential uses of its land in a participatory manner using an integrated and sustainable approach that balances economic, social and environmental needs, safeguards forest resources, and reduces the emissions from land-use sectors.				
	I PN1. Existence and implementation of a National Land-use Plan, which is linked to national and subnational development plans.	**BL PN1:** Zero.	**T PN1:** The National Land-use Plan is the basis for the National Social Development Strategy and local development plans.	**MV PN5:** Ministerial Planning Reports.
Outcome 1.1: Governance for integrated land-use planning has been developed with a defined institutional and regulatory framework and participatory mechanisms.	**I 1.1.1: N**ational Commission on Land Classification and Use operational. **I 1.1.2:** Existence and implementation of a land-use planning policy that considers the contribution of forests and land uses to climate change mitigation and other social and environmental benefits. **I 1.1.3:** Technical training and education plan. **I 1.1.4:** Tools for monitoring land-use plans. **I 1.1.5:** Existence and implementation of an equitable tenure policy (including gender, vulnerable people, local communities and indigenous peoples) that ensures sustainable and conflict-free land management and the clarification of tenure rights in order to limit forest land conversion.	**BL 1.1.1:** Zero. **BL 1.1.2:** Zero. **BL 1.1.3:** Zero. **BL 1.1.4:** Zero. **BL 1.1.5:** Fundamental Law (2012), Law 4/2009, Law 1/1997; customary rights.	**T 1.1.1:** National Commission on Land Classification and Use operational. **T 1.1.2:** Land Classification and Use Regulation and technical manual approved with technical criteria and social participation mechanisms for land-use planning. **T 1.1.3: T**echnical training and education plan implemented in various state departments for implementation and monitoring of the Land-use Plan. **T 1.1.4:** Provision of technical tools for generating statistics and monitoring indicators. **T 1.1.5:** Legislative framework updated, simplified and disseminated; strengthened tenure system; digital land registry updated, modernized and accessible.	**MV 1.1.1:** Decree establishing the National Commission on Land Classification and Use operational. Meeting report. **MV 1.1.2:** Regulations and technical manual published. **MV 1.1.3:** Training plan reports. **MV 1.1.4:** Follow-up system and National Forest Monitoring System. **MV 1.1.5:** Revised laws; information system, including the digital land registry.
Outcome 1.2: Land is used in a rational, efficient and orderly manner due to the National Land-use Plan, which is drawn up in a participatory manner and based on up-to-date studies and inventories.	**I.1.2.1:** A National Forest Inventory exists; specify whether this Atlas is produced, updated (frequency), used for coordination with other sectoral Ministries and/or publicly available. **I.1.2.2:** Diagnosis of current agricultural systems; agroecological zoning; agricultural potential; model of future scenarios. **I.1.2.3:** Existence of an interactive map that maps the juxtaposition of land cover and land uses, regularly updated, publicly accessible and used for intersectoral coordination. **I.1.2.4:** Number of ha for which land use has been agreed and number of ha for which allocation conflicts have been resolved, reflected in the National Land-use Plan. **I.1.2.5:** Decentralized management plans.	**BL 1.2.1:** National Forest Inventory for 1991 and 1992. **BL 1.2.2:** PNSA and PNIASAN. **BL 1.2.3:** Bioko Vegetation Map 2015; 1999 Land Cover and Vegetation Map (Project for the Conservation and Rational Use of Forest Ecosystems in Equatorial Guinea, CUREF). **BL 1.2.4:** Zero. **BL 1.2.5:** Zero.	**T 1.2.1:** Updated National Forest Inventory. **T 1.2.2:** Diagnosis of current situation carried out, and agroecological zoning, future scenario models considering national and local development plans, REDD+ strategic goals, and international commitments. **T 1.2.3:** Updated land occupation (cover and uses) and vegetation map. **T 1.2.4:** National Land-use Plan drawn up in a participatory manner, based on an analysis of updated information and using predefined criteria, and applied throughout the country by the National Commission on Land Classification and Use. **T 1.2.5:** Decentralized land-use plans, based on the national plan.	**MV 1.2.1:** National Forest Inventory published and accessible. **MV 1.2.2: D**iagnostic document. **MV 1.2.3:** Map published; Forest Atlas. **MV 1.2.4:** National Land-use Plan document. **MV 1.2.5:** Subnational land-use planning documents.
Outcome 1.3: Public policies for sectoral development (including agriculture, forestry, mining, energy and construction) are linked to the National Land-use Plan, as a key element of its planning.	**I 1.3.1:** Sectoral plans and policies in line with the Land-use Plan.	**BL 1.3.1: L**aw 1/1997, on Forest Use and Management; Law 7/2003 on the Regulation of the Environment; Law 8/2005 on Urban Planning; mining regulations.	**G 1.3.1:** Sectoral plans and policies revised and in line with the Land-use Plan.	**MV 1.3:** Documents on laws and sectoral plans updated.

CHAIN OF IMPACTS AND OUTCOMES	INDICATORS			
	INDICATORS	BASELINES	TARGET	MEANS OF VERIFICATION
Purpose of PN 2: Forests of Equatorial Guinea are managed in a ratinal and sustainable manner, generating multiple benefits for the country's population and economy.				
	I PN 2: Ha of forest with management plans. **I PN2:** Value in USD of the basket of legally and sustainably traded timber and non-timber products.	**BLa PN2:** 0 ha. **BLb PN2:** Timber export value: USD 18 million according to data from the Office of Forest Species Control, Information and Promotion (OCIPEF) for 2017. No data on non-timber products is available.	**Ta PN2:** 20% of the country's forests (~500 000 ha) to be managed sustainably by 2030 **Tb PN2:** 30% of annual revenues from timber products to be legally and sustainably produced by 2030.	**MVa PN2:** Forest Atlas and National Forest Monitoring System. **MVb PN2:** Reports from OCIPEF/National Timber Marketing Office and reports from the Directorate-General for Forestry Guardianship in relation to timber production; and from INDEFOR for non-timber products.
Outcome 2.1: Governance of the forest sector has improved, strengthening the institutional, legislative and regulatory frameworks and their implementation; and improving transparency, access to public information and public participation in an equitable manner.	**I 2.1.1:** Forest legislative framework updated. **I 2.1.2:** PNAF and Forest Use and Production Plan. **I 2.1.3:** Structure, budget allocation and roles of MAGBOMA. **I 2.1.4.** National Forest Monitoring System. **I 2.1.5.** Operation and efficiency of FONADEFO.	**BL 2.1.1:** Law on the Use and Management of Forests under review. **BL 2.1.2:** PNAF for 2000. **BL 2.1.3:** MAGBOMA structure and budget allocation in 2016. **BL 2.1.4:** Zero. **BL 2.1.5:** FONADEFO operational but with variable funding and structural and functional limitations.	**T 2.1.1:** New Forest Use and Management Law revised and approved. **T 2.1.2:** New PNAF revised and approved. **T 2.1.3:** Structure of MAGBOMA revised. **T 2.1.4:** Updated and accessible information on forests due to the National Forest Monitoring System. **T 2.1.5:** Development of the forestry sector financed by FONADEFO.	**MV 2.1.1.** Legal document. **MV 2.1.2.** Plan document. **MV 2.1.3.** State Decree and Budgets. **MV 2.1.4.** National and international reports. **MV 2.1.5.** Financial reports from the forestry sector and FONADEFO.
Outcome 2.2: The technical capacities of people involved in forest management from public and private sectors have been strengthened, making it possible to improve sustainable forest management and reduce negative impacts on forest ecosystems.	**I 2.2.1:** National sustainable and legal forest management rules and standards document; document of timber production standards in plantations and agroforestry systems. **I 2.2.2:** Code of good practice for low-impact, low-emission forest management and harvesting. **I 2.2.3:** Social and Technological Promotion Programme and Forest Extension Programme. **I 2.2.4:** University and vocational training programmes. **I 2.2.5:** Research programme.	**BL 2.2.1:** Zero. **BL 2.2.2:** CUREF project outputs. **BL 2.2.3:** Zero. **BL 2.2.4:** University and vocational training programmes as of 2019. **BL 2.2.5:** Zero.	**T 2.2.1:** National sustainable and legal forest management rules and standards document. **T 2.2.2:** Code of good practice for forest management and harvesting created and applied. **T 2.2.3:** Programmes formulated and operational. **T 2.2.4:** Updated university and vocational training programmes incorporating sustainable forest management, climate change and REDD+, forestry governance, FLEGT and the benefits of legal logging and trade. **T 2.2.5:** Research programme on forests and their sustainable management and use being implemented.	**MV 2.2.1:** Document published. **MV 2.2.2:** Code published. **MV 2.2.3:** Annual programme reports. **MV 2.2.4:** Vocational training centre university curriculum. **MV 2.2.5:** Scientific and popular articles published.

CHAIN OF IMPACTS AND OUTCOMES	INDICATORS			
	INDICATORS	BASELINES	TARGET	MEANS OF VERIFICATION
Outcome 2.3: National forests are managed sustainably through the adoption and implementation of national and international rules and standards on responsible forest management; technical and financial support throughout the entire timber value chain to promote the production and marketing of legal timber; and the development and use of information from the National Forest Monitoring System.	**I 2.3.1:** Number of produce contracts in national forests granted according to a transparent and sustainable system, in accordance with legislation in force. **I 2.3.2:** Area (ha and as a percentage) of national forests under management plans with low-impact and low-emission harvesting practices, or under certification. **I 2.3.3:** Existence and operation of a reliable and operational computerized traceability system.	**BL 2.3.1:** Zero. **BL 2.3.2:** Zero. **BL 2.3.3:** Zero.	**T 2.3.1:** All forest harvesting contracts awarded in a transparent and competitive manner and monitored during their implementation. **T 2.3.2:** 320 000 ha of national forests under management plans in 2030; technical assistance and strengthening programme implemented. **T 2.3.3:** Control and traceability system operating.	**MV 2.3.1:** Tendering and/or bidding documents; periodic contract monitoring reports. **MV 2.3.2:** Forest Atlas and National Forest Monitoring System. **MV 2.3.3.** Traceability system in operation; project reports.
Outcome 2.4: Communal forests and forest plots are managed and used in a sustainable way by supporting and developing the capacities of communities and small producers; promoting sustainable land management; supporting the use of forest services and products; supporting cooperatives and small and medium-sized forestry and agroforestry enterprises; and forming partnerships with private companies.	**I 2.4.1:** Regulatory framework on communal forests and forest plots, including the system of ownership and administrative processes for registration of ownership. **I 2.4.2:** Ha of established community forest management and area subject to legal or formal small-scale harvesting. **I 2.4.3:** Programme of productive diversification in rural communities; number of community-based enterprises and small and medium-sized forest enterprises in operation, adopting practices designed to reduce forest degradation.	**BL 2.4.1:** Laws 1/1997 and 4/2009 and their implementing regulation. **BL 2.4.2:** 0 ha (communal forests are rarely managed sustainably). **BL 2.4.3:** To be established in baseline study.	**T 2.4.1:** Regulations and administrative procedures revised, simplified and adapted to establish a context favourable to community management. **T 2.4.2:** 30 000 ha of communal forests sustainably managed. **T 2.4.3:** 60% increase over the number of companies identified in the baseline study in operation.	**MV 2.4.1:** Legal documents. **MV 2.4.2:** Forest Atlas and National Forest Monitoring System. **MV 2.4.3:** Project reports; company register.
Outcome 2.5: The market for timber and non-timber forest services and products is developing in accordance with requirements of legality and sustainability, allowing sector diversification and the development of green forest, tree and agroforestry value chains using vertical integration models.	**I 2.5.1:** Diagnosis of the timber sector (industrial and small-scale) and action plan. **I 2.5.2:** Study of sustainable and competitive forest business models that are compatible with REDD+ and FLEGT. **I 2.5.3:** The programme for the development of value chains for forest products and services; distribution points for timber and non-timber forest products. **I 2.5.4:** Operational capacity of the institution responsible for timber marketing (OCIPEF/ National Timber Marketing Office ONACOM). **I 2.5.5:** Volume (m^3) and export value of roundwood and processed timber products. **I 2.5.6:** Responsible state timber procurement policy.	**BL 2.5.1:** Zero. **BL 2.5.2:** Zero. **BL 2.5.3:** Must be established in baseline study. **BL 2.5.4:** Must be established in baseline study. **BL 2.5.5:** Must be established in baseline study. **BL 2.5.6.** Zero.	**T 2.5.1:** Action plan for the legalization, traceability and modernization of timber production, processing and marketing. **T 2.5.2:** Proposed business models. **T 2.5.3:** Value chains of five forest products and/or services. **T 2.5.4:** Efficient control of and information on the production and marketing of forest species. **T 2.5.5:** All timber exports take place in the form of processed timber. **T 2.5.6:** Responsible state purchasing policy set up.	**MV 2.5.1:** Diagnostic document and action plan published. **MV 2.5.2:** Study published. **MV 2.5.3:** Register of small and medium-sized enterprises; reports on local and export markets. **MV 2.5.4:** Annual control, traceability and information report on timber trade. **MV 2.5.5:** Annual timber production and export reports. **MV 2.5.6:** Regulatory decree on responsible procurement.

