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Report No: ICR00005509

IMPLEMENTATION COMPLETION AND RESULTS REPORT

(TF 016689)

ON A

GRANT

IN THE AMOUNT OF

US$ 7.521 MILLION

TO THE

REPUBLIC OF GABON

FOR THE

GABON - SUSTAINABLE MANAGEMENT OF CRITICAL WETLANDS ECOSYSTEMS

June 30, 2021

Environment, Natural Resources & The Blue Economy Global Practice
Western and Central Africa Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective {December 31, 2020})

Currency Unit	=	FCFA
1,988 FCFA	=	US$1

FISCAL YEAR
July 1 - June 30

Regional Vice President:	Ousmane Diagana
Country Director:	Abdoulaye Seck
Regional Director:	Simeon Kacou Ehui
Practice Manager:	Sanjay Srivastava
Task Team Leader(s):	Salimata D. Follea
ICR Main Contributor:	Ellen J. Tynan

ABBREVIATIONS AND ACRONYMS

AFD	French Development Agency
ANPN	*Agence Nationale des Parcs Nationaux/*National Park Agency
BC	Benefit-Cost
CIAR	Intelligence and Analysis Investigation Unit
CNPN	*Conseil National des Parcs Nationaux/*National Parks Council
CPF	Country Partnership Framework
CPS	Country Partnership Strategy
DGENP	*Direction Générale de l'Environnement et la Protection de la Nature/*Directorate for Environment and Nature Protection
EA	Environmental Assessment
EIA	Environmental Impact Assessment
EPI	Environmental Performance Index
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plans
GDP	Gross Domestic Product
GEF	Global Environment Facility
GIS	Geographic Information System
GNI	Gross National Income
GoG	Government of Gabon
ICR	Implementation Completion Report
IDF	Institutional Development Fund
IGA	Income-Generating Activities
ISR	Implementation Status and Results Report
IUCN	International Union for Conservation of Nature
LUP	Land Use Plan
M&E	Monitoring and Evaluation
MIST	Management Information System
NGO	Non-Governmental Organization
NPV	Net Present Value
NTFP	Non-timber Forest Products
PAMETT	Protected Area Management Effectiveness Tracking Tool
PARC	*Projet GEF / PARC: Renforcement des capacités pour la gestion des Parcs Nationaux et de la Biodiversité/GEF project for the Strengthening Capacity for Managing National Parks and Biodiversity*
PAZH	*Projet d'appui à la gestion durable des écosystèmes des zones humides critiques/* Sustainable Management of Critical Wetland Ecosystems project
PDO	Project Development Objectives
PLR	Performance and Learning Review
PSGE	*Plan Stratégique Gabon Emergent/*Strategic Plan for an Emerging Gabon
RIS	Ramsar Information Sheets
RSC	Ramsar Sub-committees
SCD	Systematic Country Diagnostic
SDG	Sustainable Development Goal
SEEG	Gabonese Electricity and Energy Company

SFM	Sustainable Forest Management
SLM	Sustainable Land Management
SM	Sustainable Management
SMART	Spatial Monitoring and Reporting Tool
SSA	Sub-Saharan African
STEP	Systematic Tracking of Exchanges in Procurement
ToC	Theory of Change
WII	Wetlands of International Importance
WWF	World Wide Fund for Nature

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DATA SHEET

BASIC INFORMATION

Product Information

Project ID	Project Name
P143914	GABON - SUSTAINABLE MANAGEMENT OF CRITICAL WETLANDS ECOSYSTEMS
Country	**Financing Instrument**
Gabon	Investment Project Financing
Original EA Category	**Revised EA Category**
Partial Assessment (B)	Partial Assessment (B)

Organizations

Borrower	Implementing Agency
REPUBLIC OF GABON	DGEPN

Project Development Objective (PDO)

Original PDO

The Development Objective of the proposed operation is to enhance protection of biodiversity in selected forested wetlands on the Ramsar list through knowledge creation and development of conservation measures for sustainable wetlands management.

FINANCING

	Original Amount (US$)	Revised Amount (US$)	Actual Disbursed (US$)
World Bank Financing			
TF-16689	7,521,000	7,521,000	7,125,048
Total	**7,521,000**	**7,521,000**	**7,125,048**
Non-World Bank Financing			
Borrower/Recipient	0	0	0
Total	**0**	**0**	**0**
Total Project Cost	**7,521,000**	**7,521,000**	**7,125,048**

KEY DATES

Approval	Effectiveness	MTR Review	Original Closing	Actual Closing
27-Mar-2014	29-Jul-2014	02-Feb-2018	30-Apr-2020	31-Dec-2020

RESTRUCTURING AND/OR ADDITIONAL FINANCING

Date(s)	Amount Disbursed (US$M)	Key Revisions
10-Apr-2020	6.17	Change in Loan Closing Date(s)

KEY RATINGS

Outcome	Bank Performance	M&E Quality
Satisfactory	Satisfactory	Substantial

RATINGS OF PROJECT PERFORMANCE IN ISRs

No.	Date ISR Archived	DO Rating	IP Rating	Actual Disbursements (US$M)
01	20-Apr-2014	Satisfactory	Satisfactory	0
02	29-Nov-2014	Satisfactory	Satisfactory	.55

03	19-May-2015	Satisfactory	Satisfactory	.82
04	07-Dec-2015	Moderately Satisfactory	Moderately Satisfactory	.96
05	03-Jun-2016	Moderately Satisfactory	Moderately Satisfactory	1.67
06	09-Dec-2016	Moderately Satisfactory	Moderately Satisfactory	1.88
07	03-May-2017	Moderately Satisfactory	Moderately Satisfactory	2.32
08	08-Dec-2017	Moderately Satisfactory	Moderately Satisfactory	3.23
09	01-May-2018	Moderately Satisfactory	Moderately Satisfactory	3.85
10	27-Aug-2018	Satisfactory	Satisfactory	4.16
11	16-Mar-2019	Satisfactory	Satisfactory	4.95
12	23-Oct-2019	Moderately Satisfactory	Satisfactory	5.46
13	08-May-2020	Moderately Satisfactory	Satisfactory	6.23

SECTORS AND THEMES

Sectors

Major Sector/Sector	(%)
Agriculture, Fishing and Forestry	**100**
Public Administration - Agriculture, Fishing & Forestry	29
Other Agriculture, Fishing and Forestry	71

Themes

Major Theme/ Theme (Level 2)/ Theme (Level 3)	(%)
Private Sector Development	**100**
Jobs	100
Environment and Natural Resource Management	**100**
Renewable Natural Resources Asset Management	75
Biodiversity	75
Environmental policies and institutions	25

ADM STAFF		
Role	At Approval	At ICR
Vice President:	Makhtar Diop	Ousmane Diagana
Country Director:	Gregor Binkert	Abdoulaye Seck
Director:	Jamal Saghir	Simeon Kacou Ehui
Practice Manager/Manager:	Benoit Bosquet	Sanjay Srivastava
Project Team Leader:	Salimata D. Follea	Salimata D. Follea
ICR Co Author:		Ellen J. Tynan

I. PROJECT CONTEXT AND DEVELOPMENT OBJECTIVES

A. CONTEXT AT APPRAISAL

Context

1. Gabon is a resource-rich country located on the west central coast of Africa and bordered by Equatorial Guinea and Cameroon to the north, the Republic of the Congo to the east and south, and the Atlantic Ocean to the west with the islands of São Tomé and Principe lying off its coast. Gabon is well endowed with arable land, forest, and mineral resources. It has extraordinary biodiversity as well as rich deposits of magnesium and iron ore. It is the fifth-largest oil producer in Sub-Saharan Africa and the second-largest exporter of manganese. Gabon is one of Africa's few middle-income countries. In 2019, after some drops in productivity in 2016 due to civil unrest and an ongoing drop in oil revenues, the country's gross domestic product (GDP) was an estimated US$16.8 billion. Gross National Income (GNI) per capita was estimated at US$7,170 in 2019, reflecting a drop in income from the time of appraisal (US$9,991).[1]

2. Demographic pressure on natural resources was low at the time of appraisal of the Sustainable Management of Critical Wetland Ecosystems project/*Projet d'appui à la gestion durable des écosystèmes des zones humides critiques* (PAZH or "the project") and remains so. In 2014, the country's population was approximately 1.8 million, growing to an estimated 2.1 million in 2019. Gabon is one of Africa's most urbanized countries: more than 85 percent of its population lives in urban areas, predominantly in Libreville (the capital), Port-Gentil (the economic capital), and Franceville (mining region). The Gabonese population is young, with 50 percent of individuals under 19 years of age. The rural population is widely dispersed over the hinterland, where access is difficult. With a per capita forest area of 15 hectares, the pressure of population on forest resources in Gabon is significantly less than in most African countries.

3. Despite its status as a middle-income country, about a third of Gabon's population is living in poverty. In rural areas, the rate of poverty is double that found in urban areas (approximately 60 vs 30 percent). However, because of its high urban population, the majority of poor people (76 percent) live in urban areas.[2] While the poverty rate dropped slightly since the time of appraisal, absolute numbers of those living in poverty have grown. In addition, the country's human development falls well short of the economy's potential. Gabon ranks quite low—100th out of 156—in progress on the Sustainable Development Goals (SDGs), mainly due to serious deficiencies related to health and work.[3]

4. In 2011, the government launched a new economic vision for the future (through to the year 2025): Emerging Gabon which remains the overriding plan for modernizing and diversifying the country's economy. The strategic plan (*Plan Stratégique Gabon Emergent*—PSGE, 2011-2016) focuses on accelerating growth and reducing poverty,

[1] World Bank. 2021. World Bank Databank: Gabon. https://data.worldbank.org/country/GA
[2] World Bank. 2020. Gabon Poverty Assessment. World Bank, Washington, DC. © World Bank. https://openknowledge.worldbank.org/handle/10986/33429 License: CC BY 3.0 IGO
[3] Ibid.

but also looks to capitalize on Gabon's comparative advantages at both the regional and global levels. The strategy is built on three pillars:

- Industrial Gabon, *Gabon Industriel*, with the aim of developing Gabon into a metallurgic and industrial center of excellence (optimizing oil and mining, construction, building materials, and agro-industrial transformation).

- Green Gabon, *Gabon Vert,* with three major goals:
  - Instituting sustainable forest management and transforming Gabon into a global leader in certified tropical timber production
  - Developing agriculture and livestock farming to improve food security
  - Creating sustainable and responsible fisheries

- Gabon Services, (*Gabon des Services*) with the objective of making Gabon a center of excellence in business, ecotourism, and value-added services, such as higher education and research, health, media, and information technologies.

5. At appraisal, the project was seen as falling within the overall purview of *Gabon Vert* in its overall approach to better understanding and managing some of Gabon's crucial natural resources and ecosystems.

Sectoral and Institutional Context

6. Gabon is endowed with exceptional biodiversity. As part of the Congo Basin rainforest ecosystem, the world's second-largest area of contiguous rainforest, Gabon has rich faunal and floral wildlife, a variety of landscapes, and an 800-kilometer (km) coastline. Gabon contains three terrestrial ecoregions defined by the World Wide Fund for Nature (WWF) as the world's best examples of each major habitat type: the Congolian Coastal Forest, the Northwestern Congolian Lowland Forests, and the Western Congolian Forest-Savanna Mosaic. In addition, there are significant stands of Central African mangroves along the coast and patches of Congolian-Zairean swamp forests in the northeast. Several priority freshwater systems occur within the country, as well as littoral and marine ecosystems.

7. At the time of appraisal, the 2012 Environmental Performance Index (EPI) had recently named Gabon the most environmentally sustainable nation in Africa (and 40th in the world).[4] This high score was achieved because, among other reasons, Gabon's biodiversity is largely intact and because a large portion of its national territory has been placed under environmental protection. Consequently, Gabon is less likely than any other African nation to experience major environmental deterioration in the short and medium term. The current ranking has dropped to 76th overall, but the ranking is comparable with those of other country's with similar GDP, and Gabon still ranks high among Sub-Saharan African (SSA) countries.

8. As at the time of appraisal, environmental protection in Gabon still rests with the *Direction Générale de l'Environnement et la Protection de la Nature* (DGEPN). The DGEPN was established in 1985 under a decree creating

[4] The EPI ranks countries on performance indicators tracked across policy categories that cover environment and health, and ecosystem vitality. The indicators gauge at a national level how close countries are to established environmental policy goals.

the Ministry of Environment. Its mandate is to: (i) implement national environmental policy; (ii) protect the environment (aquatic, terrestrial, rural, urban, flora, fauna); (iii) carry out environmental impact assessments and management and monitoring plans for industrial activities; (iv) conduct ecosystem research and monitoring; (v) control pollution; and (vi) develop local capacity for environmental monitoring and protection. The DGEPN is also responsible for collaborating with relevant government services and institutions in matters of environmental protection, improvement, education, legislation, and regulation.

9. National parks continue to be the responsibility of the National Parks Agency/*Agence Nationale des Parcs Nationaux* (ANPN). Law 003/2007 established both the ANPN and the National Parks Council/*Conseil National des Parcs Nationaux* (CNPN). (The latter is an interministerial government committee that oversees the management of the park network.) The country's national park system is extensive, due in large part to the 2002 creation of a network of 13 national parks covering 28,371 km²—10.6 percent of Gabon's surface area. At the time of the project's design and appraisal, the $10 million Global Environment Facility (GEF) grant (the so-called PARC project - *Projet GEF / PARC : Renforcement des capacités pour la gestion des Parcs Nationaux et de la Biodiversité*), administered by the World Bank, was just closing. The PARC project helped ANPN define roles and operationalize modalities and set up important systems for the agency to function effectively including fiduciary management, human resources management, and monitoring and evaluation (M&E), thereby enhancing biodiversity management within the parks.