CHAIN OF IMPACTS AND OUTCOMES	INDICATORS			
	INDICATORS	BASELINES	TARGET	MEANS OF VERIFICATION
Purpose of PN 3: Agricultural, livestock and agroforestry production and productivity increase sustainably based on the Land-use Plan, which reduces the conversion of forests to new farmland, increases carbon reserves and contributes to food and nutritional security.				
	PN3: Agricultural productivity (in t/ha and for each crop) and gross production value. **Ib PN3:**Percentage of forest converted to agriculture, distinguishing between commercial agriculture and shifting agriculture. **Ic PN3:** Percentage of imported food products.	**BLa PN3:** To be established in baseline study. **BLb PN3:** 4% (3% commercial agriculture; 1% shifting agriculture). **BLc PN3:** Estimated to be more than 80%.	**Ta PN3:** Increase the gross production value per hectare by 20%. **Tb PN3:** 3% reduction. **Tc PN3:** Percentage of imported food products reduced to 70%.	**Ga PN3:** National reports on agricultural product production and marketing. **Gb PN3:** Forest Atlas and National Forest Monitoring System. **Gc PN3:** Import reports.
Outcome 3.1: Governance of the agricultural sector, including the legislative, regulatory and institutional framework, is strengthened and updated, creating the conditions for developing the sector and achieving REDD+ objectives.	**I 3.1.1:** Existence, implementation and monitoring of policy and legal frameworks that limit the conversion of forest into agricultural concessions. **I 3.1.2:** National Agricultural Plan incorporating REDD+. **I 3.1.3:** Existence, implementation and control of policy and legal frameworks that limit the conversion of forest into agricultural concessions (specifying the size of concessions). **I 3.1.4:** MAGBOMA Capacity Strengthening Programme. **I 3.1.5:** Programme for strengthening the capacities of INPAGE and the Agricultural Chamber of Commerce.	**BL 3.1.1:** Zero. 1991 Cooperatives Law **BL 3.1.2:** PNSA and PNIASAN **BL 3.1.3:** Lack of political and legal frameworks **BL 3.1.4:** Subject to baseline assessment **BL 3.1.5:** Subject to baseline assessment	**T 3.1.1:** Agricultural law and implementing regulatory decrees approved. Cooperative Law (1991) updated and approved, limiting the conversion of forests to agricultural crops. **T 3.1.2:** Policy document on food and nutritional security incorporating REDD+ objectives available. **T 3.1.3:** Existence of/ increase in implementation quality; document of rules and standards established for extensive and industrial sustainable agricultural production available. **T 3.1.4:** MAGBOMA Capacity-Building Programme implemented with agricultural policies linked to REDD+. **T 3.1.5:** Programme for strengthening the capacities of INPAGE and the Agricultural Chamber of Commerce implemented.	**MV 3.1.1:** Legal documents. **MV 3.1.2:** Policy document. **MV 3.1.3:** Existence: policy and legal texts. **MV 3.1.4:** Training session reports. **MV 3.1.5:** Training session report.
Outcome 3.2: A programme of agricultural research, training and extension promotes the development of information and knowledge about the sector, the adoption of climate-smart agricultural practices and technologies by producers (men and women), and the sustainable increase of production.	**I 3.2.1:** Diagnosis and feasibility studies on intensive and shifting agriculture. **I 3.2.2:** National Centre for Agricultural Research. **I 3.2.3:** Number of farmers or small and medium-sized enterprises changing their practices to address deforestation caused by agriculture. **I 3.2.4:** Technical manuals and guides promoting good agricultural and agroindustrial practices drawn up. **I 3.2.5:** Technical training plan for Ministry technicians and extension workers. **I 3.2.6:** Agronomy and agricultural training school curriculum.	**BL 3.2.1:** PNSA and PNIASAN. **BL 3.2.2:** Zero. **BL 3.2.3:** Subject to assessment by INPAGE and agricultural training school. **BL 3.2.4:** Zero. **BL 3.2.5:** Subject to baseline assessment. **BL 3.2.6:** Subject to baseline assessment.	**G 3.2.1:** Diagnosis and feasibility studies on intensive and shifting agriculture and its potential for development with low emissions. **G 3.2.2:** Operational research centre. **G 3.2.3:** Farmers trained in 10 agricultural training schools or model farms that apply better production activities for priority products. **T 3.2.4:** Technical guides produced and circulated. **T 3.2.5:** 1 000 outreach workers trained and disseminating knowledge. **T 3.2.6:** New study plan developed.	**MV 3.2.1:** Diagnoses published. **MV 3.2.2:** Assessment report of the National Centre for Agricultural Research. Scientific and popular articles published. **MV 3.2.3:** National outreach programme reports and technical advice. **MV 3.2.4:** Good farming practice technical documents and guides available. **MV 3.2.5:** Evaluation report on the technical training plan for outreach workers. **MV 3.2.6:** Curriculum document.

CHAIN OF IMPACTS AND OUTCOMES	INDICATORS			
	INDICATORS	BASELINES	TARGET	MEANS OF VERIFICATION
Outcome 3.3: Agricultural production increases sustainably, improving food security and reducing forest conversion.	**I 3.3.1:** Number of production material banks **I 3.3.2:** Area (ha) of land used for shifting cultivation resulting from forest conversion/ increased production and productivity. **I 3.3.3:** Area (ha) of land used for agroforestry (broken down into land from forest conversion and land that is not from forest conversion)/ increase in production and productivity **I 3.3.4:** Area (ha) of land used for intensive agricultural production (broken down into land from forest conversion and land that is not from forest conversion, and indicating whether land-use plans are complied with)	**BL 3.3.1:** Zero **BL 3.3.2:** Subject to baseline study **BL 3.3.3:** Zero **BL 3.3.4:** Zero	**T 3.3.1:** Seven production material banks (nursery, grafts and seed bank) developed **T 3.3.2:** 15 000 ha climate-smart shifting agricultural production area implemented in accordance with land-use plans **T 3.3.3:** 10 000 ha of agroforestry area and species enrichment implemented: 30% increase in agroforestry crop yields **T 3.3.4:** 10 000 ha of extensive agricultural and industrial production area established in accordance with land-use plans and sustainable intensification methods	**MV 3.3.1:** Seed production and delivery report **MV 3.3.2:** MAGBOMA report with surface and yield data **MV 3.3.3:** MAGBOMA report with surface and yield data **MV 3.3.4:** MAGBOMA report with extensive area data and agricultural yields and performance
Outcome 3.4: Green agricultural product value chains are developed and/ or strengthened through the support and training of small and medium-sized producers and other relevant actors.	**I 3.4.1:** Number of producer cooperatives created. **I 3.4.2:** Number of agricultural value chains, agricultural product processing units, and young people and women involved. **I 3.4.3:** Support programme for transport and storage services. **I 3.4.4:** IPNut and service provider networking programme. **I 3.4.5:** Agricultural and processed product marketing value. **I 3.4.6:** Programme for the protection, promotion and dissemination of local product consumption.	**BL 3.4.1:** Subject to assessment. **BL 3.4.2:** Subject to assessment. **BL 3.4.3:** Zero. **BL 3.4.4:** Zero. **BL 3.4.5:** Zero. **BL 3.4.6:** Zero.	**T 3.4.1:** Producers' cooperatives set up and technical assistance provided for linking to value chains. **T 3.4.2:** Seven agricultural product processing units implemented. **T 3.4.3:** Support programme for transport and storage services implemented. **T 3.4.4:** IPNut and service provider network creation programme implemented. **T 3.4.5:** Increase in local production and marketing of agricultural products and processed food products. **T 3.4.6:** Changing consumer habits, increased consumption of local products, reduced dependence on imports.	**MV 3.4.1:** Cooperative report. **MV 3.4.2:** MAGBOMA annual reports. **MV 3.4.3:** Report on support programme for transport and storage services. **MV 3.4.4:** Report on IPNut and service provider networking programme. **MV 3.4.5:** Internal and external trade report. **MV 3.4.6:** Consumer surveys and internal trade report.
Outcome 3.5: Foreign and domestic agricultural financing and investment are increasing and contribute to sector development.	**I 3.5.1:** Promotional campaign to attract sustainable foreign investment. **I 3.5.2:** Agricultural Development Fund and credit programmes.	**BL 3.5.1:** To be defined in baseline study. **BL 3.5.2:** Zero.	**T 3.5.1:** Campaign to attract investments developed. **T 3.5.2:** Agricultural credit programme implemented.	**MV 3.5.1:** Assessment report. **MV 3.5.2:** Agricultural credit programme report.

CHAIN OF IMPACTS AND OUTCOMES	INDICATORS			
	INDICATORS	BASELINES	TARGET	MEANS OF VERIFICATION
Purpose of PN 4: The mining, energy and construction sectors are developed in accordance with land-use plans using an integrated territorial approach in a consensual and sustainable manner and with a minimum impact on forests, thus contributing to the fight against climate change.				
	I PN4: Percentage of new mining infrastructure and concessions that are carried out with a prior environmental impact study and that respect the national management plan.	**BL PN4:** To be defined in baseline study.	**T PN4:** 100% of new mining infrastructure and concessions comply with the National Land-use Plan and a prior environmental impact assessment.	**MV PN4:** Ministerial reports.
Outcome 4.1: Governance of the environment and of the mining, energy and construction sectors has been improved, helping reduce the impact on forests.	**I 4.1.1:** Programme to strengthen MAGBOMA to comply with Law 7/2003. **I 4.1.2:** Hiring of environmental technicians by the relevant Ministries. **I 4.1.3:** Existence and implementation of a policy or legal framework, trade agreements or regulations that limit or compensate for the conversion of forests to mines. **I 4.1.4:** Functional structure and action plan of the National Environment Fund (FONAMA).	**BL 4.1.1:** Zero. **BL 4.1.2:** Zero. **BL 4.1.3:** Draft Mining Regulation. **BL 4.1.4:** FONAMA established by Law 7/2003 but not constituted.	**T 4.1.1:** Programme to strengthen MAGBOMA implemented to comply with Law 7/2003. **T 4.1.2:** Institutional strengthening programme implemented with Ministries for the enforcement of environmental laws. **T 4.1.3:** Standards in the mining, energy and construction sectors for the quantification, valuation, mitigation and monitoring of environmental impact on forests developed and applied; energy matrix analysis. **T 4.1.4:** Strengthening programme implemented with FONAMA for forest protection and conservation.	**MV 4.1.1:** Evaluation report on compliance with the Environmental Regulatory Law. **MV 4.1.2:** Report from the Ministries of Mining, Energy and Public Works. **MV 4.1.3:** Regulations published; energy matrix analysis. **MV 4.1.4:** FONAMA report.
Outcome 4.2: Intersectoral and interregional planning and coordination for the mitigation of negative environmental impacts on forests has been strengthened through CONAMA.	**I 4.2.1:** Internal regulations. **I 4.2.2:** Funding sources. **I 4.2.3:** Technical capacities developed. **I 4.2.4:** Number of CONAMA meetings held.	**BL 4.2.1:** Zero. **BL 4.2.2:** Zero. **BL 4.2.3:** Zero. **BL 4.2.4:** Zero.	**T 4.2.1:** Internal regulations for environmental permit deliberation, decision making and analysis developed. **T 4.2.2:** Funding sources guaranteed for CONAMA's operation. **T 4.2.3:** Technical capacities of the men and women involved in CONAMA developed to enable them to perform their functions. **T 4.2.4:** CONAMA coordination and planning meetings encourage greater environmental focus in the various sectors and greater inter-institutional and intersectoral coordination.	**MV 4.2.1:** Internal regulation documents available. **MV 4.2.2:** Funding agreements signed. **MV 4.2.3:** CONAMA reports. **MV 4.2.4:** CONAMA reports.
Outcome 4.3: An ongoing process of training and technical advice for public employees and private operators supports compliance with Law 7/2003 on the Regulation of the Environment and other supplementary regulations, and encourages other sectors to contribute to the protection and restoration of forests and other ecosystems.	**I. 4.3.1:** Awareness and dissemination plan. **I 4.3.2:** Number of technically trained experts from each sector; percentage of environmental impact assessments conducted prior to infrastructure construction or mining permit approval. **I 4.3.3:** Number of people trained in forest restoration; number of ha restored.	**BL 4.3.1:** Zero. **BL 4.3.2:** Zero. **BL 4.3.3:** Zero.	**T 4.3.1:** Plan for awareness and ongoing dissemination of the legal framework and application of Law 7/2003 launched in public entities and companies. **T 4.3.2:** At least 50% of identified public and private employees trained in environmental impact assessments by 2025; 50% of new initiatives and construction and/or mining works are carried out with a prior assessment. **T 4.3.3:** Programme for the restoration of forest ecosystems in exploited areas and river basins.	**MV 4.3.1:** Awareness and dissemination plan. **MV 4.3.2:** Training report. **MV 4.3.3:** Forest Atlas and National Forest Monitoring System.

CHAIN OF IMPACTS AND OUTCOMES	INDICATORS			
	INDICATORS	BASELINES	TARGET	MEANS OF VERIFICATION
Purpose of PN 5: REDD+ implementation and integrated land management are carried out under a participatory, transparent, inclusive and decentralized governance system. This system considers the needs, customs and opinions of Equatoguinean men and women as well as economic, social and environmental aspects and allows the dissemination of public information and accountability.				
	I PN5: Quality of civil society representation and participation in decisions over the implementation and monitoring of PNI-REDD+.	**BL PN5:** Participatory process during formulation of PNI-REDD+.	**T PN5:** Improved representation and participation.	**MV PN5:** Minutes of meetings of the CP-REDD+ and CN-REDD+. Perception surveys.
Outcome 5.1: CP-REDD+, as the highest authority for decision making, planning and monitoring of the REDD+ process, has been strengthened through the participation of stakeholders from different institutions and sectors, high-level representation, regular organization of discussion platforms and dissemination of information on its actions and decisions related to REDD+.	**I 5.1.1:** Documents of CP-REDD+ a recognized, operational, multistakeholder platform to support the implementation of PNI-REDD+. **I 5.1.2:** Working plan of CP-REDD+. **I 5.1.3:** CP-REDD+ information and communication plan.	**BL 5.1.1:** Ministerial Resolution 50/2014. CN-REDD+ administrative, accounting and financial procedures manual. **BL 5.1.2:** Zero. **BL 5.1.3:** Zero.	**T 5.1.1:** New resolution on the composition of CP-REDD+, its statutes and its internal operating rules; regular meetings of CP-REDD+. **T 5.1.2:** Working plan of CP-REDD+ approved and implemented. **T 5.1.3:** CP-REDD+ information and communication plan.	**MV 5.1.1:** CP-REDD+ resolution; meeting minutes. **MV 5.1.2:** Working plan of CP-REDD+ published. **MV 5.1.3:** CP-REDD+ information and communication plan published.
Outcome 5.2: CN-REDD+ as the executive body for technical advice, has been implemented and strengthened. It has the resources and capacity to manage the REDD+ process, supporting participating government, academic and civil society institutions.	**I 5.2.1. and I 5.2.2:** CN-REDD+ establishing and operational documents. **I 5.2.3:** Specialized study on financing arrangements. **I 5.2.4:** REDD+ capacity-building plan. **I 5.2.5:** Incorporation of REDD+ into the institutional structure on climate change.	**BL 5.2.1. and BL 5.2.2:** Ministerial Resolution 50/2014. CN-REDD+ administrative, accounting and financial procedures manual. **BL 5.2.3:** Zero. **BL 5.2.4:** Zero. **BL 5.2.5:** Zero.	**T 5.2.1:** Improved and consensual NC-REED+ structure. **T 5.2.2:** Updated and approved CN-REDD+ operating statutes and regulations. **T 5.2.3:** Specialist study conducted to determine the institutional framework and operation of the financing mechanism for REDD+ implementation. **T 5.2.4:** REDD+ capacity-building plan. **T 5.2.5:** Incorporation of REDD+ into the institutional structure on climate change.	**MV 5.2.1. and MV 5.2.2:** Resolution on CN-REDD+ and meeting minutes. **MV 5.2.3:** Study published. **MV 5.2.3:** Plan reports. **MV 5.2.4:** Resolution on the national institutional structure on climate change.
Outcome 5.3: A decentralized REDD+ coordination and implementation system is in operation at the regional and provincial level.	**I 5.3.1:** Decentralized REDD+ implementation organization document. **I 5.3.2:** Decentralized operational system.	**BL 5.3.1. and BL 5.3.2:** Readiness proposal for REDD+ (2014).	**T 5.3.1:** REDD+ decentralization document approved. **T 5.3.2:** Implementation of decentralization.	**MV 5.3.1:** Document published. **MV 5.3.2:** REDD+ national Safeguard reports.
Outcome 5.4: A national information platform, with the participation of the media, communication units of Ministries and other institutions, coordinates and strengthens the process of generating and disseminating information and knowledge related to REDD+.	**I 5.4.1:** Network of media focal points. **I 5.4.2:** National communication programme. **I 5.4.3:** Training plan for communicators. **I 5.4.4:** Information system on website.	**BL 5.4.1:** Network of focal points as part of EN-REDD+ preparations. **BL 5.4.2:** Zero. **BL 5.4.3:** Initial training programme for communicators as part of EN-REDD+ preparations. **BL 5.4.4:** Government information page with partial information as well as institutional archives.	**T 5.4.1:** Network of focal points set up in public and private media. **T 5.4.2:** National communication programme geared to different actors that raises awareness and provides training on the value of forests and the importance of their sustainable management, climate change and REDD+, forest governance and FLEGT. **T 5.4.3:** Implementation of an ongoing training plan for communicators on REDD+.	**MV 5.4.1:** Report assessing the operation of the media focal point network. **MV 5.4.2:** National communication programme document. **MV 5.4.3:** Report assessing training for communicators. **MV 5.4.4:** Website accessible.