10. However, biodiversity management outside the national parks network at the time of project appraisal remained a challenge. The increasing awareness that biodiversity and ecosystem services also needed to be preserved outside the national parks was a key basis for the project's design and development. Within the larger context of biodiversity management, the preservation of critical wetlands was identified by the Government of Gabon (GoG) as an area of key concern, particularly given wetlands provision of major ecosystem functions. Worldwide, planners and decision makers at many levels are often not fully aware of the connections between wetland conditions and the effective provision of wetland functions - often of substantial economic value (Box 1).

Box 1. Key Ecosystem Benefits of Wetlands

Wetlands are critical ecosystems and sustain long-term growth. Wetland ecosystems are a significant part of natural wealth. At a global scale, they provide services worth trillions of U.S. dollars every year, making a vital contribution to human health and well-being. Important essential ecosystem functions delivered by wetlands are listed below.

- Provisioning services: products such as freshwater, fish, prawns, seaweed, fruit, grain, wild game, fiber, fuel, building materials, natural medicines.
- Regulating services: benefits such as climate regulation, natural hazard regulation (droughts, floods, and storms), water purification, and waste treatment.
- Cultural services: nonmaterial benefits such as beautiful places for recreation and education, and places of religious significance.
- Supporting services: nutrient cycling, sediment retention, and provision of habitats.

Source: www.ramsar.org

11. In Gabon, wetland ecosystems are critical in the provision of drinking water and energy to major urban centers, and in sustaining fisheries production. For example, the Mbé watershed, one of the most economically important wetlands in Gabon, is the sole source of fresh water for the population living in the capital city, Libreville. In addition, Libreville's principal electricity source is a hydroelectric plant on the Mbé operated by *Société d'Energie et d'Eau du Gabon* (SEEG). The Mbé forest provides other ecosystem services, as well as, reducing siltation in two artificial lakes

that feed the hydroelectric plant. The forests also regulate water flow and prevent flooding. Coastal mangroves are vital to the fishing industry in Gabon and beyond, as they constitute an irreplaceable habitat for fish breeding.

12. Gabon has been a party to the Ramsar Convention on Wetlands of International Importance (WII) since 1987. With three Gabonese sites initially registered on the WII list, the country now has nine sites registered. Those sites represent a wide variety of aquatic ecosystems (mangroves, savannas, waterfalls and rapids, lagoons, rivers, and lakes) of more than 2.8 million hectares (Table 1). Despite the political commitment implicit in adhesion to the Convention, only limited action had been taken at the time of appraisal to operationalize the Convention's pillars. Prior to the development of the project, the government of Gabon had set new priorities for biodiversity preservation clearly targeting the WII. Accordingly, the government decided to use its entire allocation under GEF-5 to foster progress on WII management providing a strong institutional commitment for the project. DGEPN chose the particular wetlands to be included in the project (highlighted in Table 1) based on: (i) the importance of wetland ecosystem services for local populations (including for climate change adaptation and mitigation); (ii) the threats to wetland ecosystems from competing land uses (forestry, mining, agriculture); and (iii) conservation initiatives already undertaken at the sites[5].

13. From a global and regional perspective, the selected sites are also exceptional: : (i) Setté-Cama and Petit Loango are among the most productive lagoons on the Atlantic coast of Africa and home to the critically endangered large-tusked forest elephants; (ii) Birougou is on the tentative list of World Heritage sites for traditional knowledge, it is the water tower of the country and habitat of key species; (iii) the Bas-Ogooué comprises both a marine and an interior delta and constitutes the second most important river and watershed in the ''Congo Basin" forests and was pre-selected in 2001 to include the national parks network. All of these sites are habitats for viable populations of key endangered species such as elephants, chimpanzees, gorillas, etc. In addition, biodiversity, carbon stocks and ecosystem services provided by Gabonese landscapes, in particular wetlands, whether in logging, mining or oil concessions outside of formal protected areas, are almost always higher than in most protected areas in Central and West Africa.

Table 1. Ramsar Sites in Gabon (Project sites in ***italics***)

Name	Surface Area (ha)	Registration Date
Wonga-Wongué	380,000	December 30, 1986
Petit Loango	480,000	December 30, 1986
Setté-Cama	220,000	December 30, 1986
Akanda	54,000	April 2, 2007
Pongara	92,969	April 2, 2007
Monts Birougou	536,800	April 2, 2007
Bas Ogooué	862,700	April 2, 2009
Falls on the Ivindo river	132,500	April 2, 2009
Falls of Mboungou Badouma and Doumé	59,500	April 2, 2009

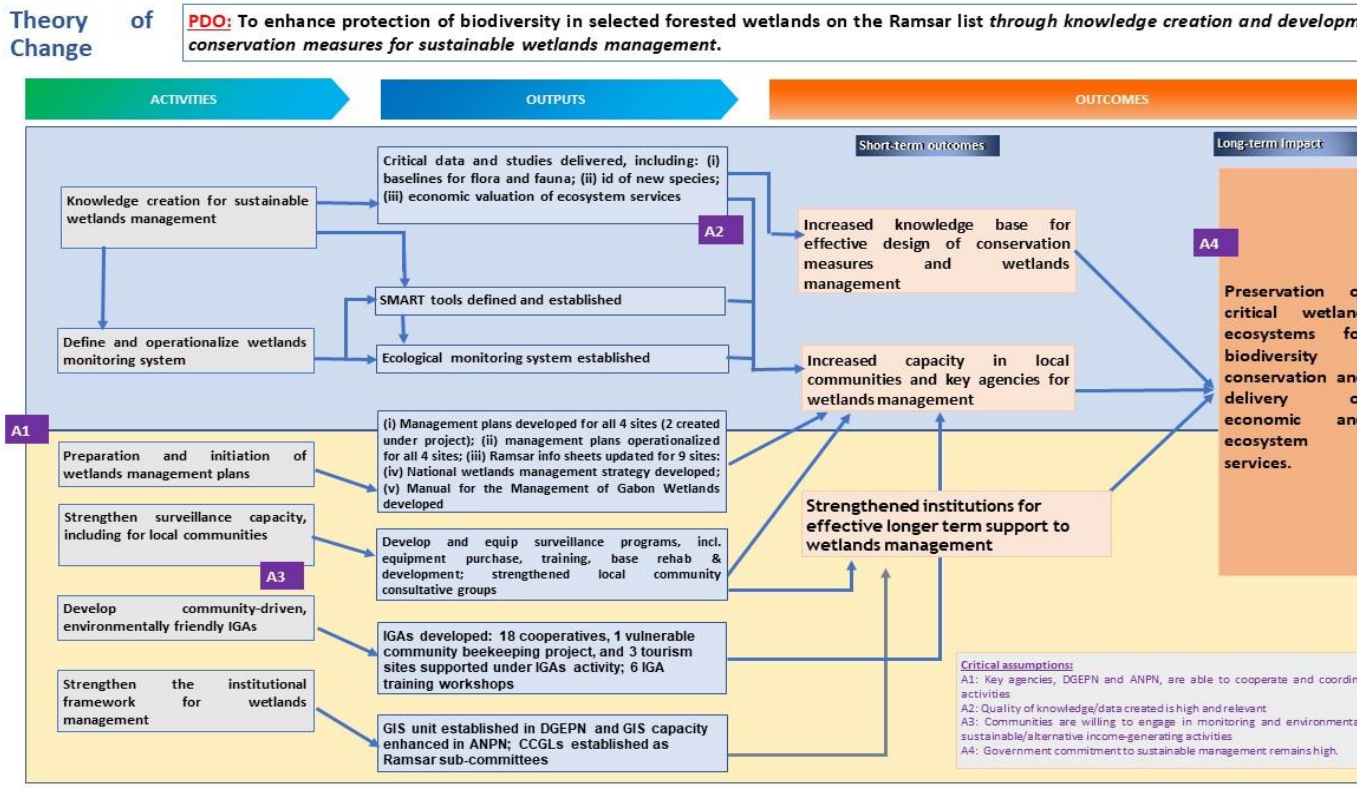
[5] Gabon: Sustainable Management of Critical Wetland Ecosystems, Project Appraisal Document. World Bank: AFTN1. March 14, 2014. p. 8.

14. **NB**: While four sites, as highlighted above, were chosen as priority sites, due to the fact that Setté-Cama and Petit Loango are contiguous and, for conservation purposes are often seen as one eco-zone or WII, the Project Appraisal Document (PAD) typically referred to these two sites as one WII, thus primarily referring to the project as addressing three sites. Thus, the ICR will follow the PAD in referring typically to three sites being covered under the project. Whenever the four sites are referred to, as with regard to particular intermediate outcome indicators, the report will clarify why four sites rather than three were used for the indicator.

Theory of Change (Results Chain)

15. While a Theory of Change (ToC) was not developed at the time of the project, the PDO and project design allow for a clear picture of the desired chain of actions and results. Recognizing the importance and value of preserving biodiversity and properly managing wetlands for a range of environmental and economic reasons, the project focused on: (i) enhancing the state of knowledge on wetlands in order to develop a strong base upon which to develop conservation measures; (ii) building capacity within needed agencies and support to local communities to ensure management effectiveness for biodiversity conservation and planning, including awareness raising; and (iii) strengthening the institutional framework to ensure effective policies and institutions for ongoing support to wetlands management, including the capacity for critical mapping – all within the context of a landscape approach.

Table 2: Theory of Change



Project Development Objectives (PDOs)

16. The PDO aims to enhance protection of biodiversity in selected forested wetlands on the Ramsar list through knowledge creation and development of conservation measures for sustainable wetlands management.

Key Expected Outcomes and Outcome Indicators

17. The PDO can be broken into two objectives or outcomes - to enhance protection of biodiversity in selected forested wetlands on the Ramsar list through: (i) knowledge creation; and (ii) development of conservation measures for sustainable wetlands management.

18. The project's PDO-level indicators apply to the project's major objectives as follows:

- Objective 1: *Enhance protection of biodiversity in selected forested wetlands on the Ramsar list through* ***knowledge creation*** is measured through PDO Indicator 1: Ecosystem services valuations are undertaken for each selected site.

- Objective 2: *Enhance protection of biodiversity in selected forested wetlands on the Ramsar list through* ***development of conservation measures for sustainable wetlands management*** is measured through PDO Indicator 2: Management plans are prepared for each selected site and under implementation; and PDO Indicator 3: A national wetlands management strategy is developed.

Components

Component 1: Generating Knowledge and Monitoring Selected Critical Wetland Ecosystems (Estimated: US$0.600 million; Actual: US$0.590 million)

19. Component 1 was designed to generate knowledge on wetlands in Gabon and set up a reliable monitoring system to produce early warnings on potential alterations of wetland ecosystems. The component was divided into two subcomponents.

Subcomponent 1.1: Knowledge Creation on Wetland Ecosystems

20. This subcomponent supported research into the biological wealth and socio-economic dimensions of Gabon's wetland ecosystems. The research identified and quantified the multiple ecosystem services delivered by the wetlands. The ultimate goal of the information was to help decision makers better understand the importance of wetlands and potential trade-offs with other competing activities (with a specific focus on forested wetlands).

21. Targeted research focused on three selected Ramsar WII sites: Petit Loango/Setté-Cama[6], Monts Birougou, and Bas Ogooué. The research program compiled existing information and identified research needed for priority issues. With guidance from the Ramsar Handbooks,[7] the environmental and socio-economic research was prioritized and

[6] Please note that Petit Loango/Sett**é**-Cama are contiguous sites which, due to their serving as one ecological zone, are often referred to in project documentation as one WII site. However, for certain outcome indicators they are referred to separately.
[7] Ramsar Convention Secretariat, "Wise Use of Wetlands: Concepts and Approaches for the Wise Use of Wetlands," *Ramsar*

overseen by a DGEPN research coordinator (in consultation with ANPN) in the three selected WII sites. Research activities, conducted jointly by national and international research entities, included: (i) diagnostic studies, (ii) economic valuation of services delivered by wetlands ecosystems, and (iii) research on traditional uses of natural resources (including medicinal plants) contributing to the sustainable use of natural resources.

Subcomponent 1.2: Monitoring System for Wetland Ecosystems

22. This subcomponent focused on defining and operationalizing the most appropriate monitoring system for ecological, physicochemical, and socio-economic characteristics of the wetlands in Gabon. The ANPN developed management plans, including monitoring strategies, for the national park areas close to or within the project's Ramsar sites. Accordingly, the project built on the monitoring-system work already done by the ANPN in the Petit Loango and Monts Birougou national parks.

23. The development and implementation of the monitoring system for Gabon's Ramsar sites was overseen by the DGEPN research coordinator and informed by the Ramsar Handbooks. DGEPN and ANPN worked to ensure that the information and data captured under Component 1 facilitated the development of an appropriate monitoring system for the sites. Consultations were also undertaken with team's working on the *Agence française de développement* (AFD) -supported project in the Akanda and Pongara Ramsar WII sites to share lessons and promote consistency in the development of monitoring systems.

Component 2: Support for Sustainable Management of Selected Critical Wetland Ecosystems (Estimated: US$3.110 million; Actual: US$3.00 million)

24. The priority under this component was to promote sustainable management of critical mangrove ecosystems through the following three subcomponents:

Subcomponent 2.1: Planning for Sustainable Management of Selected Sites

25. The project selected Ramsar sites in Gabon were quite varied in terms of their legal status, geographical and hydrological features, and the type of pressures they faced. At the time of project development there was no management plan (or any planning tool) that appropriately defined modalities to support sustainable management of the wetland ecosystems. To that end, guided by the Ramsar Handbooks and in consultation with other government agencies and development partners active in the sites, this subcomponent focused on the preparation of management plans for the selected Ramsar sites, based on extensive consultative work at those sites and on the results of the research activities undertaken in Component 1.