CHAIN OF IMPACTS AND OUTCOMES	INDICATORS			
	INDICATORS	BASELINES	TARGET	MEANS OF VERIFICATION
			T 5.4.4: Information system on forests and other land uses updated and publicly accessible through a website, organized into modules that include sectoral information relevant to REDD+, standards, mapping, data from the National Forest Monitoring System and forest inventory, etc.	
Outcome 5.5: A Information System collects information on the social and environmental impact of the REDD+ process and the mitigation of possible negative effects, considering the specific impacts on men and women.	**I 5.5.1:** Safeguard Information System.	**BL 5.5.1:** Zero.	**T 5.5.1:** Safeguard Information System designed and implemented.	**MV 5.5.1:** Report to the UNFCCC.
Outcome 5.6: A complaints mechanism actively resolves conflicts relating to the REDD+ process.	**I 5.6.1:** Complaints mechanism system.	**BL 5.6.1:** Zero.	**T 5.6.1:** Complaints mechanism established.	**MV 5.6.1:** Evaluation report on the operation of the complaints mechanism.

CHAIN OF IMPACTS AND OUTCOMES	INDICATORS			
	INDICATORS	BASELINES	TARGETS	MEANS OF VERIFICATION
Purpose of PIL I: Litoral Province Municipalities adopt a low-emission sustainable development model, which promotes integrated and participatory management of land and forests; mangrove preservation and restoration; the sustainable and legal production and marketing of agricultural and forest products with links to markets in Bata; and the socio-economic and environmental benefits of protected areas.				
	I PIL1: GHG emissions from the AFOLU sector (tCO_2eq) in Litoral Province.	**BL PIL 1:** National GHG emissions inventory 2013–2015. AFOLU sector GHG emissions.	**T PIL1:** Reducing CO_2 from the AFOLU sector by 20% by 2030 (compared to current levels).	**MV PIL1:** National GHG emissions inventory. Forest Reference Emissions Level/ Forest Reference Level (FREL/FRL).
Outcome I.1: Litoral Province and its municipalities have land-use plans and green urban plans.	**I.I 1:** Existence and implementation of a Provincial Land-use Plan, which is linked to provincial and municipal development plans.	**BL I.1:** Zero.	**T I.1:** The Provincial Land-use Plan is the basis for local development plans.	**MV I.1:** Provincial and municipal reports.
Outcome I.2: The communal and national forests of Litoral Province are managed in a sustainable manner.	**I.I.2:** Ha of forest with management plans in the province.	**BL I.2:** 0 ha.	**T I.2:** 20% of the province's forests to be managed sustainably by 2030.	**G I.2:** Forest Atlas and National Forest Monitoring System.
Outcome I.3: Mangroves are restored and used in a rational and sustainable manner.	**I.I.3:** Ha of mangroves.	**BL I.3:** To be determined in the baseline study.	**T I.3:** 10% increase in the area of mangroves.	**G I.3:** Forest Atlas and National Forest Monitoring System.
Outcome I.4: Agricultural and agroforestry production in Litoral Province is stepped sustainably.	**Ia I.4:** Agricultural productivity (in t/ha and for each crop in the province). **Ib I.4:** Percentage of forests converted to agriculture in the province.	**BLa I.4:** To be established in baseline study. **BLa I.4:** To be established in baseline study.	**Ta I.4:** Increase the gross production value per ha by 20%. **Tb I.4:** 3% reduction.	**Ga I.4:** Provincial reports on agricultural product production and marketing. **Gb I.4:** Forest Atlas and National Forest Monitoring System.
Outcome I.5: Protected areas of Litoral Province are managed in a sustainable and participatory manner.	**I.I.5:** Percentage of forests converted to agriculture in protected areas of the province.	**BL I.5:** To be established in baseline study.	**Tb I.5:** 3% reduction.	**Gb I.5:** Forest Atlas and National Forest Monitoring System. Report on protected areas.
Outcome I.6: REDD+ is implemented in Litoral Province municipalities under a participatory, transparent, inclusive and decentralized governance system.	**I.I.6:** Quality of civil society representation and participation in decisions over REDD+ in the province.	**BL I.6:** Participatory process during formulation of PNI-REDD+.	**T I.6:** Improved representation and participation.	**MV I.6:** Perception surveys.
Purpose of PIL II: The municipality of Niefang adopts a low-emission sustainable development model, which promotes integrated, sustainable and participatory land and forest management, links timber production to formal and sustainable value chains and marketing, encourages agroforestry systems and reduces the loss of tree cover.				
	I PIL II: GHG emissions from the AFOLU sector (tCO_2eq) in the municipality.	**BL PIL II:** National GHG emissions inventory 2013–2015. AFOLU sector GHG emissions.	**T PIL II:** Reducing CO_2 from the AFOLU sector by 20 % by 2030 (compared to current levels).	**MV PIL II:** National GHG emissions inventory. FREL/FRL.
Outcome II.1: The municipality of Niefang has a municipal Land-use Plan and a green urban plan.	**I II.1:** Existence and implementation of a Municipal Land-use Plan, which is linked to the municipal development plan.	**BL II.1:** Zero	**T II.1:** The Municipal Land-use Plan is the basis for local development plans.	**MV II.1:** Municipal reports.
Outcome II.2: National and communal forests in the municipality of Niefang are managed sustainably.	**I II.2:** Ha of forests with management plans in the municipality.	**BLa II.2:** 0 ha.	**T II.2:** 20% of the municipality's forests to be managed sustainably by 2030.	**G II.2:** Forest Atlas and National Forest Monitoring System.
Outcome II.3: Agricultural and agroforestry production in the municipality of Niefang is stepped up in a sustainable manner.	**Ia II.3:** Agricultural productivity (in t/ha and for each crop in the municipality). **Ib II.3:** Percentage of forests converted to agriculture in the municipality.	**BLa II.3:** To be established in baseline study. **BLb II.3:** To be established in baseline study.	**Ta II.3:** Increase the gross production value per hectare by 20%. **Tb II.3:** 3% reduction.	**Ga II.3:** Provincial reports on agricultural product production and marketing. **Gb II.3:** Forest Atlas and National Forest Monitoring System.

CHAIN OF IMPACTS AND OUTCOMES	INDICATORS			
	INDICATORS	BASELINES	TARGETS	MEANS OF VERIFICATION
Outcome II.4: REDD+ is implemented in the municipality of Niefang under a participatory, transparent, inclusive and decentralized governance system.	**I II.4:** Quality of civil society representation and participation in decisions over REDD+ in the municipality.	**BL II.4:** Participatory process during formulation of PNI-REDD+.	**T II.4:** Improved representation and participation.	**MV II.4:** Perception surveys.
Purpose of PIL III: Kie-Ntem Province adopts a sustainable, low-emission development model that encourages integrated land management, the restoration and sustainable management of forests, and the diversification and improvement of rural livelihoods. The model addresses the financial and dietary needs of households and makes it possible to reduce deforestation and forest degradation rates as well as underlying inequalities.				
	I PIL III: GHG emissions from the AFOLU sector (tCO_2eq) in the province.	**BL PIL II:** National GHG emissions inventory 2013–2015. AFOLU sector GHG emissions.	**T PIL III:** Reducing CO_2 emissions from the AFOLU sector by 2% by 2030 (compared to current levels).	**MV PIL III:** National GHG emissions inventory. FREL/FRL.
Outcome III.1: Kie-Ntem Province has drawn up provincial and municipal land-use plans.	**I III 1:** Existence and implementation of a Provincial Land-use Plan, which is linked to provincial and municipal development plans.	**BL III.1:** Zero.	**T III:** The Provincial Land-use Plan is the basis for local development plans.	**MV III.1:** Provincial and municipal reports.
Outcome III.2: The degraded forest areas of Ebebiyin and Nsok Nsomo are being restored with the active participation of local people, and forests in the province are being managed sustainably.	**I III.2:** Ha of restored forest in the province.	**BL III.2:** 0 ha.	**T III.2:** 20% reduction in degraded forests by 2030.	**G III.2:** Forest Atlas and National Forest Monitoring System.
Outcome III.3: Agricultural, livestock and agroforestry production in Kie-Ntem Province is increasing sustainably. The plans reduce the conversion of forests to new agricultural land and contribute to food security.	**Ia III.3:** Agricultural productivity (in t/ha and for each crop in the province). **Ib III.3:** Percentage of forests converted to agriculture in the province.	**BLa III.3:** To be established in baseline study. **BLa III.3:** To be established in baseline study.	**Ta III.3:** Increase the gross production value per hectare by 20%. **Tb III.3:** 3 % reduction.	**Ga III.3:** Provincial reports on agricultural product production and marketing. **Gb III.3:** Forest Atlas and National Forest Monitoring System.
Outcome III.4: Protected areas of the Piedra Bere Natural Monument in Nsok Nsomo, and the Montes Temelón Nature Reserve in Micomiseng are managed and used in a sustainable and participatory manner.	**I.III.4:** Percentage of forests converted to agriculture in protected areas of the province.	**BL III.4:** To be established in baseline study.	**Tb III.4:** 3% reduction.	**Gb III.4:** Forest Atlas and National Forest Monitoring System. Reports on protected areas.
Outcome III.5: REDD+ is implemented in Kie-Ntem Province under a participatory, transparent, inclusive and decentralized governance system.	**I III.5:** Quality of civil society representation and participation in decisions over REDD+ in the province.	**BL III.5:** Participatory process during formulation of PNI-REDD+.	**T III.5:** Improved representation and participation.	**MV III.5:** Perception surveys.
Purpose of PIL IV: Bioko Island adopts a low-emission sustainable development model that encourages integrated, sustainable and participatory land and forest management, the appropriation and conservation of forests by their inhabitants, and the diversification and improvement of rural livelihoods. The model addresses the financial and food needs of households, while reducing deforestation and forest degradation rates as well as underlying inequalities.				
	I PIL IV: GHG emissions from the AFOLU sector (tCO_2eq) on Bioko Island.	**BL PIL IV:** National GHG emissions inventory 2013–2015. AFOLU sector GHG emissions.	**BL PIL IV:** National GHG emissions inventory 2013–2015. AFOLU sector GHG emissions.	**BL PIL IV:** National GHG emissions inventory 2013–2015. AFOLU sector GHG emissions.
Outcome IV.1: The provinces of Bioko Norte and Bioko Sur and their municipalities have provincial and municipal land-use plans, green urban plans and community land management plans.	**I IV 1:** Existence and implementation of provincial and municipal land-use plans that are linked to local development plans.	**BL IV.1:** Zero.	**T IV.1:** Provincial and municipal land-use plans form the basis for local development plans.	**MV IV.1:** Provincial and municipal reports.

CHAIN OF IMPACTS AND OUTCOMES	INDICATORS			
	INDICATORS	BASELINES	TARGETS	MEANS OF VERIFICATION
Outcome IV.2: The use and management of forests at a small-scale and/or community level for local consumption of timber and non-timber forest products is progressively regulated and structured to ensure environmental, social and economic forest sustainability, reducing the loss of tree cover and contributing to the well-being of rural women and men.	**I IV.2.** Area subject to legal or formal small-scale/community forestry (ha).	**BL IV.2:** Zero.	**T IV.2:** Forest Atlas.	**MV IV.2:** Forest Atlas and National Forest Monitoring System.
Outcome IV.3: Agricultural and agroforestry production on Bioko Island is stepped up sustainably, strengthening the value chains of the various crops and promoting regional production, processing and marketing, and empowering women and young people.	**Ia IV.3:** Agricultural productivity (in t/ha and for each crop on Bioko Island). **Ib IV.3:** Percentage of forests converted to agriculture on Bioko Island.	**BLa IV.3:** To be established in baseline study. **BLa IV.3:** To be established in baseline study.	**Ta IV.3:** Increase the gross production value per hectare by 20%. **Tb IV.3:** 3% reduction.	**MVa IV.3:** Provincial reports on agricultural product production and marketing. **MVb IV.3:** Forest Atlas and National Forest Monitoring System.
Outcome IV.4: Urban, energy and transport development is carried out in accordance with environmental criteria, based on land-use plans and conditional upon environmental impact assessments.	**I.IV.4:** Percentage of forests converted or degraded due to infrastructure on Bioko Island.	**BL IV.4:** To be established in baseline study.	**Tb IV.4:** 3% reduction.	**MV IV.4:** Forest Atlas and National Forest Monitoring System. Report on protected areas.
Outcome IV.5: Pico Basilé National Park and the Luba Crater Scientific Reserve are managed and used in a sustainable and participatory manner.	**I.IV.5:** Percentage of forests converted to agriculture in protected areas of Bioko Island.	**BL IV.5:** To be established in baseline study.	**Tb IV.5:** 3% reduction.	**Gb IV.5:** Forest Atlas and National Forest Monitoring System. Report on protected areas.
Outcome IV.6: REDD+ is implemented on Bioko Island under a participatory, transparent, inclusive and decentralized governance system.	**I IV.6:** Quality of civil society representation and participation in decisions over REDD+ on Bioko Island.	**BL IV.6:** Participatory process during formulation of PNI-REDD+.	**T IV.6:** Improved representation and participation.	**MV IV.6:** Perception surveys.
Purpose of PIL V: Annobón Island adopts a low-emission sustainable development model that respects its status as a protected area and promotes integrated management of the land and an improvement in food security and the living conditions of the local population.				
	I PIL V: GHG emissions from the AFOLU sector (tCO_2eq) on Annobón Island.	**BL PIL V:** National GHG emissions inventory 2013–2015. AFOLU sector GHG emissions.	**T PIL V:** Reducing CO_2 emissions from the AFOLU sector by 20% by 2030 (compared to current levels).	**MV PIL V:** National GHG emissions inventory. FREL/FRL.
Outcome V.1: Annobón Island has a joint management plan for the nature reserve that includes land-use planning. This constitutes a collectively agreed upon reference planning tool.	**I V 1:** Existence and implementation of a Land-use Plan for the nature reserve that is linked to local development plans.	**BL V.1:** Zero.	**T V.1:** The Land-use Plan for the nature reserve forms the basis for the Annobón Island local development plan.	**MV V.1:** Provincial reports.
Outcome V.2: The forests of Annobón Island are restored and managed sustainably, including enrichment with timber species in high local demand, favouring timber production for houses, canoes and as an energy source.	**I V.2:** Forest area on Annobón Island (ha).	**BL V.2:** 1 554 ha.	**T V.2:** Five % increase in forest cover and reduction in the degradation rate.	**MV V.2:** Forest Atlas and National Forest Monitoring System.