26. Implementation of Subcomponent 2.1 required cross-sector consultation, including with: (i) the General Directorates of Forests, Fauna and Protected Areas for information on sustainable forest management (SFM) opportunities in the selected sites; (ii) the AFD-supported Forest Management Verification project focused on reinforcing forestry management capacity, which included, among other things, forestry best practices and forest information communication; (iii) the General Directorate of Fisheries and Aquatic Ecosystems for input on local fisheries improvement possibilities; and (iv) the General Directorate of Agriculture for input on agricultural

Handbooks for the Wise Use of Wetlands, 4th edition, Volumes 1–20. Gland, Switzerland: Ramsar Convention Secretariat, 2010.

production possibilities and opportunities to increase local capacity for SLM.

Subcomponent 2.2: Strengthening Surveillance Capacities in the Selected Sites

27. The goal of this subcomponent was to enhance monitoring of sites and reinforce the capacity of local people in the three selected WII sites to monitor wetland activities through:

- Provision of appropriate equipment and infrastructure to reinforce capacities of local staff to perform monitoring in the selected sites, with said equipment including vehicles, boats, camping equipment, and staff quarters.
- Training of local staff in monitoring activities, such as the training delivered to ecoguards in the national parks under the previous GEF-financed project and including conservation software systems such as MIST/SMART[8] already used by the ANPN to monitor the national parks.
- Engagement of local communities in wetland monitoring through regular consultation with management committees in local communities, technical assistance (on fisheries, for example), and other education and awareness-raising activities.

Subcomponent 2.3: Environmentally Friendly, Community-Driven Activities in Wetlands

28. This subcomponent was designed to help communities adjacent to the selected Ramsar sites develop income-generating activities for sustainable wetlands management. As appropriate, activities were conducted in partnership with local communities, including indigenous populations. Work was also conducted in collaboration with NGOs and government entities, notably those responsible for tourism development, forestry, fisheries, and agriculture. The project's design included possible tourism-support activities such as infrastructure improvement and development (access roads, campsites, docks, boat ramps, watch towers) and support to community or private enterprises (restaurants and concession stands, lodges, nature guides, transportation services). The project's design also included support to other activities such as: fisheries development, fiber harvesting, apiculture, plant nurseries, horticulture, transformation of agricultural products, livestock rearing, and development of nontimber forest products. An income-generating manual guided the selection, implementation, and closing of income-generating activities.

Component 3: Strengthen Institutional Framework to Support Wetlands Management (Estimated: US$3.326 million; Actual: US$3.04 million)

29. This component focused on establishing an institutional framework favorable to the sustainable management of the WII in Gabon at both the national and local levels.

30. The project established a memorandum of understanding with the Ramsar Convention to provide technical assistance to DGEPN to develop and implement a national institutional framework for the management of Gabon's network of Ramsar sites. With guidance from the Ramsar Handbooks, analyses were undertaken to: (i) assess the existing policy framework for wetland protection in Gabon; and (ii) assess the institutional structures currently

[8] SMART (Spatial Monitoring and Reporting Tool) and MIST (Management Information System) are software tools used to assist protected-area wildlife law enforcement and site-based conservation activities.

governing each WII site. The studies proposed recommendations to strengthen policy and institutional frameworks to better achieve wetland protection objectives. With support from the Ramsar Convention (and based on the data analysis and information obtained in Component 1 and the work on priority setting and resource use planning of Component 2), this component developed a national wetlands strategy in consultation with appropriate agencies.

31. Mapping capacity within the DGEPN was strengthened to generate wetland maps geocoded with environmental and socio-economic data (see Subcomponent 1.1). As a basic modality for integrated natural resource management, teams conducted environmental audits of industrial operations (mining, forestry) in and around the three WII sites. To that end, the component also financed technical assistance to strengthen the DGEPN's capacity by providing specialists in environment, fisheries, and social development. These specialists provided expertise to both the DGEPN and ANPN.

Component 4: Project Management, Monitoring, and Evaluation (Estimated: US$0.485 million; Actual: US$0.480 million)

32. This component supported the overall daily administration of the project to ensure that regular M&E was carried out and that results fed back into decision making on project implementation. As the DGEPN was responsible for the overall administration, coordination, and implementation of the project, Component 4 supported the DGEPN through the recruitment of: (i) a specialist/assistant in procurement, (ii) a financial management specialist/assistant, and (iii) a specialist/assistant in M&E.

B. SIGNIFICANT CHANGES DURING IMPLEMENTATION (IF APPLICABLE)

Revised PDOs and Outcome Targets

N/A

Revised PDO Indicators

N/A

Revised Components

N/A

Other Changes

33. The project closing date was extended by eight months from April 30, 2020 to December 31, 2020.

Rationale for Changes and Their Implication on the Original Theory of Change

34. At the request of the government (received March 12, 2020) the project closing date was extended by eight months. This extension was needed due primarily to implementation delays as a result of: (i) the security situation after the 2016 elections; and (ii) changes to public bank accounts which required project accounts to be closed and then re-opened under the new location and system. These delays coupled with the COViD-19 pandemic and some smaller delays in the implementation of specific activities necessitated the extension. The extension of the closing date was necessary to ensure the achievement of key project results and thus had no adverse effect on the ToC.

II. OUTCOME

A. RELEVANCE OF PDOs

Assessment of Relevance of PDOs and Rating

35. At the time of appraisal, a country partnership strategy (CPS) was in place for the period FY2012-2016. The CPS was developed within the context of the country's overall Strategic Plan for an Emerging Gabon (*Plan Strategique Gabon Emergent* - PSGE) originally formulated in 2005 and discussed above. The CPS sought to support the country's vision as outlined in the PSGE while bolstering efforts to address poverty and governance, among other issues. In its support of the PSGE, particularly with regard to the Green Gabon/*Gabon Vert* pillar[9], as well as in its support to 'more transparent and sustainable management of natural resources,'[10] the CPS clearly recognized the essential role of sustainable management of natural resources for the long-term economic and environmental health of the country. The PDO of the project is in line with both of these national strategies in supporting the transition of the country's economy from one inextricably linked to dependence on oil extraction to one more broadly supported by other sectors, including tourism, fishing, and agriculture – all of which are linked to the recognition of the value of wetlands and their sustainable management.

36. As a new country partnership framework (CPF) is still under development, the CPS of 2012-2016 is still applicable. However, the Systematic Country Diagnostic (SCD) (published June 2020) which contributes to the CPF process, provides a more up-to-date picture of the country and indicates a similar approach to supporting the country, including continued efforts to diversify growth, increase the efficiency of social programs and strengthen social protection within a framework of environmental sustainability. The SCD outlines a number of risks related to global warming and sea level rise, including coastal erosion, flooding, impacts on fish populations and the need for greater resiliency[11]. The project's PDO is oriented towards both understanding the role and value of wetlands in helping to mitigate these types of risks and to building the capacity and structures necessary to properly manage these ecosystems to help build resiliency in the longer-term. Safeguarding these wetland ecosystems also helps to protect the socio-economic benefits derived from properly managed natural resources, including support to nearby communities with regard to improved management of fisheries, forests, and water resources. The project's goal of supporting communities living within and near the wetlands is also in line with the goals of poverty reduction and economic diversification, particularly with regard to project activities related to tourism support and development and the institution of diverse income-generating activities.

37. A Performance and Learning Review (PLR) was completed in March of 2016 for Gabon. The PLR confirmed that Outcome 5 of the CPS: Achieving more transparent and sustainable management of natural resources was achieved.[12] The project contributed directly to this outcome. In addition, the project contributed to GEF-5 stated objectives related to Biodiversity, Land degradation and sustainable forestry management (SFM), specifically BD-1, LD3 and SFM/REDD+. The project also was well aligned with the GEF-7 Strategy on Biodiversity which looked to mainstream biodiversity across different sectors, address direct drivers to protect habitats and species, and further develop biodiversity policies and institutional frameworks[13]. Given the continued alignment of the PDO to the current and future needs for the country as outlined in the CPS, PLR and SCD, relevance of the PDO is rated as High.

[9] *Gabon Vert*, the second pillar of the PSGE, outlines the need for the sustainable management and development of natural resources in the country, particularly in the agriculture, timber production and sustainable fisheries.
[10] World Bank. (2012). Country Partnership Strategy for the Gabonese Republic (FY2012-FY2016).

B. ACHIEVEMENT OF PDOs (EFFICACY)

Assessment of Achievement of Each Objective/Outcome

38. The project focused on enhancing protection of biodiversity in selected forest wetlands on the Ramsar list through two main objectives focused on both knowledge creation and utilizing the results of the studies as well as other work, in the development of conservation measures for sustainable management of the wetlands. The project made a substantial contribution to enhancing the protection of biodiversity in the selected wetlands as illustrated by the following achievements.

Objective 1: Enhancing protection of biodiversity in selected forest wetlands on the Ramsar list ***through knowledge creation. (Rating: High)***

39. Objective 1 was measured primarily through the achievement of PDO Indicator 1: "Ecosystem services valuations are undertaken for each selected site" as well as through the achievement of intermediate outcome indicators (IRI: 1.1 & 1.2) and the successful completion of **activities under Component 1**: "Improved knowledge and monitoring of the ecosystems of selected critical wetlands." In support of achieving PDO 1, the project successfully completed ecosystem services valuations for each selected site, providing the government with a clearer picture and understanding of the important role the wetlands play not only in protecting biodiversity, but in reducing economic vulnerability, as well. Key findings were disseminated in 2018, including through a workshop with stakeholders from government agencies, and research and non-governmental organizations. One key finding of the economic valuation of the three Ramsar Wetlands of International Importance (WII) sites -- Bas Ogooué, Monts Birougou, and Petit Loango/ Setté-Cama -- showed that the value of avoided loss of ecosystem services due to conservation of the 4 Ramsar sites amounted to between 25 and 35 billion FCFA. The valuation took into account an assessment of 6 priority services, namely fishery products, hunting products, biomass fuel, global climate regulation, water regulation, and erosion protection.

40. Through undertaking new research, supporting ongoing research and implementing an ecological monitoring system, the project made a truly impressive contribution to increasing the state of knowledge for the targeted wetlands in Gabon. From assisting in finalizing one earlier study to the completion of comprehensive mapping activities for flora, fauna and ecosystems, the project significantly increased the baseline knowledge of biodiversity for these wetlands. For example, monitoring activities for rivers and deltas in Bas Ogooué, and other wetland areas resulted in the discovery of dozens of new species of fish, as well as mapping the dynamics of the river and delta systems, fish movements throughout the systems, fish breeding and nursery areas, etc. With these data, an early warning system in the event of deterioration of these environments was developed and effectively implemented. The information also informed the government's national strategy on wetlands which is currently awaiting signature by the president which will help to achieve policy change based on research findings in the longer term.

41. The project fully achieved the work under Indicator 1.1 – "A research scheme for the three selected Ramsar sites is developed and being implemented." The research program that was developed and successfully implemented first

[11] World Bank. (2020). Gabon: Increasing Economic Diversification and Equalizing Opportunity to Accelerate Poverty Reduction – Systematic Country Diagnostic. (pp 67-69).
[12] World Bank. (2016) Performance and Learning Review of the Country Partnership Strategy for the Republic of Gabon (FY12-16). (p. 13).
[13] GEF. (2018) Biodiversity Focal Area Strategy. (p. 2)
https://www.thegef.org/sites/default/files/documents/GEF_BiodiversityStrategy%202018_CRA_bl1_0.pdf

determined priority information gaps that needed to be filled and then initiated eight specific studies, the results of which made it possible to increase the available historical data by nearly 25%. In total, the project conducted nine studies focused on *inter alia*: (i) environmental services of wetland ecosystems, (ii) wetland habitats; (iii) wetland fauna, including birds, fish, and large aquatic species; and (iv) flora and fauna of mountain wetlands. Studies were conducted in all project Ramsar sites with results published and disseminated widely. For example, the project substantially supported the completion of the necessary research and publication of "The Bas Ogooué Delta"[14] – a comprehensive, full-color guide to the delta, including its people and history, flora, including vegetation mapping developed under the project, and comprehensive surveys and ecological data on the delta's mammals, birds, fish, amphibians, and reptiles. The guide also includes the current state of conservation and strategies for enhancing conversation efforts. All the work was done to the highest international standards.

42. The project also supported the completion of all necessary research and proposal development for the application of Bas Ogooué under the UNESCO Biosphere Reserve program. The International Union for Conservation of Nature (IUCN) worked within the context of the project to prepare the "*Formulaire de proposition de réserve de biosphère: « Réserve de biosphère du bas Ogooué* »" includes all necessary data for Biosphere Reserve approval, including comprehensive GIS mapping exercise of ecological zones, their interactions, protected areas and human settlements, etc. which can be utilized for conservation work as well as for eventual submission to UNESCO should the government so choose.

43. Indicator 1.2 – "An ecological monitoring system of wetlands is implemented" -- was fully achieved. Studies carried out in the first phase of the project made it possible to compile the baseline data necessary for the implementation of an ecological monitoring program for wetlands. (See Annex 1a for outputs). In addition, the project supported the implementation sites of the SMART (Spatial Monitoring and Reporting Tools) - already established by ANPN. The work also supported cooperation and collaboration among agencies as it was conducted through joint missions, allowing decentralized teams from fisheries, forestry, the gendarmerie, and DGEPN to work with ANPN, utilizing their transport and facilities, and gaining experience on the ground.

44. The creation of a network of marine and coastal protected areas: The 13 national parks network created in 2001 has been extended with nine marine parks and 11 aquatic reserves in 2017, with several of them overlapping or directly linked with the project targeted wetlands: Bas-Ogooué (marine parks of Cap Lopez, embouchures de l'Olende et de l'Ozouri and aquatic reserves of Delta de l'Ogooué, Canyons du Cap Lopez and Mandji-Etimboué) and Setté Cama / Petit Loango (marine parks of embouchures de Setté -Cama and Nyanga and aquatic reserve of Koumandji). The studies carried out within the project framework directly contributed to the extension of the protected areas network in the country.

<u>Objective 2:</u> Enhancing protection of biodiversity in selected forest wetlands on the Ramsar list **through development of conservation measures for sustainable wetlands management. (*Rating: Substantial*)**

45. Objective 2 was measured primarily through the achievement of PDO Indicator 2: "Management plans are prepared for each selected site and under implementation;" and PDO Indicator 3: "A national wetlands management strategy is developed," as well as through the achievement of intermediate outcome indicators and the successful completion of **activities under Component 2**: "Support for the sustainable management of ecosystems in selected critical wetlands" and **Component 3**: "Strengthening the institutional framework for the management of selected wetlands."

[14] Vande weghe, Jean P. & Stevart, T. (eds), The Ogooué Delta 2017). Missouri Botanical Gardens.

46. The project made significant progress and achievements with regard to enhancing biodiversity protection through the development of conservation measures for sustainable wetlands management as borne out by the successful achievement of all but one project indicator as well as significant positive changes in behavior and destructive anthropogenic activity in wetlands both within and outside of protected areas. Involvement in IGAs increased access to non-destructive activities and related income which have a good likelihood of helping to maintain changes in community behavior. A significant issue for enhancing biodiversity within wetlands in Gabon is that a wide array of resources and ecosystems exist outside of the protected area system.[15] This meant the project needed to undertake institutional strengthening and capacity building, not only within ANPN which manages parks and protected areas, but within DGEPN and community-based organizations, as well. In addition, given the amount of WII area outside of protected areas, public awareness, education, and acceptance of conservation measures in communities dependent on the wetlands were key to ensuring the success of surveillance and monitoring activities. Through development and implementation of a wide-range of conservations measures from management plans to improved surveillance and income-generating activities, the project supported on-the-ground achievements, such as the removal of illegal gold mining sites, strengthened community organizations, and direct support to economic activities that sustainably benefit from wetlands' resources and/or non-extractive activities.

47. Successful implementation of **activities under Component 2** made it possible to significantly strengthen surveillance within the project sites, through anti-poaching missions, supported by: the provision of logistical resources, including the constructing and equipping surveillance antennas ('Ashouka and Nengué Ntogolo in Bas-Ogooué); procurement of motorized boats, field vehicles, and field surveillance equipment; and the recruitment of additional eco-guards. Capacity building activities, e.g., training of ecoguards, made it possible to fully and effectively operationalize the surveillance system. In addition, the project facilitated enhancement of the monitoring system, including dividing the Ramsar sites into monitoring sectors, in order to identify areas experiencing high pressure, to create more effective monitoring. The Project contributed to the establishment of a strategic surveillance methodology which consists of dispatching: (i) mobile patrols (surveillance), (ii) fixed patrols (control), (iii) investigative patrols / intelligence, (iii) targeted patrols (or intelligence patrols), and (iv) promotion of awareness of regulatory compliance. The implementation of this surveillance system used 40 patrollers on a permanent basis, to this number is added the periodic participation of the National Gendarmerie, the contributions of eco-guards from other parks, the mobile anti-poaching team, and the Intelligence and Analysis Investigation Unit (CIAR).

48. The surveillance programs for Petit Loango/Setté-Cama and Monts Birougou were operationalized under the project, having been previously established within the context of the National Parks monitoring system. The surveillance/monitoring program for Bas Ogooué, however, was fully designed, equipped, and operationalized under the project. (See Annex 1b for activity-related outputs.) Successful functioning of these programs has already been observed. For example, the monitoring system in place in Bas Ogooué allowed for early detection of a tilapia die-off in the Ogooué river which allowed for rapid response by DGEPN and other agencies. In Monts Birougou, the surveillance and enforcement activities undertaken with the support of the project, including joint missions with the gendarmerie and CIAR, resulted in the removal of illegal gold mining and poaching activities from the central and western areas of the Monts Birougou Ramsar site and the protection of over 71, 330,000 ha of forests that were formerly being damaged and threatened by these illegal activities. Gorillas and other endangered species have begun to return (as confirmed by surveillance reports) illustrating a significant achievement for the overall project

[15] Although Gabon has a relatively high percentages of lands placed under protection (over 22% of total land area in 2018).

development objective of enhanced biodiversity in the Ramsar wetlands.

49. Logistical issues (lack of available aircraft to reach the remote site) meant that the planned surveillance platform at the center of Monts Birougou National Park could not be completed. However, the project was able to complete the construction and operationalization of a forward monitoring station at Moukimbi, identified as an area of heavy human pressure. Operationalizing the surveillances systems in all sites, has meant that the SMART system is now being utilized in all sites which, along with the increased patrols, has allowed for a significant decrease in poaching and other wildlife crime. Anti-poaching and other activities will continue to be supported by ANPN in sites with National Park status and the Bas Ogooué site will continue to be monitored within the framework of a sponsorship by the Presidential Reserve/Ramsar Site of Wonga Wongué. Setté-Cama will also benefit from this twinning approach and surveillance and monitoring will be sponsored in the future under the Loango National Park.

50. The development of income-generating activities (IGAs) (Sub-component 2.3) was seen as an essential element to sustainable management of the wetlands as IGAs directly support communities adjacent to the Ramsar sites, increase economic security, and build awareness of the importance of wetlands resources. The project disbursed close to 400 m CFA (approx. US$742,000) to support IGAs in the project sites along with 15 m CFA (approx. US$28,000) for technical assistance and training. Activities were supported in fisheries and aquaculture, organic agriculture, non-timber forest products (NTFP) (soap making, honey production), and ecotourism. (See Annex 1b for outputs.) IGAs were highly varied depending on the region and their choice and design were driven by the participants. The number of participants exceeded expectations due to the success of early phases of the activity and the drive of local community members to join associations and benefit from the activities.

51. The project's action plan for indigenous peoples identified the Babongo population from Mouyiki to Mbigou as a sensitive population and, as such, the community was specifically targeted for IGA support. The community chose apiculture as the IGA they wished to receive training and support on, and the project has supported: training in beekeeping, including ongoing Technical Assistance by DGEPN staff; construction and installation of thirty-three beehives, purchase of protective equipment; and packaging and marketing materials. Honey production is ongoing. IGAs have increased income for project beneficiaries as well as supported the development of cooperatives and increased awareness of wetland benefits. Participants from IGAs supporting fishing and fish processing in Lambaréné, local development of tourism in Setté-Cama, support to artisanal products in the Notre Dame de l'Ogooué parish among others spoke of the increased access of work for young people and women, of the satisfaction with the various structures built or improved under the project (e.g., center for community artisanal products, improved structures for artisanal soap-making, improvements to local tourism sites, improved fish processing structures, etc.), improved incomes and livelihoods, and hopes for future market expansion. In addition, participants in IGAs spoke of greater understanding of the need to maintain healthy wetland ecosystems, sustainable fisheries, and the importance of organic production of crops and organic products illustrating an expanded understanding of the role healthy wetlands have for livelihoods[16].

52. PDO 2 requires the management plans for 3 WII sites to be developed and under implementation. In fact, the project ended up developing two management with project financing (Bas-Ogooué and Setté-Cama) following the studies

[16]See for example the following videos: "Mama PHILO - Présidente des Femmes Catholiques Paroisse "Notre Dame de l'Ogooue" March 18, 2019 (https://youtu.be/k4KCQDTV4Bk); "Les Femmes Beneficiaries du PAZH." March 18, 2019. (https://www.youtube.com/watch?v=KRM2osPbc8A);"M. Guilengui Patrice Alfreid, Président de la coopératif de la cité des Heritiers." March 18, 2019. (https://www.youtube.com/watch?v=d-FHPVeXppM).

initiated by the project, while two management plans (Petit Loango and Monts Birougou) were developed by ANPN prior to the commencement of the project. Thus, the project had four management plans developed (two financed by the project) with activities for all four plans financed and initiated by the project.

- **Bas Ogooué**: The research on the Ogooué delta revealed unique ecosystems and a high rate of endemism; this entailed that the management plan of Bas Ogooué went beyond the limits of the Ramsar site to include the deltaic part of Ogooué which abounds in rich biodiversity. The Bas Ogooué management plan was formally validated/approved on December 15, 2020 with substantive completion and commencement of activities in August/September 2020.
- **Setté- Cama's** management plan was formally validated/approved on December 28, 2020 with substantive completion and commencement of activities in August/September 2020. Important findings focused on water quality (found to be unpolluted in 2020). Establishing this baseline will allow for ongoing monitoring to work to maintain the lagoons of the Setté-Cama Ramsar site at their 2020 ecological level.
- **Petit Loango** and **Monts Birougou** (National Parks): The management plans developed by ANPN are under implementation with project-financed activities relating to the conservation, monitoring, and protection of the two sites and the involvement of local communities.

53. The National Wetlands Management Strategy (PDO 3) was fully developed and vetted by project closing. Studies and other activities implemented under the project were utilized extensively to develop the national wetlands management strategy, including: (i) the various studies on the strengthening of biological, socio-economic knowledge and ecosystem valuation; (ii) the ecological monitoring systems put in place under the project; (iii) the WII management manual for Gabon; and (iv) feedback on the different modalities of natural resource management in Gabon's WIIs, including on participatory management with local communities.

54. All intermediate results indicators supporting the achievement of Objective 2 were either met or surpassed, except for one indicator that was only partially achieved – "2 out of 3 comprehensive maps made available." These indicators are linked to the implementation of project activities for Component 2: Support for the sustainable management of ecosystems in selected wetlands and Component 3: Strengthening of the institutional framework to support the management of wetlands.

55. Indicator 2.1: "Area of land where sustainable management (SM) practices are implemented through project interventions" specifically targets the areas of sustainable artisanal organic agricultural activities developed as part of the Project's support for Income-Generating Activities. The target for the indicator was 10 ha of land with sustainable management practices in place and the project achieved just over 12 ha of land under SM for 4 IGAs at the following locations: the Haute Boumi cooperative (4 Ha of banana and cassava plantations); the Itsana agricultural cooperative on the outskirts of the Birougou National Park (3 ha); the Ebel Vert agricultural cooperative (3.01 ha); and the Moukimbi agricultural cooperative (4 Ha). These IGAs were provided with technical support on organic farming methods and agreed to stop the use of chemical pesticides and slash-and-burn agriculture techniques. The organic agricultural technician monitored compliance with the above-mentioned appropriate practices in the project intervention areas. Despite challenges with regard in some cases due to site choice, the results were substantial, in particular, in changing agricultural behaviors away from long-held, destructive farming practices, such as slash-and-burn.

56. Indicator 2.2: "Area of forests under sustainable management (SFM)" relates to forest conservation efforts in the

Birougou area by the administration of the national park. It is measured through the patrol monitoring system SMART (Spatial Monitoring and Reporting Tool) which makes it possible to obtain data on the areas of the national park covered by surveillance patrols. The original target for SFM under the project was 30,000 ha and the project had achieved over 71,000 ha by project completion. Natural regeneration of forested areas is occurring, and illegal gold mines have been shut down.

57. Indicator 2.3: "PAMETT (Protected Area Management Effectiveness Tracking Tool) scores for each site." The effectiveness of the management of the Project sites is assessed using the tracking tool. The project had surpassed its PAMETT targets by 2017, but the PCU determined at the time of the mid-term review that given the importance of continuing to improve management effectiveness of the selected sites, the project should pursue improved PAMETT scores through to project completion. The excellent results of these PAMETT scores (see Annex 1 Results Framework) reflect strong involvement of the participating government agencies and their ministries, as well as well-targeted and implemented field activities under the project focused on such areas as: strengthening of operational capacity of the custodian and manager of Bas Ogooué; enhanced enforcement of conservation regulations; promoting enhanced surveillance and collaborative missions; reinforcing operational capacity, including re-training of field agents; awareness-raising activities; IGA implementation; and environmental and social audits of industrialists operating inside or near selected Ramsar sites.

RI indicator 2.3. PA scores (METT) for each site (#).

	Reference Value	2015		2017		2020	
		Target	Result	Target	Result	Target	Result
Monts Birougou	36	36	42	36	52	45	64
Setté-Cama	36	36	36	36	55	45	62
Petit Loango	49	49	49	49	66	55	74
Bas-Ogooué	13	13	13	15	38	20	63

58. Indicator 2.4: "Number of direct beneficiaries and percentage of women" relates to the direct beneficiaries of the Income-Generating Activities program engaged in the selected WIIs and their periphery. Target: 100/Actual: 524. Of which women: Target: 30 percent/Actual: 69 percent. The project financed 20 IGAs, including: 9 in the fishing sector (capture, processing and marketing); 2 from the NTFP sector (beekeeping, moabi artisanal soap); 4 in organic agriculture; and 5 in ecotourism, benefitting over 500 participants.

59. Given the importance of well-functioning institutional structures to effective conservation and sustainable management, **activities under Component 3** focused on establishing and strengthening key institutions for wetland management, particularly within the context of the Ramsar Convention. Successful completion of these activities not only enhanced the ability to achieve conservation through well-functioning institutions, but also worked to increase awareness among stakeholders of the importance of wetlands conservation and management, provide additional tools for monitoring the environmental effects of use, particularly extractive use, of the resources, and help to create sustainable models for ongoing stakeholder involvement and resource management. The project made it possible to set up a fully-equipped geomatics unit within the DGEPN, while strengthening that of the ANPN. The main results obtained through these initiatives have enabled the production of thematic maps, but above all the constitution of a large database on environmental impact studies (EIA) for improved monitoring.

60. The newly established Geographic Information System (GIS) within of the DGEPN was integrated rapidly into the monitoring program for the wetland sites and supported the work of the environmental audits and the implementation of their recommendations. The government also utilized this increased GIS capacity to: (i) select a suitable site for construction of a Waste Treatment and Recovery Center in Libreville; and (ii) support the investigation of suspicious fish death that appeared in July 2019 in Lambaréné, in the Ramsar site of Bas-Ogooué. The Gemoatics team in DGEPN conducted a mapping exercise and produced maps of the affected area in order to facilitate the work of ANPN.