CHAIN OF IMPACTS AND OUTCOMES	INDICATORS			
	INDICATORS	BASELINES	TARGETS	MEANS OF VERIFICATION
Outcome V.3: Agricultural production is developed through climate-smart systems, diversifying production in family allotments and promoting small livestock farming to improve the food and nutritional security of local people.	**Ia V.3:** Agricultural productivity (in t/ha and for each crop on Annobón Island). **Ib V.3:** Percentage of forests converted to agriculture on Annobón Island.	**BLa V.3:** To be established in baseline study. **BLa V.3:** To be established in baseline study.	**Ta V.3:** Increase the gross production value per hectare by 20%. **Tb V.3:** 3% reduction.	**MVa V.3:** Provincial reports on agricultural product production and marketing. **MVb V.3:** Forest Atlas and National Forest Monitoring System.
Outcome V.4: Urban development in the city of San Antonio de Palé and the development of renewable energy sources and transport route construction are based on land-use planning with environmental criteria and dependent upon environmental impact assessments.	**I.V.4:** Percentage of forests converted or degraded due to infrastructure on Annobón Island.	**BL V.4:** To be established in baseline study.	**Tb V.4:** 3% reduction.	**MV V.4:** Forest Atlas and National Forest Monitoring System. Report on protected areas.
Outcome V.5: REDD+ is implemented in Annobón Island under a participatory, transparent, inclusive and decentralized governance system. This considers the needs and customs of women and men of the island and allows the dissemination of public information and accountability.	**I V.5:** Quality of civil society representation and participation in decisions over REDD+ on Annobón Island.	**BL V.5:** Participatory process during formulation of PNI-REDD+.	**T V.5:** Improved representation and participation.	**MV V.5:** Perception surveys.

Bikoro/Hömme, Bioko Island
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ANNEX III

BREAKDOWN OF BUDGET FOR NATIONAL PROGRAMMES AND LOCAL INTEGRATED PROGRAMMES

The budgets of national programmes and local integrated programme are shown in Table III.1.

TABLE III.1 BREAKDOWN OF INVESTMENT PROGRAMME BUDGETS

NATIONAL PROGRAMMES AND OUTPUTS	TOTAL (USD) 110 000 000
1. Land-use planning	**9 000 000**
1.1. Governance for integrated land-use planning has been developed with a defined institutional and regulatory framework and gender-sensitive participatory mechanisms.	1 100 000
1.2. Land is used in a rational, efficient and orderly manner due to the National Land-use Plan, which is drawn up in a participatory manner and based on up-to-date studies and inventories.	7 200 000
1.3. Public policies for sectoral development (including agriculture, forestry, mining, energy and construction) are linked to the National Land-use Plan, as a key element of its planning.	700 000
2. Sustainable forest management	**40 000 000**
2.1. Governance of the forest sector has improved, strengthening the institutional, legislative and regulatory framework and their implementation, and improving transparency, access to public information and public participation in an equitable manner.	6 200 000
2.2. The technical capacities of people involved in forest management from public and private sectors have been strengthened, making it possible to improve sustainable forest management and reduce negative impacts on forest ecosystems.	1 750 000
2.3. National forests are managed sustainably through the adoption and implementation of national and international rules and standards for responsible forest management; the provision of technical and financial support throughout the entire timber value chain to promote the production and marketing of legal timber; and the development and use of information from the National Forest Monitoring System.	9 500 000
2.4. Communal forests and forest plots are managed and used in a sustainable way by supporting and developing the capacities of communities and small producers; promoting sustainable land management; supporting the use of forest services and products; supporting cooperatives and small and medium-sized forestry and agroforestry enterprises; and forming partnerships with private companies.	20 450 000
2.5. The market for timber and non-timber forest services and products is developing in accordance with requirements of legality and sustainability, allowing sector diversification and the development of green forest, tree and agroforestry value chains according to vertical integration models.	2 100 000
3. Agriculture and food security	**52 500 000**
3.1. Governance of the agricultural sector, including the legislative, regulatory and institutional framework, is strengthened and updated, creating conditions for developing the sector and achieving REDD+ objectives.	1 138 000
3.2. A programme of agricultural research, training and extension promotes the development of information and knowledge about the sector, the adoption of climate-smart agricultural practices and technologies by producers (men and women), and the sustainable increase of production.	2 249 333
3.3. Agricultural production increases sustainably, improving food security and reducing forest conversion.	37 766 667

NATIONAL PROGRAMMES AND OUTPUTS	TOTAL (USD) 110 000 000
3.4. Green agricultural product value chains are developed and/or strengthened through the support and training of small and medium-sized producers and other relevant actors, considering gender issues.	9 052 000
3.5. Agricultural financing and investment (foreign and domestic) increases and contributes to sector development.	2 294 000
4. Development of mining, energy and construction with REDD+	**4 000 000**
4.1. Governance of the environment and the mining, energy and construction sectors has been improved, helping reduce the impact on forests.	2 626 000
4.2. Intersectoral and interregional planning and coordination for the mitigation of negative environmental impacts on forests has been strengthened through CONAMA.	193 000
4.3. An ongoing process of training and technical advice for public employees and private operators supports compliance with Law 7/2003 on the Regulation of the Environment, and other supplementary regulations, and encourages other sectors to contribute to the conservation and restoration of forests and other ecosystems.	1 818 000
5. Governance for REDD+	**4 500 000**
5.1. CP-REDD+, as the highest authority for decision making, planning and monitoring of the REDD+ process, has been strengthened through the participation of stakeholders from different institutions and sectors, high-level representation, the regular organization of discussion platforms and the dissemination of information on its actions and decisions related to REDD+.	225 000
5.2. CN-REDD+, as the executive body for technical advice, has been implemented and strengthened. It has the resources and capacity to manage the REDD+ process, supporting participating government, academic and civil society institutions.	530 000
5.3. A decentralized REDD+ coordination and implementation system is in operation at the regional and provincial level.	2 045 000
5.4. A national information platform, with the participation of the media, communication units of Ministries and other institutions, coordinates and strengthens the process of generating and disseminating information and knowledge related to REDD+.	1 050 000
5.5. A Safeguard Information System collects information on the social and environmental impact of the REDD+ process and the mitigation of possible negative effects.	500 000
5.6. A complaints mechanism actively resolves conflicts relating to the REDD+ process.	150 000

LOCAL INTEGRATED PROGRAMMES AND OUTPUTS	TOTAL (USD) 75 000 000
I. Litoral Province	**20 000 000**
I.1. Litoral Province and its municipalities have land-use plans and green urban plans. All these constitute the reference planning tool, collectively agreed upon to balance environmental, social and economic needs and benefits.	2 000 000
I.2. The communal and national forests of Litoral Province are managed in a sustainable manner.	5 000 000
I.3. Mangroves are restored and used in a rational and sustainable way.	3 000 000
I.4. Agricultural and agroforestry production in Litoral Province is stepped up in a sustainable way.	5 000 000
I.5. Protected areas in the Litoral Province are managed in a sustainable and participatory manner, contributing to the fight against climate change, the protection of biodiversity and the development of economic activities compatible with protection objectives.	4 000 000
I.6. REDD+ is implemented in Litoral Province municipalities under a participatory, transparent, inclusive and decentralized governance system.	1 000 000
II. Municipality of Niefang	**10 000 000**
II.1. The municipality of Niefang has a municipal Land-use Plan and a green urban plan.	1 500 000
II.2. National and communal forests in the municipality of Niefang are managed in a sustainable manner on the basis of inventories and management plans, developing value chains that incorporate small producers (including women and young people) and small and medium-sized enterprises, promoting the timber processing industry and establishing public–private partnerships.	5 000 000
II.3. Agricultural and agroforestry production in the municipality of Niefang is stepped up in a sustainable manner, building capacity through Farmer Field Schools, equitably strengthening value chains that incorporate small and medium-sized enterprises dedicated to food production, processing and marketing, and promoting strategic partnerships.	3 000 000
II.4. REDD+ is implemented in the municipality of Niefang under a participatory, transparent, inclusive and decentralized governance system.	500 000
III. Kie-Ntem Province	**20 000 000**
III.1. Kie-Ntem Province has drawn up provincial and municipal land-use plans. All these constitute the collectively agreed upon reference planning tool.	2 000 000
III.2. The degraded forest areas of Ebebiyin and Nsok Nsomo are being restored with the active participation of local people, and forests in the province are being managed sustainably.	7 000 000
III.3. Agricultural, livestock and agroforestry production in Kie-Ntem Province is increasing sustainably. The plans reduce the conversion of forests to new agricultural land and contribute to food security.	6 000 000
III.4. The protected areas of the Piedra Bere Natural Monument in Nsok Nsomo, and the Montes Temelón Nature Reserve in Micomiseng are managed and used in a sustainable and participatory manner, thus contributing to the fight against climate change, the protection of biodiversity and the well-being of the local people, particularly neighbouring local communities.	4 000 000
III.5. REDD+ is implemented in Kie-Ntem Province under a participatory, transparent, inclusive and decentralized governance system. This considers the needs and customs of men and women of local communities, and allows the dissemination of public information and accountability.	1 000 000

LOCAL INTEGRATED PROGRAMMES AND OUTPUTS	TOTAL (USD) 75 000 000
IV. Bioko Island	**15 000 000**
IV.1. The provinces of Bioko Norte and Bioko Sur and their municipalities have provincial and municipal land-use plans, green urban plans and community land management plans. All these constitute the collectively agreed upon reference planning tool.	2 000 000
IV.2. The use and management of forests at a small-scale and/or community level for local consumption of timber and non-timber forest products is progressively regulated and structured to ensure environmental, social and economic forest sustainability, reducing the loss of tree cover and contributing to the well-being of rural women and men.	3 000 000
IV.3. Agricultural and agroforestry production on Bioko Island is stepped up sustainably, strengthening the value chains of the various crops and promoting regional production, processing and marketing, and empowering women and young people.	4 000 000
IV.4. Urban, energy and transport development is carried out in accordance with environmental criteria, based on land-use plans and conditional upon environmental impact assessments.	2 000 000
IV.5. Pico Basilé National Park and the Luba Crater Scientific Reserve are managed and used in a sustainable and participatory manner, thus contributing to the fight against climate change, the protection of biodiversity and the well-being of the local people, particularly neighbouring communities.	3 000 000
IV.6. REDD+ is implemented in Bioko Island under a participatory, transparent, inclusive and decentralized governance system that considers the needs, know-how and customs of men and women of local communities, and allows the dissemination of public information and accountability.	1 000 000
V. Annobón Island	**10 000 000**
V.1. Annobón Island has a joint management plan for the nature reserve that includes land-use planning. This constitutes a collectively agreed upon reference planning tool.	1 000 000
V.2. The forests of Annobón Island are restored and managed sustainably, including enrichment with timber species in high local demand, favouring timber production for houses, canoes and as an energy source.	4 000 000
V.3. Agricultural production is developed through climate-smart systems, diversifying production in family allotments and promoting small livestock farming, in order to improve the food and nutritional security of local people.	3 000 000
V.4. Urban development in the city of San Antonio de Palé, and the development of renewable energy sources and transport route construction are based on land-use planning with environmental criteria and are dependent upon environmental impact assessments.	1 000 000
V.5. REDD+ is implemented in Annobón Island under a participatory, transparent, inclusive and decentralized governance system. This considers the needs and customs of women and men of the island and allows the dissemination of public information and accountability.	1 000 000

ANNEX IV
CONSULTATION PROCESS DURING THE DEVELOPMENT OF PNI-REDD+

Suggestions, recommendations and information considered in PNI-REDD+ were collected through consultations. The most relevant ones for each national programmes (PN) and local integrated programmes (PIL) are set out below.

The communities consulted and located in the local integrated programmes expressed great interest in the planned REDD+ investments and activities in their areas, and their desire to start implementation as soon as possible.

PN 1

- Need for a national inter-institutional committee to lead the land-use planning process and support conflict resolution relating to land ownership (e.g. expropriations, problems between neighbours, classification of soil types).
- Consider the negative consequences that land-use planning could have on the population, since most people depend on forests and land. Many owners may feel threatened during the process. It is important to ensure communication and outreach during the land-use planning process, with special attention to resolving conflicts, particularly those related to subsistence farming areas.
- Incorporate all existing local plans (e.g. the Malabo urban plan) within the National Land-use Plan.
- There is a dearth of information among people about existing regulations and plans. This often leads to the overlapping of activities in the same area, or the construction of housing or infrastructure that does not comply with urban planning. It is therefore important to carry out extensive outreach work when formulating and implementing the National Land-use Plan.
- The lack of implementation and dissemination of laws is perceived as one of the main problems to be addressed.
- There is a need to update the land registry and establish physical signs on the ground to indicate boundaries, to ensure that people know which uses are possible in each area.
- If PN 1 is to be successful, land-use planning is as essential as penalties for non-compliance. It is also necessary to organize the types of crops covered by the Land-use Plan (e.g., to centralize tomato growing in Moca because this is where they grow best).