61. These activities were measured through the following:

(i) establishing the Gabonese National Ramsar Committee – officially established by ministerial decree 220 / MFEPRN/ SG/DGEPN of February 16, 2015 (Indicator 3.1). The National Committee works to ensure the key recommendations from Ramsar on wetlands management are integrated into management programs. In this respect, the National Committee worked with civil society and other key government stakeholders early in its tenure to develop a road map (2016-2020) for implementing management recommendations of the Ramsar Convention and continues to monitor its implantation.

(ii) establishing Ramsar sub-committees (RSC) at each of the three project sites (Petit Loango and Setté-Cama are treated as one site for this activity) (as recommended by the Ramsar Convention) (Indicator 3.2) – all three Ramsar sub-committees were made effective in the first half of the project – Bas Ogooué RSC, December 2017; Monts Birougou RSC, April 2018; and Setté-Cama RSC (w Petit Loango), December 2018. The national parks of Loango and Birougou and parts of their buffer / peripheral zones are covered under the relevant RSCs. In order to ensure continuity and sustainability of site management for those areas in the national parks or their peripheral zones, ANPN works closely with the Local Management Consultative Committees (CCGL) to support necessary field missions and ensure CCGL's (an entity required by national regulations) collaboration in the implementation and oversight of the road map. Involvement of the CCGLs supports a range of benefits including broad stakeholder involvement, awareness raising, and sustainability of institutional support.

(iii) updating of the Ramsar Information Sheets (RIS) for each project site (4) (Petit Loango and Setté-Cama were treated separately for this activity given the particularity of data needed) (Indicator 3.3) – The project worked in partnership with the Ramsar Convention's secretariat to organize practical training in completing the RIS for the national stakeholders in 2015. The training made it possible for information sheets for all 9 Ramsar sites in Gabon[17] to be developed. Information from completed studies were also incorporated into the RIS, as and when possible.

(iv) making available environmental audits of extractive industries operating in and around Ramsar sites (Indicator 3.4) – The project expanded the scope of the audits and extended work throughout the life of the project rather than just in the first half of the project as initially planned given the extent of activities uncovered during initial audits (e.g., in oil extraction, logging, and mining). DGEPN teams carried out additional audits[18] to ensure key information could be fed into the monitoring and environmental compliance system for

[17] The nine sites are: Bas-Ogooué, Monts Birougou, Petit Loango, Setté-Cama, Wonga Wongué, Akanda, Pongara, Ivindo River Falls, Mboungou, Badouma and Doumé Falls.
[18] For example, during the first phase of the Project, DGEPN teams carried out 10 audits on the site of Bas-Ogooué alone: six in

various sites. In order to respond to the needs identified, audit activities were strengthened and expanded during the second phase of the project to include: (i) the expansion of the intervention area to four Ramsar sites and their peripheries; (ii) incorporating the entire cycle of environmental assessment and monitoring, i.e.: validation of Environmental and Social Impact Assessment (ESIA), monitoring of Environmental and Social Management Plans (ESMP), environmental audits, unannounced verifications of environmental compliance, census, mapping, and monitoring of classified installations; and (iii) the expansion of auditing for all activities, including agro-industries (initially limited to oil, mining and forestry activities). This work was a model for responsiveness and adaptability to identified needs, directly supporting the achievement of project objectives on conservation.

(v) making available maps of the three Ramsar project sites, including human settlements, industrial activities and hydrological systems (Indicator 3.5) – While basic maps are available for all three sites, (included with the fact sheets sent to the Convention Secretariat), the data to create maps including all the required information, e.g., hydrological systems, etc., has been difficult to gather for all the sites, thus only two out of three of the comprehensive maps have been made available. (Bas-Ogooué and Setté-Cama/Petit Loango). This activity also resulted in the significant strengthening of the geomatics service of the ANPN and the creation of a geomatics service within DGEPN (2017) and served to support the project's landscape approach.

Justification of Overall Efficacy Rating

62. The overall efficacy of the project is considered Substantial. The work to achieve Objective 1 through increasing the state of knowledge was completed to the highest international standards. The work was done collaboratively utilizing the skills and resources of different partners to their comparative advantage. The project also made key investments not only in conducting new research, but also in completing work that was stalled due to lack of financing (e.g. key research initiatives that were begun prior to the project and taken over and completed under the project), thus leveraging past funding from other international partners. The data was made available to a broad audience through high quality publications, workshops, and web sites. With regard particularly to the overall goal of enhancing biodiversity, the increased knowledge base, particularly with regard to the discovery of new species as well as the functioning of wetlands systems (e.g., delta systems), plays a significant role in the protection of species and their habitat. In the simplest terms, without knowing what is there, it is not possible to conserve it. The research work also fed directly into the development and improvement of management plans, information sheets, and environmental auditing work needed for the successful achievement of the projects' second primary objective on the development of conservation methods for sustainable wetlands management. The understanding of the economic valuation of the wetlands and their services has also allowed agencies and ministries outside of the environmental sphere to begin to understand the important role wetlands play in providing water and enhancing water quality, maintaining natural resources, and reducing vulnerability to climate change effects.

63. Work to develop conservation methods for sustainable wetlands management was also highly effective. The country became a full participant in Ramsar through the development of key national and local committees and the establishment and implementation of targeted management plans, road maps, and a national strategy on wetlands management. The work was undertaken collaboratively across two different agencies, ANPN and DGEPN, increasing

2016 and four in 2017, with companies operating in Bas-Ogooué (Oil India and Maurel & Prom in the petroleum sector, Bois et Sciage of Ogooué and Bois et Scierie du Gabon in the forestry sector, and SOBEA and Mika Services in the mining sector).

the capacity of both agencies in various ways, e.g., expanding geomatic/GIS capacity within ANPN; enhancing field monitoring capacity within DGEPN, while also leveraging existing resources (e.g., field vehicles) and experience (e.g., field monitoring and surveillance) of ANPN. The project provided key support to both infrastructure development, e.g. roads and surveillance bases, as well as to operational activities allowing field missions to be undertaken regularly and successfully. Work was also undertaken with the involvement of stakeholders in management activities, educational activities and through income-generating activities. Educational activities, including the development of a nature study center and other awareness raising events, along with IGA activities fed directly into conservation management efforts, both through increased awareness of the importance of conserved wetlands and through providing sustainable income generation (e.g., organic agriculture initiatives, beekeeping, fish processing) to communities living within or near wetland sites. These activities also helped to empower communities, particularly women and local vulnerable populations.

C. Efficiency

Assessment of Efficiency and Rating

64. Results achieved by the project demonstrate improvements in the management of the wetlands area; we can also assume that it will result in reduction/avoidance of losses of ecosystem services provided by wetlands. Using the assessment of the project-led study, the following information and data were applied to estimate project efficiency at the closure. (Please see Annex 4: Efficiency Analysis for the complete analysis.)

65. Funded by the project study19 on evaluation of wetlands ecosystem services estimated the economic value of avoided losses of ecosystem services20 as a result of conservation and sustainable management of the targeted by project Ramsar sites; the results show these values varies between 25 and 35 billion FCFA or US$ 43-60 million.

66. The valuation study examined major ecosystem services delivered by the target wetlands and estimated scenarios with and without conservation interventions. The economic valuation focused on six ecosystem services, including three direct-use provisional services for local communities and three regulatory services related to indirect use values. Non-use values (heritage value, value of existence) were not assessed in this study. The selected ecosystem services are:

- Direct-use provisional services: fish products, hunting products, biomass fuel.
- Indirect use-value regulatory services (global climate regulation).
- Regulation and clean water supply/erosion protection.

67. Annual potential value of the selected ecosystem services as estimated by the project from each site vary between 27 and 6,700 per hectare (Table 3)

Table 3. Annual potential value of the selected ecosystem services in selected Ramsar sites, FCFA/ha

	Fishing (provisional and regulatory services)	Hunting	Biomass fuel	CO2	Watershed protection
Bas Ogooue	n/a	600 – 1,389	6,057 -12,009	n/a	3,694
Petit Loango	27-182	62-144	661-1,323	n/a	417
Setté-Cama	52-353	57-131	610-1,241	n/a	379
Birougou	n/a	324-751	3,364-6,690	n/a	2,098

Table 4. Summary of the reduction/avoidance of losses of ecosystem services provided by targeted wetlands.

	Petit Loango		Bas Ogooue		Setté-Cama		Birougou	
	low bound	high bound	low bound	high bound	low bound	high bound	low bound	high bound
Hunting	0.3	0.6	1.6	3.4	0.08	0.2	0.5	1.1
Fishing - supply services	0.5	0.6	N/a	N/a	0.9	1.1	N/a	N/a
Fishing - Support service / fish stock value (David et Cillauren 2018[21])	0.5	0.9	N/a	N/a	1	1.7	N/a	N/a

Fishing - Support service / fish stock value (Rononback et al., Thollot, 1996)	0.4	3.1	N/a	N/a	N/a		N/a	N/a
Biomass fuel	3	6	15	29	1	2	5	10
Global climate regulation	981	1,389	3,894	4,966	733	1,227	1,362	1,721
Watershed protection	84	84	436	436	28	28	153	153
Total annual, FCFA million	**1,069**	**1,481**	**4,347**	**5,434**	**764**	**1,260**	**1,521**	**1,885**
Total annual, $ million	**1.9**	**2.7**	**7.8**	**9.8**	**1.4**	**2.3**	**2.7**	**3.4**

Distribution of Costs and Benefits Over Time

68. A 20-year period is assumed to assess the economic feasibility of the project. While the project costs are only assumed to emerge for the six years of project implementation, the benefits and operational costs are assumed to be generated beyond the implementation period22. Project costs over the implementation period are approximated considering the project financing of US$ 7.1 million by the GEF and capital one-time investments by the government at the time of project approval (US$5.4 million). Operating costs were estimated as annual government expenditures for protection, monitoring and surveillance of the targeted wetlands and related protected areas.

Results

69. Table 4 (see complete analysis in Annex 4) shows main parameters under low and high bound values of the avoided losses for the selected ecosystem services. Project NPV is negative at low-bound value of net avoided losses, with the IRR at 4 percent and benefit/cost ratio at 1.1. However, increase in O&M costs increase annually following conservative 3 percent rate, project NPV is positive with IRR at 13 percent. High bound avoided losses value result in project NPV US$44.8 million and IRR at 16 percent even under the increased O&M costs scenario.

Incremental cost analysis

70. The proposed GEF alternative was designed to provide resources to extend the coverage of management activities in Gabon's wetlands. The project treatment of three selected sites that were not under National park was supposed to bring some degree of planning activity to 1.9 million hectares of WII. In this case, 84 percent of the country's WII area would benefit from national and local management capacity building through information collection and consolidation regarding land use, resources use rights and claims, environmental components, socio-economic data and analyses, monitoring and control, management plan development, and plan implementation.

71. The first step in the process of building a national institutional framework and mainstreaming wetlands concerns across sectors and levels of government was the establishment of a national inter-ministerial committee, i.e., the

[19] Biotope. 2018. Evaluation préliminaire des principaux services environnementaux fournis par les zones humides sélectionnées au Gabon. ANPN – PAZH.
[20] Six services were considered a priority: fish products, fish products, hunting products, combustible biomass, global climate regulation, water regulation, erosion protection
[21] 2018. David, Gilbert, and Hope Cillaurren. Methodology of calculating the monetary assessment of the supply service provided by mangroves vis-à-vis the human populations along the shoreline. Ird.
[22] As reported by the PA METT at the project design stage (2014)

National Ramsar Committee, as envisioned under the Ramsar Convention. The development of a national wetlands strategy would require an inter-ministerial collaboration to set wetland management priorities to guide land-use decisions concerning wetlands.

72. This objective was achieved fully. Improved management effectiveness score (METT) reached the target value in all selected sites. Based on the PA-METT records, all project sites have made significant progress, and each has reached its target value. The PA-METT scores at the end of the project show a clear evolution, linked to the strengthening of operational capacity, and the resources deployed continuously for more than five years in the various Ramsar sites.

73. One of the key GEF project indicators was the area of forests under sustainable management – the project reported that over 71,000 ha, well above the target value, were brought under sustainable management. This indicator has been limited to the conservation efforts, sustainable monitoring, and management of forests degraded as a result of illegal mining activities in the Birougou area. It is measured through the SMART patrol monitoring system, which tracks the rehabilitation of the old gold-mining activities sites in the premises of the national park covered by surveillance patrols. Interventions to combat illegal gold mining and poaching in Birougou, with the participation of the eco-guards from other parks, local police, and the teams of the Analysis and Intelligence Investigation Unit (CIAR) resulted in (i) clearing two gold mining camps and clearing the central and western areas of the Ramsar site, (ii) arrests of 20 offenders (and 18 imprisonments), (iii) clearing from illegal mining and regularly monitored now nearly 71,331,582 hectares of forests previously affected by gold mining.

74. The project has set up and operationalized the Ramsar Committees and Subcommittees at the national and local levels (Bas-Ogooué, Birougou and Setté-Cama). These institutions now serve as an interface between the administration and rural communities, thus promoting participatory management of the resources that abound in wetlands. Just as they allow the various jurisdictions involved or interested in wetland management to have a formal exchange framework through which they support the development and implementation of effective policies for sustainable management of wetland ecosystems.

Conclusion and assessment of the project's use of resources

75. The income-generating activity promoting ecotourism evaluated for the economic and financial analysis will generate a Benefit-Cost ratio between 1.87 and 3.54; and an Internal Rate of Return (IRR) between 33 percent and 46 percent. The economic and financial analysis thus shows that project-supported investments will bring substantial financial and economic benefits to local communities supported by the project.

76. The project was restructured to adjust the implementation time, without the cost overrun. Despite an 8-month extension, the actual project management costs remained within the estimated cost at the appraisal. There were no major changes in the project team other than the loss of the M&E officer whose tasks were taken up by the project coordinator. Compared to the outcomes achieved, the project is considered as efficient. Average size of similar projects funded by the GEF varies between US$ 5-7 million. Given the above achievements and B-C ratios, the Project's Efficiency rating is considered Substantial.

USTIFICATION OF OVERALL OUTCOME RATING

77. The overall outcome rating for the project is Satisfactory. The relevance of the PDO was and remains high for the

country as wetlands provide critical biodiversity habitat as well as a range of ecosystem services for the people living within and around the wetlands. The biodiversity conserved by the project is of national, regional and global importance and the state of knowledge has increased for the global as well as the local community. The project Efficacy is Substantial showing strong achievement of objectives and targets. Some achievements exceeded their targets, including those on the number of beneficiaries reached, as a result of the excellent adoption of IGAs within involved communities. The work was effectively carried out for the most part and done collaboratively between two different agencies as well as with local counterparts. The project also contributed to unexpected results for the ongoing work of the GoG, particularly with regard to supporting the creation of new protected areas and supporting the piloting of new land-use planning approaches, including zoning. The project Efficiency rating was Substantial as well and despite an 8-month extension was undertaken within budget. Measurable activities had positive B-C, and the income-generating activity promoting ecotourism, for example, is expected to generate Internal Rate of Return (IRR) of between 33 percent and 46 percent. Given the project's relevance and efficacy and its substantial efficiency, despite some shortcomings in implementation effectiveness which caused delays of a few months, the project is considered Satisfactory.

E. OTHER OUTCOMES AND IMPACTS (IF ANY)

Gender

78. The project benefitted 524 people of which 69% were women and surpassed its PDO target of having 30% female beneficiaries. The project enabled women's successful participation in creating and implementing income-generating activities that reduce pressure on the environment, while contributing to increasing women's income earning, entrepreneurial skills, productivity and food security. It also provided meaningful opportunities for women to participate in managing natural resources within the four selected Ramsar sites while preserving the ecological functions of wetlands. IGAs included four areas of intervention: agriculture, fishing, tourism and Non-Timber Forest Products. Women contributed to the ecotourism sector through catering for tourists, production of artisanal crafts; and aquaculture sector where women sold fish farmed in floating cages and ponds provided by the project as well as in fish processing, and in NTFPs through the production of artisanal organic soap. Discussions were also held with a women association on the promotion of artisanal products to supply the Tsam Tsam touristic site with oil and soap made from Moabi seeds. Additionally, 168 women (28%) from 38 villages participated in awareness-raising activities regarding the sustainable management of the selected wetlands ecosystems. The Borrower's Completion Report referred to women's particular satisfaction with the IGAs and their positive impacts on their livelihoods and work conditions.

Institutional Strengthening

79. Extensive training and capacity building were conducted for DGEPN and ANPN. The capacity of DGEPN, in particular, has been strengthened with the establishment of a mapping and geomatics unit for environmental monitoring. The Geographic Information System (GIS) set up by the project within the DGEPN supported the Government in the selection of a suitable site for the construction of Waste Treatment and Recovery Center in Libreville, through the production of thematic maps. It also helped the Scientific Committee set up by the Government to clarify the phenomenon of suspicious fish death that appeared in July 2019 in Lambaréné, in the Ramsar site of

Bas-Ogooué. The GIS unit produced a map of the affected area before handing it over to the ANPN. Finally, the recruitment of a consultant specializing in GIS has made it possible to strengthen the capacities of the agents assigned to the Geomatics Unit and to set up a Geoportal, now allowing optimal storage and processing of data within the DGEPN. In view of the significant capacities and the effectiveness of this tool, the project financed its redeployment to all the services of the Ministry of Environment.

80. The project investments contributed specifically to helping the DGEPN and ANPN achieve capacity enhancement as national institutions promoting the cross-cutting issue of environmental protection. The capacity of national NGOs and research institutions was also enhanced through collaboration on project activities with international NGOs and researchers (e.g., IUCN, WWF, Missouri Botanical Gardens), particularly on wetlands research studies.

Mobilizing Private Sector Financing

N/A

Poverty Reduction and Shared Prosperity

81. The project had a positive economic and social impact at the household level through income-generating activities. The IGAs resulted in enhanced livelihoods, including for women and youth. Although it is difficult, and early, to report significant changes in poverty reduction and shared prosperity, results from the income-generating activities were encouraging. For example, Mme. Marilou Ossawa, processor and vendor of preserved fish and President of the Inougouna Association whose members benefited from receiving new pirogues, outboard motors, regulation fishing nets, shelters and larger and more efficient fish smoking racks, stated that women involved in the project noted improved quantity and quality of procured and processed fish. She also stated that she appreciated the use of non-monofilament nets by the fishers thus helping to ensure the health of the fish population and the sustainability of the resource over time.[23] M. Guilengui Patrice Alfreid, fisherman and president of the "Coopératif de la cité des Heritiers,' reflected on the benefits provided by the project (a pirogue, an 8 hp outboard, new regulation nets and fishing and security equipment) and his increase in sales as a result of the project, from approximately 200.000 FCFA before to 500,000 FCFA after.[24] The vulnerable peoples of Babongo were empowered by choosing IGA projects appropriate to their needs. A beekeeping project was developed and implemented successfully where twenty-one of the thirty-three beehives were colonized. Following project closure, the IGA project continues to support livelihoods through honey harvesting and commercialization.

Other Unintended Outcomes and Impacts

82. Land-use planning reform: The wetlands management plans and the intersectoral zoning carried out within the selected sites and the implementation of project activities, especially in the Bas-Ogooué, provided key opportunities for the government to pilot national land-use planning processes and their adoption at the local level. This has been extremely important for the ongoing work of the Land-Use Planning (LUP) national commission under the lead of the Ministry of Environment.

[23] "Les Femmes Beneficiaries du PAZH." March 18, 2019. (https://www.youtube.com/watch?v=KRM2osPbc8A).
[24] "M. Guilengui Patrice Alfreid, Président de la coopératif de la cité des Heritiers." March 18, 2019. (https://www.youtube.com/watch?v=d-FHPVeXppM).

83. The creation of a network of marine and coastal protected areas: The 13 national parks network created in 2001 was extended to nine marine parks and 11 aquatic reserves in 2017, with several of these protected areas overlapping or directly linked with the project targeted wetlands: Bas-Ogooué (marine parks of Cap Lopez, embouchures de l'Olende et de l'Ozouri and aquatic reserves of Delta de l'Ogooué, Canyons du Cap Lopez and Mandji-Etimboué) and Setté Cama / Petit Loango (marine parks of embouchures de Setté-Cama and Nyanga and aquatic reserve of Koumandji). The studies carried out within the project framework directly contributed to the extension of the protected areas network in the country.

84. Proposed institutional reforms (Possible transition of the National Parks Agency (ANPN) to a country-wide Nature Protection Agency): Based on the field results of ANPN and its collaboration with the departments in charge of forests and the environment outside of the national parks, particularly with regard to the work under the project with DGEPN and others, it was recently recommended to parliament that ANPN's mandate include protection for all natural areas within and outside of the national parks. While the reform was ultimately not approved by parliament, the requested reform demonstrated a recognition of one of the project's key messages/results of the importance of establishing effective natural resource management mechanisms beyond the national parks and the effective institutional strengthening and collaboration of involved agencies.

III. KEY FACTORS THAT AFFECTED IMPLEMENTATION AND OUTCOME

A. KEY FACTORS DURING PREPARATION

85. *Readiness for Implementation*:[25] Several factors contributed positively to the preparation of the project, key among them being the work done just prior to the start of the project under the GEF-supported PARC project. The experience gained under PARC helped to delineate where issues remained after initial support to ANPN and the national park system had been provided. It became clear that management of ecosystems and natural resources outside of the protected areas was still a significant issue which in turn guided the development of the PAZH project. The PARC project also provided crucial experience in utilizing a landscape approach to project design which proved important to the development of PAZH allowing the design to broaden its focus beyond the wetlands themselves to encompass the crucial landscape and areas within which the wetland systems operated, incorporating into its designs crucial actions related to nearby forests and protected areas, local communities, and industries.

86. Project preparation also benefitted from earlier World Bank-funded support including a Development Policy Operation (DPO) which ANPN and DGEPN both participated in under the coordination of the Prime Minister's office and an Institutional Development Fund (IDF), the latter of which had provided direct support to DGEPN. Thus, both ANPN and DGEPN had experience working together and with the World Bank and had received previous capacity-building support, though ANPN to a larger and more extended degree. This experience helped them to provide key inputs into project design early in the process and enhance the quality of inputs.

87. Finally, both agencies from an institutional perspective and the wetland areas had been the beneficiaries of support from the work of international NGOs, such as Conservation International and bilateral agencies, such as

[25] While early ISRs reflect a somewhat slow start, the project was up and running with regard to establishing teams and conducting training of staff within about 5 months of approval and procuring consulting services and conducting initial studies within about 12 months of approval.

AFD. This meant that the design of the project could be based on a clear evaluation of gaps and needs which still had to be met both with regard to capacity building and with regard to research and conservation efforts.

88. Stakeholders: A Ramsar stakeholder's meeting was held with the support of the Ramsar Secretariat early in the design process to ensure stakeholder involvement in development of project objectives and for site selection. A broad range of stakeholders (e.g., NGOs, academic institutions, government agencies, etc.) were consulted, helping both with the quality of project design and with the stakeholders' eventual ownership of the project.

89. Simple and Integrated Design: Design of the project was straight forward and 'simple' reflecting a clear understanding of what was needed to support the country in enhancing biodiversity in wetlands. The project design also took into account existing programs (e.g., Ramsar commitments, 'Gabon Vert' and ongoing wetlands research) to ensure that activities and objectives built upon and were in line with the country's needs as well as with the global benefits to be derived from the project.

B. KEY FACTORS DURING IMPLEMENTATION

90. **Factors subject to the control government and/or implementing entities**

- *Coordination and engagement* - Despite the challenges of working with two implementing agencies, the project succeeded in undertaking activities and reaching objectives with limited delays. Working across agencies can be a challenging endeavor given political and budgetary conflicts, but both ANPN and DGEPN made efforts to coordinate across activities which resulted in an integrated approach to project implementation which enhanced results. While each agency was clear with regard to its roles and responsibilities, they were able to coordinate and collaborate on a range of activities, as evidenced by, for example: DGEPN staff participating in ANPN field missions; ANPN supporting the extension of the SMART program to all project sites; and DGEPN providing mapping of ANPN-identified problems with fish populations in Lambaréné.
- *Commitment and leadership* – The government showed continued commitment to the project throughout the implementation period as evidenced by: the establishment and ongoing commitment to and participation in the National Ramsar Committee; drawing up the roadmap for the implementation of the recommendations of the Ramsar Convention and monitoring of the road map by the National Ramsar Committee; committing to an action plan post-project which includes continued meetings of the National Ramsar Committee.
- *Environmental and social* - Compliance and willingness to utilize tools and guidance provided by the Bank for environmental compliance was high, as evidenced by the compliance of IGAs to Bank safeguards. However, there were some issues with regard to compliance with social safeguards for sensitive communities, though these were eventually effectively addressed through implementation of the Action Plan; and
- *Monitoring and evaluation (M&E)* – Data collection was completed effectively and collaboratively with a wide range of stakeholders. These collaborative field missions enhanced effectiveness through utilizing the existing skills and resources of particular entities, e.g., ANPN, the gendarmerie, local community management committees, DGEPN, etc. as well as providing opportunities for capacity building of staff of different agencies in skillsets outside of their normal areas of expertise. Data reporting was of high quality and allowed for real time response to issues, e.g., problems with fish die-offs, issues with the siting of agricultural plots, compliance with fisheries regulations, and for solutions to be provided when possible.

91. **Factors subject to the control of the World Bank control**

- *Adequacy of supervision* – Any problem issues were identified and reported on clearly in ISRs and Aide Memoires. The Bank team worked with the project coordination unit to resolve issues, e.g., required changes in banking practices for internationally-funded projects which the project faced mid-way through implementation; and issues with the siting of agricultural plots by one cooperative – the Bank worked with the project coordination team in both cases to find solutions and implement them in a timely manner. The mid-term review and other important milestones for supervision were undertaken on time and provided clear guidance to the project coordination unit. There were only two TTLs – one at project design and one who handled the implementation stage - throughout the life of the project, which helped to cement relationships with the project coordination team and create continuity. The need for careful environmental monitoring of IGAs was identified early and the team provided clear guidance and tools in the form of checklists, etc. to support the project teams on-the-ground in ensuring compliance; and

92. **Factors outside the control of government and/or implementing entities**

- *Natural disasters (including natural disasters and disruptions caused by epidemics)* - In February/March of 2020 the effects of the Coronavirus pandemic began to be felt around the globe and within Gabon. Having recently received an extension to finalize work over the following 9 months, the project team was faced with shutdowns and quarantines making it difficult to undertake and complete necessary field missions, trainings, workshops, infrastructure, and equipment delivery. For example, the annual meeting of the Ramsar Committee (formed under the project) for the year 2020 could not be held due to restrictions on gatherings. The project team worked to adapt as much as possible to the situation, conducting some meetings/trainings virtually and field missions once free to do so being conducted using proper health precautions. The team did a remarkable job in completing the final activities of the project under challenging conditions.
- *Conflict and instability (including conflict/post-conflict situation, civil unrest, and insecurity)* - Mid-way through the project (2016), delays were created due to the general election and serious post-election conflicts which arose making it impossible to safely conduct project activities and causing a 5-month delay in implementation, which combined with a 3-month delay due to banking regulation change listed below, led to the need for a project extension.
- *Changes in banking regulations* - The project also experienced some delays (3 months) due to changes made by the Ministry of Finance in how and where funds for international- funded project were held and managed. This caused a stoppage of project activities while the special accounts were re-organized and moved in order to be in compliance with the new regulations.