Workshop of national experts, Malabo
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PN 2

- The statistics for the amount of forest area in Equatorial Guinea give rise to misunderstandings because they suggest that the forests are not threatened. It is necessary to raise awareness of the problem of progressive forest degradation and the speed at which the country's forests might be lost.
- None of the companies operating in the country's forestry sector that were consulted have a management plan. However, many involve local people, either by hiring them or through social works.
- Weaknesses in the methods of controlling and monitoring the illegal timber trade in the country.
- There is a strong consensus on the need for mechanisms to enforce laws and prevent timber-related corruption.
- There is a lack of communication channels between experts and local people. It is proposed to include cross-cutting activities in PN 2 that will help coordination between all those involved in the forestry sector (e.g. authorities, technicians, field staff, local people), to improve communication.
- Local people should be involved in profit-making forestry-related business activities.
- It is indispensable to carry out initial processing of the timber within the country because this would offer employment to a high percentage of the national labour force;

PN 3

- Agricultural extension and field school programmes exist, but their operation is limited by lack of funds. They do not need to be set up again, but require support and strengthening.
- Agricultural sector experts consider the sector to be very underdeveloped and are therefore puzzled because PNI-REDD+ considers agriculture to be a major driver of forest loss. They fear that the REDD+ process will limit the necessary development of the agricultural sector. They recommend that the future Land-use Plan should clarify which land is used for agricultural use. This land should not be classified as forest, and agriculture should not be blamed for forest loss in these areas.
- There is no continuity in the provision of support for farmers. Previous programmes, such as the Special Food Security Programme (SFSP) were followed through and were highly successful. Under the SFSP, the Government undertook to buy the production and farmers did not have to worry about selling or preserving their products.
- The problem is not the quality of legislation, but the applicability of the laws.
- It is important to ensure national food security so that the country can produce its own food.
- The development of the farming sector is limited by the following factors: the absence of crop conservation and storage chambers, poor organization of value chains for domestic consumption, dependence on imports, the instability of the sector, malfunctioning of credit systems, the need for training of outreach programme technicians, the absence of seed reserve banks and the weakness of cooperatives.

PN 4

- Representatives of the energy, mining and construction sectors are somewhat wary of REDD+ in the context of the country's development needs. For example, they wonder: "Will development of the forest sector mean that other sectors remain underdeveloped?"; "How much forest can the country lose before imposing restrictive measures?"; "How much leeway do we have to exploit the forest without putting measures in place to allow the development of other sectors?"; "Could we delay taking measures and start putting them in place when we have reached the limit of forest loss?".
- Some studies on mining have already been carried out, but information on the location of potential mining areas is, among other things, treated as confidential in order to prevent illegal mining taking place.
- Companies do not comply with their obligation to restore existing areas (e.g. quarries). In some cases this is due to lack of resources or bankruptcy of the companies.

- MMH is developing a plan to survey areas where mining has taken place and determine the condition of the mines. A study will also be conducted to see which areas have potential and have not yet been mined. This Government plan requires the mobilization of funds for its implementation, and it is hoped that PNI-REDD+ could support these efforts. It is suggested that PNI-REDD+ could include a restoration plan for areas that are already affected.
- MMH is working on the Mining Law, which will include a Mining Regulation. It is necessary to work in parallel with the Law on the Regulation of the Environment and adapt the Mining Law accordingly.
- The population is expected to gradually migrate from cities to villages, as economic opportunities in the city become more scarce and services improve in villages.
- The existing power plants do not produce as much as they could because they need improvements.
- There is a lack of awareness and enforcement of laws. There is also a need to create economic alternatives.
- The National Commission on the Environment needs to include representation from all Ministries involved and be responsible for intersectoral coordination, together with the Ministry of Planning.
- Change the focus of infrastructure as a driver of deforestation. In many cases, infrastructure is necessary, and it is not always a bad thing.

PN 5

- Identify in PNI-REDD+ the representatives who are involved in the CP-REDD+ and how the Committee's operation will be funded.
- Make information from each Ministry accessible to other Ministries through a national public information archive.
- Set up an interministerial committee to ensure the implementation of environmental impact studies and draw up and apply penalties to offenders.
- Set up an office or branch where complaints related to REDD+ can be submitted and resolved and then, if necessary, complaints can be taken to a higher authority.

PIL I: LITORAL PROVINCE

- Those consulted in Litoral Province indicated their agreement with the following proposals: crop diversification, capacity building in new cultivation techniques other than burning, reactivation of programmes such as SFSP, improvement of marketing channels and of transport and storage services, and the promotion of cooperatives. A request was made for the setting up of a market (infrastructure) where local products can be bought (the inhabitants of Machinda have to go to Bata to buy timber from their own area).
- There are no arrangements for filing complaints, but people would like to see them.
- Lack of plans for management by timber companies and ignorance of the issue by the local community have degraded the forests. Companies take advantage of direct negotiation with families in order to cut down trees.
- Include mangrove rehabilitation programmes in PNI-REDD+.

> *"THE MOST FREQUENT CONFLICTS ARE OVER THE ARBITRARY FELLING OF TREES BY A FEW INDIVIDUALS, MOST OF WHOM ARE ILLEGAL SERROTEROS."*

> *"WE CARE A LOT ABOUT EDUCATION, TO AVOID THAT OTHERS MISLEAD US ABOUT OUR NATURAL RESOURCES."*

PIL II: MUNICIPALITY OF NIEFANG

- The communities of Niefang, particularly those of Centro Sur Province, are excellent vegetable growers and know about nursery preparation. Amongst other things, they would like to increase crop diversification, obtain technical assistance to improve cultivation techniques (agricultural and agroforestry), learn how to process local products, expand the local market, receive support for setting up cooperatives (given previous negative experiences), access rural credit (with preference for repayment in kind), improve marketing channels (roads, transport and markets) and introduce local development plans with technical and financial support.
- A nursery or seed bank is needed to develop vegetable crops. These communities depend on seeds from other countries, especially Cameroon, and they cannot work when the border is closed.
- They suggest setting up associations or legal small and medium-sized enterprises, and establishing fixed prices of sale.
- The community has a communal, unregistered forest. Local people would appreciate a community forest management plan in order to reduce threats and risks.
- Non-compliance with rules relating to the protected area comes about due to the lack of alternatives. People recommend rehabilitating the infrastructure of Monte Alén National Park and increasing training to protect natural resources.

> *"OUR AGRICULTURE DEPENDS ON FOREIGN IMPORTS." (REFERRING TO SEEDS)*

> *"FOREIGNERS PRODUCE MORE THAN US BECAUSE THEY KNOW MORE CULTIVATION TECHNIQUES AND WORK RESPONSIBLY.*

> *"OTHER PEOPLE MUST NOT TAKE ADVANTAGE OF OUR FORESTS. THE FOREST IS DEGRADED BECAUSE COMPANIES DO WHAT THEY WANT.*

PIL III: KIE-NTEM PROVINCE

- There is a need for training in the following aspects: seed banks and nurseries, product diversification (seeds are bought in Cameroon); modern techniques to supplement traditional methods (slash and burn); processing of agricultural products. There is also a need for support to improve transport and marketing as well as local or communal markets to sell products.
- Training and financial support (loans) are needed to encourage organization and the forming of associations (*serroteros*, farmers) in order to increase production profitability, reduce damage to the forest and develop value chains.
- There is a lack of programmes such as SFSP, which gathered together community agricultural crops for sale in major markets.
- Forest management plans are needed. The Ebibeyin community forest was specifically mentioned because historical data show that the primary forest in this area was greatly disrupted and replaced by cocoa and coffee. A management plan would help sustain and restore the forests. Some communities have registered forests, while others have forests pending legalization or registration.
- The rules established for management of protected areas are not known. There is a need for consciousness raising and training in this area to increase awareness of the conservation of protected areas, take charge of it and provide optimal ecotourism services.

"COMPANIES USUALLY NEGOTIATE WITH THE PRESIDENT OF THE NEIGHBOURHOOD COMMUNITY OVER LOGGING IN LOCAL FORESTS."

"PREVIOUSLY, THE FANG PEOPLE WORKED COLLECTIVELY, BUT THE INFLUENCE OF MONEY ON MODERN LIFE HAS LED TO INDIVIDUAL WORKING PATTERNS."

"ONE FINGER IS NOT ENOUGH TO DRAW OUT THE CATERPILLAR FROM A PALM TREE." (FANG SAYING, MEANING THAT ONE PERSON CANNOT DO EVERYTHING: IT TAKES COOPERATION TO GET THINGS RIGHT)

"THE MOST COMMON CONFLICTS ARE USURPATION AND ILLEGAL FELLING OF TREES, FICTITIOUS AGREEMENTS CLAIMED BY CERTAIN PEOPLE WITH FOREST COMPANIES AND DE FACTO POWERS, WHICH SOME PEOPLE USE TO INTIMIDATE OTHERS."

"MONEY THAT MEN EARN FROM SELLING TIMBER IS NOT SHARED WITH WOMEN; MEN TRADITIONALLY CONTROL THE MONEY."

"THERE ARE NO BENEFITS FROM THE PROTECTED AREA, AND WE HAVE NO ALTERNATIVES. THEY DID NOT ASK US WHEN THEY SET UP THE PROTECTED AREA."

PIL IV: BIOKO ISLAND

(Consultations carried out in Bariobé, Basilé Bubi, Batoicopo, Basupú and Riaba)

- It is necessary to work with local people and raise their awareness to ensure that this project and others are a success. Local people must be made aware of the concept and importance of conservation. Village Council Presidents must be kept informed and trained to achieve a multiplier effect in their villages.
- Given that industrialization is going to take place, a reforestation plan must be designed to restore areas that will be degraded or deforested.
- An interministerial committee must be set up for the conservation of protected areas (INDEFOR-AP).
- Local people must be made aware of the importance of the protected area. Boundaries must be physically marked with more signs to ensure that people know exactly when they are inside the protected area, and more staff from the village must be involved (local people know these areas best).
- Hunting is a problem because of the buyers as well as because of the hunters. Everyone must be made aware of this.
- Tree planting must be proposed in cities.
- Farming on Bioko Island often mixes crops and fruit trees. Burning is not carried out, and the use of fertilizers or manure is not widespread. People consulted in the villages pointed out the following difficulties: the need for ongoing technical assistance that takes into account local experience and knowledge; the absence of irrigation systems; the lack of product storage, processing and conservation; difficulty in transporting products to the market; the need for training in the running of cooperatives; and access to credit. The main concern is that crops are spoiled because they cannot be sold due to difficulties in transport and access to markets or lack of demand in local markets. Shopkeepers go to some villages to buy produce, but this does not happen in many of the villages. The island's farmers also mentioned growing problems due to crop pests and diseases.

> *"WE CANNOT DEVELOP BECAUSE WE HAVE NO SUPPORT. WE HAVE ALMOST GIVEN UP. WOMEN TAKE THE LITTLE WE CAN HARVEST TO THE MARKET TO SELL AND END UP BRINGING IT BACK AGAIN. THE NEXT DAY YOU STAY HOME, BECAUSE IT IS NOT WORTH THE EFFORT."*

> *"NOW, NOTHING; THE MARKET IS FLOODED, AND NOBODY CAN SELL ANYTHING, AND ALL THAT IS VERY DISCOURAGING."*

> *"LOCAL PEOPLE ARE READY AND WILLING TO WORK, BUT THEY NEED HELP TO IMPROVE"*

> *"THAT'S WHAT'S KILLING THIS COUNTRY: TOO MUCH FOOD FOR SALE AND NOT BEING ABLE TO SELL IT, AND WE SPEND AND SUFFER. WE MUST PRIORITIZE CONSUMPTION OF OUR LOCAL PRODUCTS AND IMPORT ONLY WHAT IS NEEDED. IF WE ARE GOING TO EAT PRODUCTS FROM ABROAD, OUR PRODUCTS MUST BE EATEN OUTSIDE THE COUNTRY AS WELL"*

- Illegal logging takes place on the island. Those who were consulted reported that this is on the increase in some villages, while in others they believe it is decreasing because of depletion of commercial timber species of sufficient size or regulatory measures in recent years. Logging is usually carried out by outsiders, and cases of community intimidation are reported, without the authorities being able to stop it. The people consulted believe that the timber felled on the island is for local construction, and that it is not exported.
- Non-timber forest products, such as snails, crabs, forest animals (e.g grombif, deer and antelope) and dates, are collected, generally for self-consumption, but they also turn up in local markets.

> *"CITY PEOPLE COME IN AND CUT DOWN TREES WITHOUT ASKING. VILLAGERS BUY LOGS FROM PEOPLE WITH FARMS."*

> *"IF YOU SELL TWO TREES, PEOPLE COME AND CUT DOWN 12. THE LOGGERS ARE DISHONEST."*

> *"THE LOGGERS HAVE THEIR OWN BOSSES, AND THEY BRING OUT THEIR GUNS WHEN THE FARM OWNERS PROTEST ABOUT THE FELLING TREES. [...] THEY CALL THE POLICE AND THE POLICE COME, BUT BY THE NEXT DAY THEY ARE ALREADY BACK THERE CUTTING DOWN TREES."*

> *"LACK OF EMPLOYMENT MEANS TREES ARE CUT DOWN. IF FARMING WOULD BE PAID BETTER, THERE WOULD BE NO NEED FOR LOGGING."*

- The people consulted on Bioko Island called for action on the ground.

> *"THE THINGS THAT GET DISCUSSED DO NOT GET DONE. PEOPLE ARE GETTING TIRED OF ALL THIS TALK: WE WANT TO WORK."*

> *"WE ARE FED UP WITH THESE PROJECTS THAT NEVER MATERIALIZE. THINGS SHOULD HAPPEN QUICKER. YOU WERE HERE LAST YEAR, NOW YOU'RE BACK AGAIN AND... WHAT'S GOING TO HAPPEN NEXT YEAR? PEOPLE GET DISCOURAGED."*

PIL V: ANNOBÓN ISLAND

- Consultations on Annobón Island focused on the participatory drawing up of PIL V. No significant comments were collected.