IV. BANK PERFORMANCE, COMPLIANCE ISSUES, AND RISK TO DEVELOPMENT OUTCOME

A. QUALITY OF MONITORING AND EVALUATION (M&E)

M&E Design

93. The M&E system was based on the results framework (Annex 1a), which provided outcome targets for annual

work plans and budgets and a M& procedures manual developed in a participatory manner with stakeholders and implemented the project team. Progress toward the PDO was measured through consultant reports on wetland ecosystem valuations, management plan documents for the selected wetland sites, and the development of a national wetland strategy. Component 1 on knowledge creation was tracked by the development and implementation of a research scheme and wetland ecosystem monitoring reports. Component 2 for management planning in the selected wetland sites was monitored by progress reports on community activities and the Management Effectiveness Tracking Tool (METT) and by land and forest area brought under sustainable management. Progress on Component 3, which focused on building capacity in the DGEPN, was monitored by the creation and operation of the National Ramsar Committee and its local subcommittees, by completion of environmental audits of operators in the selected wetland sites, and by the production of wetland maps. Project management in Component 4 was monitored by progress on the work plan and by the implementation of safeguard instruments.

94. The Results Framework was fairly well designed with measurable indicators that were linked closely to project outcomes. The PDO indicators focused on key elements of achieving the project objectives, i.e., research/economic valuation of sites, and not only the development of management plans, but the implementation of those plans, as well. Tracking these and other indicators gave a clear view of the progress towards objectives, and also ensured that the stepwise approach – made clear in the assumed ToC – of studies feeding into conservation and sustainable management could be monitored closely. In addition, the monitoring system utilized existing reporting modalities, e.g., quarterly reporting of ANPN, as part of its methodology, ensuring consistency and continuity across time pre- and post-project approval. The infusion of project funds into this system, particularly in terms of provision of operating costs, meant that the monitoring system could be strengthened to serve the project's needs while not 're-inventing the wheel.'

95. However, the baseline and targets for certain indicators, particularly the PDO on management plans, could have been better designed or, at the least, revised, to better reflect the baseline of 2 management plans developed by ANPN and the clarification of the number of sites to be covered, i.e., 3 vs. 4. In addition, the indicator could potentially have been disaggregated into a PDO on development of management plans and an intermediate indicator on commencing implementation, to make tracking clearer and more straightforward. In addition, the following elements could also have been improved in the design stage: (i) indicators linked to component 3, which represent the progress in the establishment of a participatory and consultative framework, do not sufficiently highlight the progress and the limitations of the management of wetlands through collaboration between institutions. (ii) the very restrictive interpretation of the corporate indicator 3.3 did not make it possible to show the extent of the areas in which natural resource management has been implemented; and (iii) the absence of an indicator relating to financing has not prompted the search for a sustainable financing mechanism such as (a) the contribution of the palm oil, mining, oil and logging private sector which is benefiting from the ecosystem services of wetlands or (b) the analysis of bottlenecks which prevented the establishment of an endowment fund for protected areas.

96. Because the project was jointly executed by the DGEPN and ANPN, both were responsible for data collection and progress assessment on their specific components. The ANPN executed Components 1 and 2; the DGEPN executed Components 3 and 4. While each agency was responsible for monitoring and reporting on specific components, each could also contribute to the primary work of the other agency. Thus, DGEPN was able to participate in joint missions with ANPN providing the DGEPN staff with experience in on-the-ground conditions and operations, thereby building institutional capacity for DGEPN while providing additional technical expertise for ANPN missions. At the time of appraisal, the ANPN already had experience in project M&E through the GEF PARCS project. Although the DGEPN

had less experience with M&E on Bank projects, it had already executed one project (an IDF grant) at the time of appraisal.

M&E Implementation

97. Monitoring and evaluation was implemented without major issues throughout the project. The M&E system integrated established and new procedures into the system. These included agency practices in terms of programming and reviews as well as activities introduced under the project:

- Periodic calendars of important events
- Workshops bringing together different actors
- Supervision missions, in order to monitor progress of activities carried out by field teams
- Programming and budget preparation
- Periodic monitoring of progress and performance
- Financial monitoring and controls

98. Most information was generated through monitoring of project activities and through field operations carried out by the field teams (for example, implementation of activities, financial management and use of resources. Once information was gathered, it was analyzed and discussed with the full project team and key stakeholders. This was formally, for example, during supervision missions or through review of the activity reports sent to the project coordination unit, and informally, such as through conversation with eco-guards during field visits. These reflections and discussions highlighted information gaps and allowed for real time adaptation of the M&E approach to ensure that the necessary information was collected.

M&E Utilization

99. In addition to the collection and review of information above, the M&E system included critical reflection (on lessons learned and information gathered) with a view to improving action and communication of results and production of corresponding reports. There were several cases in which the monitoring system, particularly with regard to the development and implementation of the IGAs helped to rapidly identify and address issues. For example, some members of one of the fishing cooperatives that had received project support were found through ongoing monitoring to be non-compliant with fishing regulations (use of prohibited synthetic nets) and was sanctioned by the withdrawal of the equipment (i.e., motorized pirogue and nets). This not only sent a clear message to members of other fishing cooperatives but allowed for the re-distribution of resources to more fishers.

100. Field mission results fed into recommendations for the project implementation, as well, including, for examples: the standardization of periodic reports; and field team collaboration between the Ramsar sites of Setté-Cama and Birougou, to encourage capacity building of the SMART focal point of Loango / Setté-Cama). The dissemination of M&E results to the teams in the field and others who could use the data was seen as a priority. This open communication did at times result in challenging discussions between ANPN and DGEPN but yielded better information to coordinators in the long run, including providing realistic assessment of challenges faced in the field by staff and allowing for various actors to jointly find a solution.

Justification of Overall Rating of Quality of M&E

101. The M&E system generally functioned well and assisted in the accurate assessment of the project, as well as allowing for real time adaptation of data collection and project activities. However, there were some modest shortcoming in the design of a few indicators which could have been designed with more clarity or updated during project implementation to consider the changing implementation environment. Taken as a whole, therefore, the quality of Monitoring and Evaluation is considered Substantial.

B. ENVIRONMENTAL, SOCIAL, AND FIDUCIARY COMPLIANCE

102. **Environment and Social.** The project was classified as a category B project under the World Bank's environmental and social safeguards policies as the anticipated impacts were small scale, site-specific, and could be mitigated. At appraisal, the following five policies were triggered: Environmental Assessment (OP 4.01), Natural Habitats (OP 4.04), Forests (OP 4.36), Indigenous Peoples (OP 4.10), and Involuntary Resettlement (OP 4.12). In fact, the project did not result in any land-taking or compensation-related issues associated with the Involuntary Resettlement Policy. However, to ensure that any potential risk of restriction of access to resource use is addressed, and since the project prepared management plans for selected Ramsar sites, OP/BP 4.12 Involuntary Resettlement was triggered. The project prepared the Environment and Social Management Framework (ESMF) and disclosed in-country on November 24, 2013 and at the Bank Infoshop website on February 6, 2014. Process Framework (PF) and Indigenous Peoples Planning Framework (IPPF) were disclosed both in-country and at the Infoshop on February 6, 2014.

103. G**rievance** R**edress** M**echanism (GRM)**. The project established a Grievance Redress Mechanism and housed it within the Local Management Committees (CLCGs), composed of representatives from local populations, including traditional leaders. However, the mechanism wasn't totally functional and received only a few complaints. The Bank team addressed this issue through a GRM review and assessment allowing the GRM to be more effective by the project closure.

104. Areas of concern with regard to compliance to environmental and social safeguards were: (i) the design and implementation of the IGAs; and (ii) support to the Babongo population, considered a sensitive population and identified as needing an action plan for the support of indigenous peoples. The work on IGAs was carried out in strict compliance with the rules that protect the environment (environmental and social screening, reduction of negative impacts during the construction phase, use of materials including wood of certified origin, waste management irreproachable, etc.). The areas of activity of the microprojects financed were small-scale fishing, agriculture, tourism and non-wood forest products. The World Bank specialist confirmed that environmental and social specifications were well executed and the awareness-raising on workplace safety awareness had been promoted. The Action Plan targeting initially encountered problems resulting in an increase in the project's Social Risk Rating to 'Substantial' by the time of its October 2019 ISR. This was addressed through prioritized and targeted support to the Babongo population from Mouyiki to Mbigou which was successfully implemented through establishing a beekeeping project with the community. The project enabled the Babongo populations of Mbigou to carry out beekeeping activities under enhanced safety and environmentally friendly measures. An association called MABONDO was created for this purpose,

with about 60 members including women and youth. Beneficiaries received training on the implantation of hives in nature, the approach of bees, and the use of Individual Protective Equipment's (suits, gloves essentially). In April 2021, most hives installed had been colonized by bees. The MABONDO Association harvested its first batch of honey equivalent to about thirty liters of honey. They were then put in jars and sold for a total sum of about F CFA 90,000.

105. Regarding the construction of the Monitoring Antennas for ANPN officers, compliance with environmental and social clauses was established. The environmental and occupational risk analysis related to the construction of the Bigourou antenna in the heart of the National park, raised several logistical constraints, including the unavailability of the aircraft responsible for heli-carrying equipment to the middle of the forest. Faced with this situation, the decision was taken to return to the original idea of setting up the surveillance antenna on the outskirts of the national park in Moukimbi village. The delay constraints did not allow this activity to be completed.

106. The project also strengthened institutional capacity, by supporting DGEPN on Environmental and social audit activities of extractive industries operating in and around the selected Ramsar sites (in Lambarené and Port-Gentil). The environmental and social safeguards prescribed in the various PGES company have been monitored by the DGEPN officers. The balance sheet included the opening of litigation against some non-compliant industries regarding Environmental and safety aspects and the payment by them of heavy fines to the Government. The Geomatics unit of the DGEPN provided its expertise on the monitoring of PGES by aerial shots of the various sites, thus allowing monitoring of activity dynamics around the Ramsar sites.

107. The project also elucidated the causes and consequences of a crisis phenomenon that occurred in July 2019 and led to the death of fish on the waters of the Ogooué in Lambaréné. Detailed reports were produced and analyzed. Results indicated that the short-lived phenomenon was not in any way related to project activities. The government's ban on the consumption of carp from Lambaréné has been lifted and fishing activities have resumed as normal. By the end of the Project the performance on environmental safeguards is considered satisfactory.

108. **Procurement**. Procurement processes were implemented based on the applicable guidelines at the time of project appraisal and in accordance with the procurement plan, which was duly updated, reviewed by the Bank and disclosed regularly. Procurement capacity was determined to be adequate throughout the project and in line with the workload. Procurement processes and asset verification under the IGA program were verified by external auditors acceptable to the Bank, and no issues were raised. The project's last mission in December 2020 reported that the procurement processes for all the contracts provided for in the Procurement Plan for fiscal year 2020 had been completed. STEP data was slated for completion by the end of the project grace period.

109. **Financial Management** encountered certain weaknesses in the internal control system which led to delays in submission of annual financial reports, non-compliance with expenditure ceilings and cash balances and lack of overall documentation. The project faced issues in installing TOMPRO in the beginning of the project and towards the end, the project was faced with a Government requirement that demanded that the project bank account be closed, and remaining funds be transferred to a new bank account which caused major delays and financial shortfalls. However, at the closure of the project, key internal control

weaknesses were primarily resolved. The residual FM risk is Moderate.

C. BANK PERFORMANCE

Quality at Entry

110. Quality at entry was high. The Bank preparation team identified key partners early and coordinated well with government teams of the two implementing agencies, international and local NGOs active within the WII sites, and built upon existing project experience and data to design a simple, integrated project with clear objectives. Data gathered under early activities were designed to support the achievements of the following components and activities on conservation management efforts. The design of the Results Framework was generally good, despite one indicator (PDO 2) which lacked clarity. The monitoring system took into account key issues of gender and the environmental and social safeguards identified the important concerns of IGAs complying with environmental standards and for the support of sensitive communities. The choice of implementing agencies, DGEPN and ANPN, was appropriate and supported the project design.

Quality of Supervision

111. Quality of supervision was generally high. Of particular note is the fact that there was one TTL during the implementation phase of the project that enhanced continuity and quality of supervision. The Bank supported the ongoing coordination and collaboration between the two agencies which was challenging at times due to political issues within the Ministry. The ongoing focus and support to making this coordinated approach work served the project well and also helped to support the strengthening of both institutions. Fiduciary compliance was highlighted when issues arose, and the team reported on outstanding issues with candor. Throughout the project the supervision and reporting were consistent on all aspects of project tracking, including the annual work plans. The WB team payed close attention to the implementation of the IGAs, particularly with regard to environmental and social suitability of these micro-projects, also ensuring that each micro-project package included a screening checklist, an environmental and social impacts assessment, and related environmental and social management plans to mitigate any potential negative impacts. This can be seen as a best practice for the supervision of micro-projects which can often present environmental and social impacts if not closely monitored.

Justification of Overall Rating of Bank Performance

112. Given the high quality of design, minor issues with the results framework and the consistent, high quality of supervision, the overall Bank performance is rated Satisfactory.

D. RISK TO DEVELOPMENT OUTCOME

113. There are several aspects of project implementation which would seem to mitigate the risk of the loss of project outcomes. With regard to conservation management at the Ramsar sites, the quality of baseline data and the ecological monitoring system established based on this data, are high. The monitoring system is integrated within the existing national parks program and SMART system which will continue to be funded and managed by ANPN. The Bas Ogooué

site's ecological monitoring has also been provided for post-project within the framework of a sponsorship by the Presidential Reserve, Ramsar Site of Wonga Wongué (contiguous to Bas Ogooué). Surveillance and anti-poaching activities will also continue to be supported by ANPN.