TABLE IV.1 LIST OF PEOPLE CONSULTED

CONSULTATIONS (PLACE AND DATE)		NAME	OCCUPATION	AGE	ETHNIC BACKGROUND	SEX
Bioko 16 October 2018 (group interview PN 1)	1	Juan Carlos Nguema Rope	Technician, Directorate-General (DG) for Local Action and Urbanization, Ministry of Public Works, Housing and Urbanization (MOPVU)	34	Fang	Male
	2	Jesús Domingo Elá	Technician, DG Public Investment Planning and Programming, Ministry of Finance, Economy and Planning (MHEP)	31	Fang	Male
	3	Cosme Mbá Mbá	Technician, DG Budgets, MHEP	42	Fang	Male
	4	José Javier Ntutumu	Technician, DG Public Investment Planning and Programming, MHEP	28	Fang	Male
	5	Justo L. Sabana Cubi	Ecoguard, Pico Basilé National Park, National Institute of Forest Development and Management of the System of Protected Areas (INDEFOR AP)	74	Bubi	Male
Bioko 17 October 2018 (group interview PN3)	6	Patricio Martín Elá Nsué	Technician, DG Agriculture, Ministry of Agriculture, Livestock, Forests and Environment (MAGBOMA).	57	Fang	Male
	7	Jesús Edjang Owono	Technician, DG Extension, MAGBOMA	30	Fang	Male
	8	Jesús Domingo Elá	Technician, DG Public Investment Planning and Programming, MHEP	31	Fang	Male
	9	José Javier Ntutumu	Technician, DG Public Investment Planning and Programming, MHEP	28	Fang	Male
	10	José Antonio Suakim	Ecoguard, Pico Basilé National Park, INDEFOR AP	59	Bubi	Male
Bioko 18 October 2018 (group interview PN 2)	11	Joaquín Edjang Michá	Technician, DG Forest Guardianship and Repopulation, MAGBOMA	40	Fang	Male
	12	Jesús Domingo Elá	Technician, DG Public Investment Planning and Programming, MHEP	31	Fang	Male
	13	José Javier Ntutumu	Technician, DG Public Investment Planning and Programming, MHEP	28	Fang	Male
	14	Silvia Cristina	Technician, DG Forest Harvesting and Industrialization, MAGBOMA	28	Fang	Female
	15	Fortunato Eko Nsogo	Technician, National Institute for Environmental Conservation (INCOMA).	43	Fang	Male

CONSULTATIONS (PLACE AND DATE)		NAME	OCCUPATION	AGE	ETHNIC BACKGROUND	SEX
Bioko 18 October 2018 (group interview PN 2)	16	José Antonio Ntutumu	Technician, DG Environmental Conservation, MAGBOMA.	28	Fang	Male
	17	Demetrio Iviti Nsuga	Technician, DG Environmental Conservation, MAGBOMA.	45	Ndowé	Male
	18	Araceli Ndohó Mikó	Technician, DG Environmental Conservation, MAGBOMA.	24	Fang	Female
	19	Ambrosio Ondó Asumu	Ecoguard, Pico Basilé National Park, INDEFOR AP	27	Fang	Male
Bioko 19 October 2018 (group interview PN 4)	20	Máximo Nguema Ncorga	Technician, DG Mines and Quarries, Mining Committee, Ministry of Mines and Hydrocarbons	40	Fang	Male
	21	José Ndong Ondó	Technician, DG Roads, MOPVU	32	Fang	Male
	22	Eulogio Oyo Sam	Technician, DG Public Works, MOPVU	45	*s.d.*	Male
	23	Jesús Domingo Elá	Technician, DG Public Investment Planning and Programming, MHEP	31	Fang	Male
	24	José Javier Ntutumu	Technician, DG Public Investment Planning and Programming, MHEP	28	Fang	Male
	25	Gregorio Asié Alene	Ecoguard, Pico Basilé National Park, INDEFOR AP	33	Fang	Male
Bioko 22 October 2018 (group interview PN 5)	26	Demetrio Iviti Nsuga	Technician, DG Environment, MAGBOMA. - Montreal Protocol focal point - National coordinator for ozone	45	Ndowé	Male
	27	Santiago Mbá Anderson	Cameraman, Radio Televisión de Guinea Ecuatorial (RTVGE), DG Information	40	Fang	Male
	28	Constancia Ntongono Esono Mangue	Reporter, RTVGE, DG Information	25	Fang	Female
	29	Jesús Domingo Elá	Technician, DG Public Investment Planning and Programming, MHEP	31	Fang	Male
	30	Ricardo Domínguez Llosa	Programme Officer, Food and Agriculture Organization of the United Nations (FAO)	59		Male

CONSULTATIONS (PLACE AND DATE)		NAME	OCCUPATION	AGE	ETHNIC BACKGROUND	SEX
Bioko 23 October 2018 (group interview PIL IV)	31	Baltasar Ekong Oburu	Technician, DG Business Promotion, Ministry of Trade and Promotion of Small and Medium-Sized Enterprises	32	Fang	Male
	32	Luis Michá Asumu	Technician, DG Small and Medium-Sized Enterprises, Ministry of Trade and Promotion of Small and Medium-Sized Enterprises			Male
	33	Benita Belope Bichi	Technician, DG Cooperatives and Social Economy, Ministry of Labour, Business Development and Social Security	31	Bubi	Female
	34	Ricardo Rope Becara	Technician, DG Tourism Development and Promotion, Ministry of Tourism	23	Bubi	Male
	35	Juan José Bengono	Technician, DG Tourism Development and Promotion, Ministry of Tourism	34	Fang	Male
	36	Jesús Domingo Elá	Technician, DG Public Investment Planning and Programming, MHEP	31	Fang	Male
	37	José Javier Ntutumu	Technician, DG Public Investment Planning and Programming, MHEP	28	Fang	Male
	38	Florencio Napa Murray	Ecoguard, Pico Basilé National Park, INDEFOR AP	25	Bubi	Male
Bariobé Bioko Norte 10 November 2018 (group interview PIL IV, conducted only with women)	39	Cristeta Saeló Ganet	Farmer, President of Bariobé village council	60	Bubi	Female
	40	Divina Roca Bohopo	Farmer, trader at Bariobé and Malabo markets	58	Bubi	Female
	41	Gloria Sobé Eribo	Farmer	60	Bubi	Female
	42	Prisca Meriqui Sioto	Farmer, trader at Bariobé market	57	Bubi	Female
	43	Carmen Rieba Roca	Farmer, trader at Bariobé market	34	Bubi	Female
	44	Julia Momo Lobete	Farmer	57	Bubi	Female
	45	Luisa Yhoni C.	Home cook, food vendor	47	Bubi	Female
	46	Radelina Roca	Farmer, trader at Malabo market		Bubi	Female
	47	Juliana Paboté	Farmer, fisher and trader (also sells non-timber forest products)	52	Bubi	Female
	48	Pilar Bolecha M.	Farmer	63	Bubi	Female
	49	Emereciana Bobuelo B.	Farmer	39	Bubi	Female
	50	Clotilde Bohube	Elder	75	Bubi	Female

CONSULTATIONS (PLACE AND DATE)		NAME	OCCUPATION	AGE	ETHNIC BACKGROUND	SEX
Basilé Bubi Bioko Norte 12 November 2018 (group interview PIL IV with people involved in farming projects who live near the protected area and are concerned about their forests)	51	Benita Suakim Eteo	Farmer, worker at the Basilé Bubi boarding school	70	Bubi	Female
	52	Concepción Riela Sam	Farmer, trader in Malabo	63	Bubi	Female
	53	Balbina Bapué Wacsinton	Farmer, second traditional chief of Basilé Bubi	68	Bubi	Female
	54	Teresa Nsing Mbá	Farmer, trader in Basilé Bubi and Malabo	46	Fang	Female
	55	Consolación Ritope Riela	Official, supporting teaching staff of the National University of Equatorial Guinea (UNGE)	54	Bubi	Female
	56	Ana Belén Riela Michael	Farmer, trader in Basilé Bubi and Malabo	33	Bubi	Female
	57	Martina Suakim Lajay	Market gardener, vendor	55	Bubi	Female
	58	Reginaldo Bosió Davis	Farmer (his wife sells the harvested products)	56	Bubi	Male
	59	Epifanio Manuel Suakim	Farmer	77	Bubi	Male
	60	Eduardo Diala Cuby	Farmer (his wife sells the harvested products in Malabo)	60	Bubi	Male
	61	Miguel Davis Riela	Farmer, carpenter	44	Bubi	Male
	62	Reginaldo Mum Ríopo	Schoolteacher in Bailé Bubi	25	Bubi	Male
	63	Miguel Ángel Suakin	Accountant, President of Basilé Bubi village council	48	Bubi	Male
	64	Julio Eningo Iyanga	Panel beater, bailiff in Basilé Bubi	33	Combe	Male
	65	José Antonio Suakin	Farmer, bricklayer, woodcutter and ecoguard, Pico Basilé National Park, Basilé Bubi area	59	Bubi	Male
	66	Justo Sabana Cuby	Farmer and ecoguard, Pico Basilé National Park, Basilé Bubi area	74	Bubi	Male
Batoicopo Bioko Norte 13 November 2018 (PIL IV group interview with people involved in agricultural training schools and with experience in agricultural cooperatives)	67	Lidia Bolopa	Farmer (FAO group), Minister of Education and treasurer of the Batoicopo town council	54	Bubi	Female
	68	Teresa Buila	Farmer, trader in Malabo	52	Bubi	Female
	69	Estanislao Demetrio Lambue	Farmer, traditional chief of Batoicopo	66	Bubi	Male
	70	Jeremías Diote	Farmer (FAO group), President of SED	46	Bubi	Male
	71	Antonio Ndong	Driver, Batoicopo local government councillor and member of the local council	60	Fang	Male
	72	Gervasio Villete Bautista	Farmer, second deputy mayor of Batoicopo	86	Bubi	Male

CONSULTATIONS (PLACE AND DATE)		NAME	OCCUPATION	AGE	ETHNIC BACKGROUND	SEX
Batoicopo Bioko Norte 13 November 2018 (PIL IV group interview with people involved in agricultural training schools and with experience in agricultural cooperatives)	73	Fermín Buechobio	Farmer	56	Bubi	Male
	74	Ricardo Ehate	Farmer and health assistant at the Batoicopo health centre	59	Bubi	Male
	75	Rubén Biletena B.	Teacher and school head in Batoicopo	43	Bubi	Male
	76	Vidal Bakale Sima	Farmer	43	Fang	Male
	77	Mateo Ritope	Farmer	47	Bubi	Male
	78	Celedonio Sobe	Farmer, fisher and head of security for Batoicopo village council	43	Bubi	Male
	79	Ubaldo Galaqui	Farmer	42	Bubi	Male
	80	Fernando Eñeso Ehopi	Mayor of Batoicopo	60	Ndowé	Male
	81	Juan Bakale	Farm worker	53	Fang	Male
	82	Marcos Sobe Fina	Farmer, driver and second traditional chief of Batoicopo	59	Bubi	Male
	83	Gustavo Chequé	Farmer	39	Bubi	Male
Basupú Bioko Norte 14 November 2018 (PIL IV group interview with the local people and with active farmers and serroteros)	84	Leonor Sambo Willy	Farmer (FAO group), trader at Malabo market	63	Bubi	Female
	85	Enriqueta Obiang Abanda	Farmer, official of the Scientific and Technological Research Council (CICTE) and chief of Basupú zone D	48	Fang	Female
	86	Mª Carmen Davis	Farmer and President of Basupú	58	Bubi	Female
	87	Magdalena Bainole	Farmer (FAO group) and head of Basupú zone C	49	Bubi	Female
	88	Pulqueria Silo Fadipe	Farmer (FAO group) and health worker in Basupú	47	Bubi	Female
	89	Perpetua Suse	Farmer, trader in Malabo	59	Bubi	Female
	90	Ana Belén Somó	Farmer (non-trading) and counsellor for Social Affairs and Gender Equality in Basupú	45	Bubi	Female
	91	Mª Perpetua Los Arcos	Farmer, vendor in Malabo and nurse at the General Hospital	48	Combe	Female
	92	Juan Clovis	Farmer, logger	45		Male
	93	Juan Gómez Cosme	Driver, mechanic	60	Bubi	Male
	94	Leonardo Bilekera	Basupú local government secretary	66	Bubi	Male
	95	Patricio Tchoutang	Farmer, logger	45		Male
	96	Melchor Aseko	Farmer, logger and Basupú local government councillor	57	Fang	Male

CONSULTATIONS (PLACE AND DATE)		NAME	OCCUPATION	AGE	ETHNIC BACKGROUND	SEX
Basupú Bioko Norte 14 November 2018 (PIL IV group interview with the local people and with active farmers and serroteros)	97	Salvador Omoina	Farmer and bailiff in Basupú	53	Bubi	Male
	98	Román Vidal	Driver, mechanic	72	Bubi	Male
	99	Sabino Abeso	Farmer and President of Alegre village council	64	Fang	Male
	100	Agustín Mbá Bohoso	Facilitator and ecoguard at Pico Basilé National Park in the Basilé Fang area (previously Basupú)	35	Fang	Male
	101	Domingo Achibo	Facilitator and ecoguard at Pico Basilé National Park in the Bombe area	39	Bubi	Male
Riaba Bioko Sur 15 November 2018 (PIL IV group interview with people from different villages, including representatives of civil society, Government and the army)	102	Magdalena Angue Edú	Fisher (Patio Balboa fisher group)	51	Fang	Female
	103	Tecla Cofi Tomos	Farmer and President of BilePILa village council	73	Bubi	Female
	104	Virginia King Seriche	Administrative assistant at Riaba town council	24	Bubi	Female
	105	Mª Carmen Meté Mikó	Home maker	18	Fang	Female
	106	Clara Nfanga Esono	Reporter for RTVGE	29	Fang	Female
	107	Bibiana Eyang Mesi	Farmer and Riaba community President	56	Fang	Female
	108	Mª Pitiusa Afang Bikó	Farmer and vice-President of Seguí neighbourhood council, Riaba	42	Fang	Female
	109	Mª Pilar Mangue Nzé	Farmer and President of Cacariaca village council	48	Fang	Female
	110	Sara Okomo Nsué	Farmer and Riaba community councillor	48	Fang	Female
	111	Begoña Angué Abeso	Administrator, Riaba Delegation	27	Fang	Female
	112	Rogasiano Sompo Sidoko	Farmer and President of Maule town council	50	Bubi	Male
	113	Álvaro Carvallo S.	Farmer and vice-President of Boloco town council	60	Bubi	Male
	114	Gervasio Elulua Oló	Riaba District Chief Commissioner	36	Fang	Male
	115	Balduino Mbá Nsué	Secretary of Government Delegation in Riaba	42	Fang	Male
	116	Luis Ndong Ondó	Officer and deputy district chief of the Riaba Gendarmerie	46	Fang	Male
	117	Majín Moche Itoji	Farmer and driver	27	Bubi	Male
	118	Tomás Eloha Solilopa	Farmer and Mayor of Bahó Grande	50	Bubi	Male

CONSULTATIONS (PLACE AND DATE)		NAME	OCCUPATION	AGE	ETHNIC BACKGROUND	SEX
Riaba Bioko Sur 15 November 2018 (PIL IV group interview with people from different villages, including representatives of civil society, Government and the army)	119	Juan Pedro Nsang	Farmer and President of Enasa town council	52	Fang	Male
	120	Claudio Moche Bocó	Riaba Government Delegate	--	Bubi	Male
	121	Pedro Vani Bioko	Mayor-President of Riaba Local Government	--	Bubi	Male
	122	Conrado Ehate Tomí	Riaba District Sports Delegate	--	Bubi	Male
	123	José Valentín Sima Eneme	Administrator and Navy Commander	34	Fang	Male
	124	Francisco Biachó Biale	Facilitator and ecoguard in Bahó Pequeño area	62	Bubi	Male
Bariobé Bioko Norte 10 November 2018 (PIL IV field consultation)	125	Cristeta Saeló Ganet	Farmer and President of Bariobé town council	60	Bubi	Female
	126	Divina Roca Bohopo	Farmer and trader at Bariobé and Malabo markets	58	Bubi	Female
	127	Gloria Sobé Eribo	Farmer	60	Bubi	Female
	128	Prisca Meriqui Sioto	Farmer and trader at Bariobé market	57	Bubi	Female
	129	Carmen Rieba Roca	Farmer and trader at Bariobé market	34	Bubi	Female
	130	Julia Momo Lobete	Farmer	57	Bubi	Female
	131	Luisa Yhoni C.	Home cook and food vendor	47	Bubi	Female
	132	Radelina Roca	Farmer and trader at Malabo market		Bubi	Female
	133	Juliana Paboté	Farmer, fisher and trader (also sells non-timber forest products)	52	Bubi	Female
	134	Pilar Bolecha M.	Farmer	63	Bubi	Female
	135	Emereciana Bobuelo B.	Farmer	39	Bubi	Female
	136	Clotilde Bohube	Elder	75	Bubi	Female
Basilé Bubi Bioko Norte 12 November 2018 (PIL IV field consultation)	137	Benita Suakim Eteo	Farmer and worker at the Basilé Bubi boarding school	70	Bubi	Female
	138	Concepción Riela Sam	Farmer and trader in Malabo	63	Bubi	Female
	139	Balbina Bapué Wacsinton	Farmer and second traditional chief of Basilé Bubi	68	Bubi	Female
	140	Teresa Nsing Mbá	Farmer and trader in Basilé Bubi and Malabo	46	Fang	Female
	141	Consolación Ritope Riela	Official supporting teaching staff at UNGE	54	Bubi	Female
	142	Ana Belén Riela Michael	Farmer and trader in Basilé Bubi and Malabo	33	Bubi	Female
	143	Martina Suakim Lajay	Market gardener and mower	55	Bubi	Female

CONSULTATIONS (PLACE AND DATE)		NAME	OCCUPATION	AGE	ETHNIC BACKGROUND	SEX
Basilé Bubi Bioko Norte 12 November 2018 (PIL IV field consultation)	144	Reginaldo Bosió Davis	Farmer (his wife sells the harvested products)	56	Bubi	Male
	145	Epifanio Manuel Suakim	Farmer	77	Bubi	Male
	146	Eduardo Diala Cuby	Farmer (his wife sells the harvested products in Malabo)	60	Bubi	Male
	147	Miguel Davis Riela	Farmer and carpenter	44	Bubi	Male
	148	Reginaldo Mum Ríopo	Schoolteacher in Bailé Bubi	25	Bubi	Male
	149	Miguel Ángel Suakin	Accountant and President of Basilé Bubi village council	48	Bubi	Male
	150	Julio Eningo Iyanga	Panel beater and bailiff in Basilé Bubi	33	Combe	Male
	151	José Antonio Suakin	Farmer, bricklayer, woodcutter and ecoguard, Pico Basilé National Park, Basilé Bubi area	59	Bubi	Male
	152	Justo Sabana Cuby	Farmer and ecoguard, Pico Basilé National Park, Basilé Bubi area	74	Bubi	Male
Batoicopo Bioko Norte 13 November 2018 (PIL IV field consultation)	153	Lidia Bolopa	Farmer (FAO group), Minister of Education and treasurer of the Batoicopo town council	54	Bubi	Female
	154	Teresa Buila	Farmer and trader in Malabo	52	Bubi	Female
	155	Estanislao Demetrio Lambue	Farmer and traditional chief of Batoicopo	66	Bubi	Male
	156	Jeremías Diote	Farmer	46	Bubi	Male
	157	Antonio Ndong	Driver, Batoicopo local government councillor and member of the local council	60	Fang	Male
	158	Gervasio Villete Bautista	Farmer and second deputy mayor of Batoicopo	86	Bubi	Male
	159	Fermín Buechobio	Farmer	56	Bubi	Male
	160	Ricardo Ehate	Farmer and health assistant at the Batoicopo health centre	59	Bubi	Male
	161	Rubén Biletena B.	Teacher and school head in Batoicopo	43	Bubi	Male
	162	Vidal Bakale Sima	Farmer	43	Fang	Male
	163	Mateo Ritope	Farmer	47	Bubi	Male
	164	Celedonio Sobe	Farmer, fisher and head of security for Batoicopo village council	43	Bubi	Male
	165	Ubaldo Galaqui	Farmer	42	Bubi	Male
	166	Fernando Eñeso Ehopi	Mayor of Batoicopo	60	Ndowé	Male

CONSULTATIONS (PLACE AND DATE)		NAME	OCCUPATION	AGE	ETHNIC BACKGROUND	SEX
Batoicopo Bioko Norte 13 November 2018 (PIL IV field consultation)	167	Juan Bakale	Farm worker	53	Fang	Male
	168	Marcos Sobe Fina	Farmer, driver and second traditional chief of Batoicopo	59	Bubi	Male
	169	Gustavo Chequé	Farmer	39	Bubi	Male
Bioko Norte 14 November 2018 (PIL IV field consultation)	170	Leonor Sambo Willy	Farmer (FAO group) and trader at Malabo market	63	Bubi	Female
	171	Enriqueta Obiang Abanda	Farmer, official of the CICTE and chief of Basupú zone D	48	Fang	Female
	172	Mª Carmen Davis	Farmer and President of Basupú	58	Bubi	Female
	173	Magdalena Bainole	Farmer (FAO group) and head of Basupú zone C	49	Bubi	Female
	174	Pulqueria Silo Fadipe	Farmer (FAO group) and health worker in Basupú	47	Bubi	Female
	175	Perpetua Suse	Farmer and trader in Malabo	59	Bubi	Female
	176	Ana Belén Somó	Farmer (non-trading) and counsellor for Social Affairs and Gender Equality in Basupú	45	Bubi	Female
	177	Mª Perpetua Los Arcos	Farmer, vendor in Malabo and nurse at the General Hospital	48	Combe	Female
	178	Juan Clovis	Farmer and logger	45		Male
	179	Juan Gómez Cosme	Driver and mechanic	60	Bubi	Male
	180	Leonardo Bilekera	Basupú local government secretary	66	Bubi	Male
	181	Patricio Tchoutang	Farmer and logger	45		Male
	182	Melchor Aseko	Farmer, logger and Basupú local government councillor	57	Fang	Male
	183	Salvador Omoina	Farmer and bailiff in Basupú	53	Bubi	Male
	184	Román Vidal	Driver and mechanic	72	Bubi	Male
	185	Sabino Abeso	Farmer and President of Alegre village council	64	Fang	Male
Riaba Bioko Sur 15 November 2018 (PIL IV field consultation)	186	Magdalena Angue Edú	Fisher (Patio Balboa fisher group)	51	Fang	Female
	187	Tecla Cofi Tomos	Farmer and President of BilePILa village council	73	Bubi	Female
	188	Virginia King Seriche	Administrative assistant at Riaba town council	24	Bubi	Female
	189	Mª Carmen Meté Mikó	Home maker	18	Fang	Female
	190	Clara Nfanga Esono	Reporter for RTVGE	29	Fang	Female

CONSULTATIONS (PLACE AND DATE)		NAME	OCCUPATION	AGE	ETHNIC BACKGROUND	SEX
Riaba Bioko Sur 15 November 2018 (PIL IV field consultation)	191	Bibiana Eyang Mesi	Farmer and Riaba community President	56	Fang	Female
	192	Mª Pitiusa Afang Bikó	Farmer and vice-President of Seguí neighbourhood council, Riaba	42	Fang	Female
	193	Mª Pilar Mangue Nzé	Farmer and President of Cacariaca village council	48	Fang	Female
	194	Sara Okomo Nsué	Farmer and Riaba community councillor	48	Fang	Female
	195	Begoña Angué Abeso	Administrator, Riaba Delegation	27	Fang	Female
	196	Rogasiano Sompo Sidoko	Farmer and President of Maule town council	50	Bubi	Male
	197	Álvaro Carvallo S.	Farmer and vice-President of Boloco town council	60	Bubi	Male
	198	Gervasio Elulua Oló	Riaba District Chief Commissioner	36	Fang	Male
	199	Balduino Mbá Nsué	Secretary of Government Delegation in Riaba	42	Fang	Male
	200	Luis Ndong Ondó	Officer and deputy district chief of the Riaba Gendarmerie	46	Fang	Male
	201	Majín Moche Itoji	Farmer and driver	27	Bubi	Male
	202	Tomás Eloha Solilopa	Farmer and Mayor of Bahó Grande	50	Bubi	Male
	203	Juan Pedro Nsang	Farmer and President of Enasa town council	52	Fang	Male
	204	Claudio Moche Bocó	Riaba Government Delegate	--	Bubi	Male
	205	Pedro Vani Bioko	Mayor-President of Riaba Local Government	--	Bubi	Male
	206	Conrado Ehate Tomí	Riaba District Sports Delegate	--	Bubi	Male
	207	José Valentín Sima Eneme	Administrator and Navy Commander	34	Fang	Male
Niefang Centro Sur Province 29 October 2018	208	Juan Abeso	Town Councillor	50	Fang	Male
	209	Bernarda Pilar	Shopkeeper	45	Fang	Male
	210	Teresa Ayingono	Farmer	42	Fang	Female
	211	Maximiliano Nve	Farmer	47	Fang	Male
	212	Pilar Eseng	Farmer	36	Fang	Female
	213	Lino Ela Nelong	Councillor	54	Fang	Male
	214	Esperanza Mokuy	Schoolteacher	38	Fang	Female
	215	María del Pilar	Warden of the National Surveillance Society (SONAVI)	38	Fang	Male

CONSULTATIONS (PLACE AND DATE)		NAME	OCCUPATION	AGE	ETHNIC BACKGROUND	SEX
Niefang Centro Sur Province 29 October 2018	216	Anacleta Maye	SONAVI warden	33	Fang	Male
	217	Francisca Nzomo	Farmer	40	Fang	Female
	218	Mariano Asumu	SONAVI warden	39	Fang	Male
	219	Alfredo Ndong	Locksmith	37	Fang	Male
	220	Carmen Ofun	Town Councillor	32	Fang	Male
	221	Teofilo Nguema	Shopkeeper	50	Fang	Male
Ncue Kie-Ntem Province 26 October 2018	222	Severina Abeso	Local government custodian	26	Fang	Male
	223	Miguel Ovono	SONAVI warden	71	Fang	Male
	224	Pilar Ándeme	SONAVI Councillor	66	Fang	Female
	225	Armengol Ncogo	SONAVI logger	52	Fang	Male
	226	Julián Obiang	SONAVI logger	80	Fang	Male
	227	Marta Abeque	Cook/waitress	67	Fang	Female
	228	Clara Ándeme	SONAVI warden	44	Fang	Male
	229	Carmen Angue	Shopkeeper	52	Fang	Male
	230	Flora Mangue	Custodian	51	Fang	Female
	231	Catalina Efua	Homemaker	68	Fang	Female
	232	Francisco Angueme	Farmer	73	Fang	Male
	233	Gumersindo Bacale	Ministry of Finance official	56	Fang	Male
	234	Tolomeo Ndong	Town Councillor	68	Fang	Male
Micomiseng Kie-Ntem Province 30 October 2018	235	Santiago Ndong	Logger	43	Fang	Male
	236	José Julio Esono	Logger	45	Fang	Male
	237	Jonás Pascual	Mbea farmer	47	Fang	Male
	238	Bonifacio Ndong	Farmer	63	Fang	Male
	239	Diosdado Ona	Logger	52	Fang	Male
	240	Alfredo Sima	Mbea farmer	49	Fang	Male
	241	Marta Bikie	Farmer	41	Fang	Female
	242	Asunción Andeme	Mbea farmer	47	Fang	Female
	243	Atanasio Obiang	Farmer	42	Fang	Male
	244	Catalina Asue	Farmer	41	Fang	Female
	245	Salustiano Ondo	Councillor	50	Fang	Male
	246	Sinforosa Ezeng	Farmer	52	Fang	Female
	247	Vicente Mbole	Shopkeeper	56	Fang	Male
	248	Carmelo Ondo	Artisan	36	Fang	Male

CONSULTATIONS (PLACE AND DATE)		NAME	OCCUPATION	AGE	ETHNIC BACKGROUND	SEX
Nsocsomo Kie-Ntem Province 1 November 2018	249	Marcelino Abeso	Logger	53	Fang	Male
	250	Amancio Eyene	SONAVI warden	51	Fang	Male
	251	Ramón Eneme	Logger	49	Fang	Male
	252	Santiago Oburu	Logger Oboro-Mku	37	Fang	Male
	253	Martin Ndon	Logger	40	Fang	Male
	254	Feliciano Ondo	Farmer	47	Fang	Male
	255	Marlon Ndong	Third Deputy Mayor of the local government	58	Fang	Male
	256	Alfredo Obama	Farmer	43	Fang	Male
	257	Luisa Monsue	Farmer	42	Fang	Female
	258	Lucas Nsue	Farmer	69	Fang	Male
	259	Hilario Beyene	Warden	49	Fang	Male
	260	Constantino Ela	Farmer	38	Fang	Male
	261	Anastasia Bindang	Farmer	37	Fang	Female
	262	Josefina Ada	Farmer	44	Fang	Female
	263	Vicenta Ada	Farmer	36	Fang	Female
	264	Francisca Angue	Farmer	39	Fang	Female
	265	Pastor Ona	SONAVI warden	29	Fang	Male
Bata Litoral Province 5 November 2018	266	Eugenia Nfumu	Farmer	53	Fang	Female
	267	María Fátima Efu	Farmer NGUBA-1	54	Fang	Female
	268	Maripaz Nchama	Farmer AKOC-NFANG	48	Fang	Female
	269	Manuela Ayang	Farmer NGUBA-1	64	Fang	Female
Provincial enterprises in Bata Litoral Province 7 November 2018	270	Paulino Monsuy	Forestry worker from Shimmer	56	Fang	Male
	271	Patricio Nguema	Forestry worker from Shimmer	51	Fang	Male
Río Official Chamber of Commerce Bata 13 November 2018	272	Severino Ondo Nsue	Business and Quality Management Assistant	30	Fang	Male
	273	Santos Obiang Ndong	Export	31	Fang	Male
	274	Andrés Mba Ona	Service Section	39	Fang	Male
	275	Andrés Pérez Ndong	Statistics Section	37	Fang	Male

CONSULTATIONS (PLACE AND DATE)		NAME	OCCUPATION	AGE	ETHNIC BACKGROUND	SEX
Nkimi Centro Sur Province 25 November 2018	276	Santiago Mabale Bee	Mayor	48	Fang	Male
	277	Lorenzo Ncogo	Farmer	50	Fang	Male
	278	Antonio Sii Asama	Local government assistant	66	Fang	Male
	279	Fortunata Andeme	Coordinator of the Democratic Party of Equatorial Guinea	45	Fang	Female
	280	Carmen Ayong	Local government Mayor's deputy	65	Fang	Female
	281	Pedro Abeso	Local government Mayor's deputy	67	Fang	Male
	282	Montserrat	Farmer	59	Fang	Female
	283	Antonio Nsue Mba	Nkimi	62	Fang	Male
	284	Juan Ntutumu	Local government	63	Fang	Male
	285	Antonio Miko	Carpenter	65	Fang	Male
	286	Benjamín Nsang	Local government custodian	70	Fang	Male
	287	José Enguema	Local government secretary	69	Fang	Male
	288	Antonio Nguema	Nkimi	69	Fang	Male
	289	Francisco Mba	Nkimi	77	Fang	Male
	290	Petra Asue	Nkimi	60	Fang	Female
San Antonio de Pale Annobón 26 November 2018 (PIL V field consultation)	291	Alfonso Menejal Guillén	Fisher, member of Pesca Panfosch Fishing Cooperative.	56	Annobonesa	Male
	292	Restituta Casaña Camarero	Fish processor and secretary of the Ministry of Social Affairs and Equality	34	Annobonesa	Female
	293	Leocadia Mum Muñoz	Fish processor	45	Annobonesa	Female
	294	Valentín Aguilar Teruel	Technician, Equatorial Guinea Electricity Board (SEGESA) and provincial tourism delegate	36	Annobonesa	Male
	295	Leonardo Zamora Mum	Fisher	57	Annobonesa	Male
	296	Francisca Vizcaya Merino	Fish processor	34	Annobonesa	Female
	297	Esperanza Villa Rubia	Fish processor (Fishing Group) and farmer	36	Annobonesa	Female
	298	Cristina Aranda Treviño	Fish processor (Fishing Group) and farmer	27	Annobonesa	Female
	299	Lorenza Alabay Salas	Fish processor (Fishing Group) and farmer	43	Annobonesa	Female
	300	Eva Castaño Camarero	Fish processor (Fishing Group) and farmer	35	Annobonesa	Female
	301	Justina Mum Garriga	Fish processor (Fishing Group) and farmer	33	Annobonesa	Female
	302	Lucía Pidal Cachina	Fish processor (Fishing Group) and farmer	25	Annobonesa	Female

CONSULTATIONS (PLACE AND DATE)		NAME	OCCUPATION	AGE	ETHNIC BACKGROUND	SEX
San Antonio de Pale Annobón 26 November 2018 (PIL V field consultation)	303	Teresa Alcántara Catalán	Fish processor (Fishing Group) and farmer	36	Annobonesa	Female
	304	Sergia Gadjin Liso	Fish processor (Fishing Group) and farmer	34	Annobonesa	Female
	305	Cristeta García Padilla	Fish processor (PanFosh Cooperative) and farmer	67	Annobonesa	Female
	306	Cesáreo Nena Muñoz	Local government Environmental Counsellor	37	Annobonesa	Male
	307	Remigio Andresa Castaño	Ministry of Fisheries provincial delegate	39	Annobonesa	Male
	308	Dominic Bertrand	Public works company (SOMAGEC)	42		Male
	309	Jorge Álvarez	Fibre-optic company (CIGTE)	51		Male
Ebe-Nguan Kie-Ntem Province 29 January 2019 (PIL III field consultation)	310	Bienvenido Mangue		-		Male
	311	Fernando Ndong		-		Male
	312	Marcos Ngomo		-		Male
	313	Maribel Asue		-		Female
	314	Catalina Mokuy		-		Female
	315	Mª Estrella Nchama		-		Female
	316	Bernardo Owini Ndong		-		Male
	317	Ana Mbengono Nguema		-		Female
	318	Florentino Ondo Asumu		-		Male
	319	Celestino Ekong Asangono		-		Male
	320	Ángel Ondo Ekong		-		Male
	321	Filomena Avomo Nve		-		Female
	322	Teofilo Edú Elá		-		Male
	323	Antimo Mangue Nzo		-		Male
	324	Secundino Asumu		-		Male
	325	Joaquín Bang Ndumu		-		Male
	326	Mari Carmen Mangue		-		Female
	327	Teodomiro Ntugu		-		Female
	328	Bruno Ela Asumu		-		Male
	329	Salvador Ngomo		-		Male
	330	Salvador Ela		-		Male

CONSULTATIONS (PLACE AND DATE)		NAME	OCCUPATION	AGE	ETHNIC BACKGROUND	SEX
Ebe-Nguan Kie-Ntem Province 29 January 2019 (PIL III field consultation)	331	Mª Dolores Andeme		-		Female
	332	Daniel Asumu Ekong		-		Male
	333	Juan de Dios Ebang		-		Male
	334	Miguel Bicoro		-		Male
	335	Tomás Mba Ovana		-		Male
	336	Antonio Asumu Ela		-		Male
Atut-Efac Kie-Ntem Province 30 January 2019 (PIL III field consultation)	337	Santiago Ondo Aba		-		Male
	338	Salomé Oye Ondo		-		Male
	339	Gregorio Nve Meñe		-		Male
	340	Antonio Abogo Abeso		-		Male
	341	Justo Nguema Ela		-		Male
	342	Mª Dolores Andeme Oyono		-		Female
	343	Modesto Nve Nzeng		-		Male
	344	Silvano Abaga Bayeme		-		Male
	345	Eularia Avomo		-		Female
	346	Pedro Mbang		-		Male
	347	Salvador Bacale Ndong		-		Male
Okong-Oyek Kie-Ntem Province 30 January 2019 (PIL III field consultation)	348	Gabino Nsoo Nsue		-		Male
	349	Ramón Abaga Esono		-		Male
	350	Juan Carlos Masie		-		Male
	351	Jesús Abaga Masie		-		Male
	352	Hipólito Engo		-		Male
	353	Pedro Angue		-		Male
	354	Bernardo Alogo Obiang		-		Male
	355	Crisantos Esono		-		Male
	356	Mª Carmen Mikue		-		Female
	357	Lucía Obono		-		Female
	358	Mari Cruz Nsang		-		Female
	359	Berta Angono		-		Female
	360	Eulalia Nchama		-		Female
	361	Victoria Ncara		-		Female
	362	Mª Jesús Ada		-		Female
	363	Milagrosa Ada		-		Female

CONSULTATIONS (PLACE AND DATE)		NAME	OCCUPATION	AGE	ETHNIC BACKGROUND	SEX
Okong-Oyek Kie-Ntem Province 30 January 2019 (PIL III field consultation)	364	Estrella Bindang		-		Female
	365	Victoria Mikue		-		Female
	366	Fortunato Osa		-		Male
Minang-Esandon Kie-Ntem Province 30 January 2019 (PIL III field consultation)	367	Bienvenida Nke				Female
	368	Prisca Nchama		-		Female
	369	Policarpo Edjodjomo		-		Male
	370	Román Esono Ndong		-		Male
	371	Rómulo Juan Edjodjomo		-		Male
	372	Victoria Nchama		-		Female
	373	Marisol Mangue		-		Female
	374	Leonardo Oyono		-		Female
	375	Ave María Ada		-		Female
	376	Amalia Ada Ela		-		Female
	377	Paula Mangue		-		Female
	378	Imelda Nsegue		-		Female
	379	Judith Abaga		-		Female
	380	Gaudencia Asangono		-		Female
	381	Concepción Asumu		-		Female
	382	Mª Auxiliadora Okomo		-		Female
	383	Raimundo Massa		-		Male
	384	Simón Pedro Bang		-		Male
	385	Ismael Akue Mboro		-		Male
	386	Miguel Esono		-		Male
	387	Clara Nfono Esono		-		Male
	388	José Mbaga Nculu		-		Male
	389	Apolonia Nfumu		-		Female
	390	Bienvenida Avomo		-		Female
Oyem-Ndong Cdo Kie-Ntem Province 30 January 2019 (PIL III field consultation)	391	Benjamín Miko Ndong		-		Male
	392	Benjamín Ayenfegue		-		Male
	393	Nicolás Mituy		-		Male
	394	Juan Obama Asumu		-		Male
	395	Angelina Eyang		-		Female

CONSULTATIONS (PLACE AND DATE)		NAME	OCCUPATION	AGE	ETHNIC BACKGROUND	SEX
Fourth Meeting of the Steering Committee of the Central African Forest Initiative project (CAFI), PNI-REDD+ validation workshop 6 February 2019	396	Ángeles Ngongomo	Ministry of Economy, Planning and Public Investments (MHEP)	-		Female
	397	Luciano Edu Ndong	MHEP	-		Male
	398	Pergentino Ona Edu	MHEP	-		Male
	399	Escolástica Nsia Akieme	Equatorial Guinea National Institute of Statistics (INEGE)	-		Female
	400	Mónica Nchama Mba	Equatorial Guinea National Institute of Statistics (INEGE)	-		Female
	401	Ponciano Edu Ndong	Ministry of Mines and Hydrocarbons	-		Male
	402	Antonio Sima Sima	MHEP	-		Male
	403	Pablo Esono Esono	National Institute for Forestry Development (INDEFOR)	-		Male
	404	Policarpo Monsuy Nguema	MHEP	-		Male
	405	Ilidio Mebulo Mohete	Horizonte 2020 National Agency for Equatorial Guinea (ANGE 2020)	-		Male
	406	Timoteo Obiang Ondo	MHEP	-		Male
	407	Teresa Maye Mdong Obono	MHEP	-		Female
	408	Trifonia Ayaga Monsuy	MHEP	-		Female
	409	Félix Esono Nguema	MHEP, Directorate-General for Economy	-		Male
	410	Isbelina Mangue Bikuy	MHEP	-		Female
	411	Rubén Darío Ngui Nsi	MHEP	-		Male
	412	Mario Nze Miko	MHEP	-		Male
	413	José Manuel Esara	National University of Equatorial Guinea (UNGE)	-		Male
	414	Julián Ekiri	FAO agronomy consultant	-		Male
	415	Luis E. Maye	Marathon EG Production Limited	-		Male
	416	Santiago Nvo Abaha	MHEP	-		Male
	417	Natividad Miaga Esogo	MHEP	-		Female
	418	Santiago Biyang Mba	Ministry of Agriculture, Livestock, Forests and Environment (MAGBOMA)	-		Male
	419	Feliciano Manuel Esono Nchama	National Institute for Environmental Conservation (INCOMA)	-		Male

CONSULTATIONS (PLACE AND DATE)		NAME	OCCUPATION	AGE	ETHNIC BACKGROUND	SEX
	420	Eleuterio Ekobo Lobete	Ébano newspaper	-		Male
	421	Ramón Bee Ngonga	National Institute of Statistics (INEGE)	-		Male
	422	Gabriel Ngua Ayecaba	MAGBOMA	-		Male
	423	Domingo Mbomio Nfono	MAGBOMA	-		Male
	424	Míriam Minerva Ondo Mbang	ECOGUINEA	-		Female
	425	María Úrsula Mitogo Akumu	MHEP	-		Female
	426	Dominica Nchama Minag Nzang	Atland Global	-		Female
	427	José Abeso Tomo	National Programme for Local Development	-		Male
	428	Fernando Ngomo	Directorate-General for Planning	-		Male
	429	María Elena Ada Nnang Obono	INDEFOR-AP	-		Female
	430	Pedro Mba Obiang Mbang	Ministry of the Interior and Local Corporations	-		Male
	431	Hipólito Yaye Alkantara	Ministry of the Interior	-		Male
	432	Faustino Andà Esono Asangono	FAO consultant	-		Male
	433	Milagrosa Asini Asumu Nnang	Directorate-General for Planning	-		Female
	434	Santiago Ntutumu Eko	MHEP	-		Male
	435	Pedro Malavo Nsene	MAGBOMA	-		Male
	436	Consolación Natividad Bindang	Friends of Nature and Development in Equatorial Guinea (ANDEGE)	-		Female
	437	Severo Meñe Nsue Mikue	UNGE	-		Male
	438	Domingo Ndama Ondo	Directorate-General for Planning	-		Male
	439	Diosdado Ondo Okomo	Directorate-General for Planning	-		Male
	440	Bonifacio Nguema Obiang	MHEP	-		Male
	441	Tomás Alogo Mbo	Ébano newspaper	-		Male
	442	Maximiliano Fero Meñe	UNGE, Department I	-		Male
	443	Vidal Ncogo Mangue	Ministry of Industry and Energy	-		Male
	444	José Manuel Abaga Mba	Ministry of Mines and Hydrocarbons	-		Male
	445	Antonio Ngonga Avomo	Ministry of Industry and Energy	-		Male

CONSULTATIONS (PLACE AND DATE)		NAME	OCCUPATION	AGE	ETHNIC BACKGROUND	SEX
	446	Fidel Esono Mba	INDEFOR-AP	-		Male
	447	Mónica Nchama Ndong	Ministry of Tourism	-		Female
	448	Diosdado Obiang Mbomio	MAGBOMA	-		Male
	449	Deogracia Ikaka Nzamio	Ministry of Fisheries and Water Resources	-		Female
	450	Policarpo Nve Nguema	Ministry of Mines and Hydrocarbons	-		Male
	451	Agustín Maba Obama	Ministry of the Interior and Local Corporations	-		Male
	452	Pascual Nvo Mangue	DGECN	-		Male
	453	Juan Alogo Mesa Abeme	Dgppe	-		Male
	454	Antonio Mincha Ondo Angue	INCOMA	-		Male
	455	Juan De Dios Mbang	Ministry of Fisheries and Water Resources	-		Male
	456	Martin Ipo Molongua	DFPP	-		Male
	457	David Monsuy Ndong A.	Ministry of Information	-		Male
	458	Rigoberto Esono Nvene	ANDEGE	-		Male
	459	José Armando	MAGBOMA	-		Male
	460	María Angue Mbenga Mangue	MAGBOMA	-		Female
	461	Francisca Macale	MAGBOMA	-		Female
	462	Modesta Ada Ndong	MAGBOMA	-		Female
	463	Laura Mariela Nsuga	MAGBOMA	-		Female
	464	Raúl Divino Ngomo Eneme	MAGBOMA	-		Male
	465	Carlos Ncogo Ntutumu	Ministry of Public Works, Housing and Urbanization	-		Male
	466	Marisol Nazang Nsue	MAGBOMA	-		Female
	467	Víctor Sima Sima Asong	MHEP	-		Male
	468	Adriano Ndong Nguema	MHEP	-		Male
	469	Crispín Engo Mikue	MHEP	-		Male

Ficus fruits. National Park of Pico Basile. Bioko Island.
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