114. In addition to the above, when executing the activity to establish Ramsar sub-committees at each site, the project teams decided to utilize the existing CCGLs (whose formulation was already required under national legislation) to ensure continuity of community involvement in management post-project. While this applies specifically to sites that are within the borders of the national parks, the road map for the Bas Ogooué site includes the establishment of a sustainable financing mechanism with the support of private sector companies operating within the forest to ensure operation of its Ramsar sub-committee.

115. Other mitigating factors to the loss of development outcomes include: (i) equipment provided by the project which has and will continue to enhance the surveillance capacity of ANPN and DGEPN (e.g., surveillance antennas, vehicles and boats, GIS equipment, etc.); (ii) the on-the-job experience gained by staff during project implementation, field mission; and (iii) the IGA investments made within communities (21 micro-projects) which show good signs of continuing post-project. With regard to the sustainability of the funding that has benefited the populations, apart from activities in the agricultural sector, which present some vulnerability factors, of which the motivation of the actors is not the least, it is a safe bet that the majority of IGAs will continue on their way, if only because their social utility and the economic rationalization which prevailed at their choice remain in order.

116. Factors which may place the outcomes at risk include: economic recession currently being experienced in Gabon and the ongoing drop in oil revenues which could affect ANPN/DGEPN budgets and give rise to problems of equipment and site maintenance, ongoing training, and staffing support, particularly in the field. Additionally, without sufficient budget, the work programs of the National Ramsar Committee and other entities established with the support of the project could be adversely affected. While recognizing that sustainable financing issues were not part of the project design, funding for natural resource management is a key issue in Gabon and despite undeniable government investment, recurring financial problems for funding national park staff and operations are reported. Current options for financing of operations in the selected wetlands remain: (i) mainly conditional on the financing of surveillance operations in contiguous national parks; (ii) highly dependent on the National Parks Agency's intervention legitimacy in wetlands situated outside parks and (iii) only focused on surveillance, and these options do not address, for example, the funding needs of monitoring extractive industries' for potential environmental and social impacts. The ICR will therefore make a strong recommendation for the government to focus on a sustainable funding option, for example, a conservation trust fund to address this risk.

V. LESSONS AND RECOMMENDATIONS

- **Lesson**: While utilizing two project coordinating units presented some challenges, the collaboration, particularly with regard to undertaking joint field missions yielded enhanced results. The project was able to leverage existing skills and resources while building capacity within the various entities involved, e.g., ANPN, decentralized agencies/representatives of fisheries, forestry, gendarmerie, and DGEPN. Teams got real world, on-the-ground experience valuable for sustainability of results.

    - **Recommendation**: Where possible and appropriate, joint monitoring teams should be encouraged to expand both technical expertise available on field missions while at the same time building capacity and

understanding within agencies that lack field experience. Project implementation arrangements should: (i) build on existing and relevant institutions; (ii) contribute to the capacity building of existing institutions, including fiduciary capacity; and (iii) support, when relevant, institutional reforms.

- **Lesson**: The support to field missions and surveillance through the provision of operational costs was key to the success of field activities and the ongoing conservation of wetlands, their biodiversity and the ecosystem services they provide.

- **Recommendation**: Provision of operational costs in projects which support capacity building and infrastructure development for surveillance activities is key to successful operations and should be systematically included in budgets. Investment in operational cost is key to project success, especially in the context of difficult access to the field and versatile budget allocation for the environment and protected areas. The search for a sustainable financing mechanism for these operational costs must be a priority in future operations.

- **Lesson**: Funding for natural resource management and conservation is a key issue in Gabon and despite undeniable government investment, recurring financial problems for funding national park staff and operations are reported. Current options for financing of operations in the selected wetlands remain limited and do not focus on important aspects which can help safeguard outcomes, such as the monitoring of extractive industries for potential environmental and social impacts.
- **Recommendation**: The government is strongly encouraged to look to sustainable financing options for wetlands and other ecosystems which face threats from the growing impact of concessions. Multiple options are available including conservation trust funds, endowment funds, green bonds, debt-for-nature swap, etc. An exploration of these options and identifying the key gaps to adoption should be an element of any new environmental project or initiative seeking funding.

- **Lesson**: The project utilized a landscape approach (looking at large and small-scale economic activities, local, national and international stakeholders, and multiple uses and values from ecosystem services to biodiversity) for its design allowing for a comprehensive understanding and approach to issues affecting the long-term conservation of wetlands and their biodiversity.

- **Recommendation**: Include mapping of human activity, flora, fauna, ecosystems, systems function into project design to ensure clear design and real-world complexity into project components and activities. The landscape approach of project interventions is key to addressing intersectoral issues, but approaches should take care to be directly linked to structured national LUP approaches and local development planning.

- **Lesson**: The project developed decentralized and local capacity through: (i) opening project accounts in the field/able to transfer money on the ground; (ii)utilizing local ANPN offices; (iii) utilizing the decentralized accountant capacity built under the PARCS project; and(iv) incorporating Ramsar subcommittees and CCGL's into site management for enhanced project effectiveness and sustainability of results.

- **Recommendation**: Capacity development should be focused in part on the ability of decentralized and local entities to take over responsibilities, including accounting where possible to support short and long-term effectiveness and efficiency. Decentralized basic FM capacity constitutes a sine qua non for the operationalization

of activities in the field, however, suitable accounting software and the development of strong FM control systems are required in order for it to function properly.

- **Lesson**: Mainstreaming of ES practices enhanced implementation effectiveness. The specialized teams of the DGEPN carried out audits of companies operating in the petroleum, forestry, and mining sectors. The entire environmental assessment and monitoring cycle was taken into account in all of the DGEPN's missions, i.e.,: the validation process of environmental and social impact study (ESIA), monitoring of Environmental and Social Management Plans (ESMP), environmental audits, unannounced verification of environmental compliance, census, mapping and monitoring of classified installations. The teams also expanded audits to include all sectors of activity, including those originally planned - oil, mining and forestry sectors – as well as new agro-industrial activities. The audits revealed short comings in the original monitoring design particularly with regard to waste management and soil and surface water protection measures, thus allowing for responsiveness and enhanced protection of sites

Recommendation: Integration of regular, ongoing ES monitoring is an essential element to M&E systems in order to ensure effective tracking of compliance of both extractive industries active in project areas and income-generation activities supported by the project.

ANNEX 1. RESULTS FRAMEWORK AND KEY OUTPUTS

A. RESULTS INDICATORS

A.1 PDO Indicators

Objective/Outcome: Increased knowledge of selected forest wetlands

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Indicator 1: Ecosystem services valuations are undertaken for each selected site	Number	0.00 28-Feb-2014	3.00 31-Dec-2020		4.00 31-Dec-2020

Comments (achievements against targets):
The study relating to the valuation of the ecosystem services provided by the three Ramsar sites was launched in November 2017 and finalized in December 2018. The results of the study were presented at a workshop organized following its completion in December 2018, that aimed at highlighting the economic valuation of three Ramsar Wetlands of International Importance (WII) sites: Bas Ogooue, Monts Birougou, and Petit Loango/Sette-Cama. It emerges that the economic value of the losses of ecosystem services avoided thanks to the conservation of the 4 Ramsar sites amounts to between 25 and 35 billion FCFA, for only 6 priority services: fishery products, hunting products, biomass fuel, global climate regulation, water regulation, protection against erosion.

Objective/Outcome: Conservation measures for sustainable wetlands managemen are developed

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Indicator 2: Management plans are prepared for each selected site and under implementation	Number	0.00 28-Feb-2014	3.00 31-Dec-2020		4.00 31-Dec-2020

Comments (achievements against targets):

The original target value of the three management plans to be prepared is in line with the three targeted Ramsar sites targeted by the project (one of the three sites is divided into two separate sites making the total four sites). However, since management plans for Petit Loango and Birougou were already prepared by the Government, the project financed their implementation. In addition, the project financed the preparation and implementation of two management plans for the Bas-Ogooue and Setté-Cama sites covering the period 2020-2025 following technical studies that were also financed by the project. The results of these studies were taken into account in the management plans.

Bas - Ogo oué: The work on the Ogooué delta revealed unique ecosystems and a high rate of endemism; this entailed that the management plan of Bas Ogooué goes beyond the limits of the Ramsar site to include the deltaic part of Ogooué which abounds in rich biodiversity. This management plan was finalized on December 15th, 2020.

Setté - Cama's management plan was finalized and made available on December 28, 2020. It analyzed the quality of water which was found to be unpolluted in 2020. One of the challenges discovered would be to maintain the lagoons of the Setté-Cama Ramsar site at their 2020 ecological level.

Loango and Birougou (national park): The development and management plans are under implementation; the project finances activities outlined in the respective management plans relating to the conservation, monitoring, and protection of protected areas and the involvement of communities.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Indicator 3: A national	Number	0.00	1.00		1.00

wetlands management strategy is developed		28-Feb-2014	31-Dec-2019		31-Dec-2020

Comments (achievements against targets):
The National Wetlands management strategy was successfully developed and made available. Studies and other information drawn from project activities were incorporated in the elaboration of the strategy. This includes (i) studies on the strengthening of biological and socio-economic knowledge and on ecosystem values; (ii) the ecological monitoring systems put in place under the project; (iii) the Wetlands of International Importance (WII) management manual in Gabon; (iv) feedback on the different methods of managing the natural resources of Gabon's WIIs between the different administrations concerned according to their national status and the frameworks for stakeholder participation in their management.

A.2 Intermediate Results Indicators

Component: Component 1: Generating Knowledge and Monitoring of Selected Critical Wetlands Ecosystems

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Indicator 1.1: A research scheme for the three selected Ramsar sites is developed and being implemented	Yes/No	No 28-Feb-2014	Y 30-Dec-2016		Yes 31-Dec-2020

Comments (achievements against targets):
The research program put in place made it possible to determine the priority information gaps to be filled, it initiated 8 studies, the results of the work made it possible to increase the available historical data by nearly 25%; In total, 9 studies were conducted on the 3 Ramsar sites of the project and made

available. The 9 studies focused on: the environmental services provided by the wetlands ecosystems, the different wetland habitats, birds, fish, large aquatic fauna, and the flora and fauna of mountain wetlands.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Indicator 1.2: An ecological monitoring system of wetlands is implemented	Yes/No	No 28-Feb-2014	Y 30-Dec-2016		Yes 31-Dec-2020

Comments (achievements against targets):
The ecological monitoring system of wetlands is being implemented; The project implemented the ecological monitoring system already set up by the ANPN which is SMART (Spatial Monitoring and Reporting Tools), a database fed monthly with data from missions whose objective is to ensure the integrity of the high ecological values of the sites; Additional studies have made it pos sible to improve knowledge of the biodiversity of the project's wetland sites.

Component: Component 2: Support for Sustainable Management of Selected Critical Wetlands Ecosystems

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Indicator 2.1: Land area where sustainable land management (SLM) practices have been adopted as a result of the project	Hectare(Ha)	0.00 28-Feb-2014	10.00 31-Dec-2019		12.01 31-Dec-2020

Comments (achievements against targets):
IGAs use sustainable land management practices, namely: use of organic fertilizers, no use of pesticides. The project also banned the slash-and-burn technique for crops. At closing, the project had 3 agricultural IGAs: Haute BOUMI cooperative (4 Ha);
 ITSANA agricultural cooperative (3 ha); Ebel Vert agricultural cooperative (3.01 ha); Moukimbi (4 Ha)

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Indicator 2.2: Forest area under sustainable forestry management (SFM) (according to forest type)	Hectare(Ha)	0.00 28-Feb-2014	30000.00 31-Dec-2019		71,331.00 31-Dec-2020

Comments (achievements against targets):
Activity reports on the LAB surveillance effort concerning Birougou are regularly made available by the field teams. The co nservation effort over 5 years has resulted in returning to nature nearly 71,331 ha of forests formerly stripped by the activity of gold mining and which are now regularly observed.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Indicator 2.3: Scores from the Protected Areas Management Effectiveness Tracking Tool (METT)* for selected wetlands sites	Number	0.00 28-Feb-2014	0.00 31-Dec-2020	0.00 31-Dec-2020	0.00 31-Dec-2020
Scores METT for Monts	Number	36.00	45.00		64.00

Birougou site		28-Feb-2014	31-Dec-2019		31-Dec-2020
Scores METT for Bas Ogooué site	Number	13.00 28-Feb-2014	20.00 31-Dec-2020		63.00 31-Dec-2020
Scores METT for Setté-Cama	Number	36.00 28-Feb-2014	45.00 31-Dec-2020		62.00 31-Dec-2020
Scores METT for Petit Loango	Number	49.00 28-Feb-2014	55.00 31-Dec-2020		74.00 31-Dec-2020

Comments (achievements against targets):
The involvement of the Gabonese State and the funding of field activities by the project have helped to enforce the laws on nature conservation, to promote actions such as patrol missions, awareness-raising, IGAs, environmental and social audits of industrialists operating inside or near selected Ramsar sites; these actions have significantly improved the scores achieved; The fin al results of METT scores at the end of the project are available; they show a clear change in scores, which may be linked to the reinforcement of operational capacity, the numerous retraining of field agents, the resources constantly deployed for more than 5 years in the various Ramsar sites; The ANPN is hard at work to maintain and enhance these achievements; in May 2020, new agen ts were assigned to the sites to reinforce the field staff; Finally, we note a better mastery of the exercise by the teams mob ilized in the field for the revision of METT scores.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Indicator 2.4: Direct project	Number	0.00	100.00		524.00

beneficiaries		28-Feb-2014	31-Dec-2020		31-Dec-2020
Female beneficiaries	Percentage	0.00	30.00		68.90

Comments (achievements against targets):
The total number of IGAs is 19 that can be divided into two series. (i) the First series of IGAs includes 9 micro-projects benefitting 236 people including 4 associations from the fishing sector, 2 from the agriculture sector, 1 from the NTFP sector, and 2 from the tourism sector ; (ii) the second series of IGAs included 9 micro-projects that benefitted 288 people benefited from IGA funding: 5 associations from the fishing sector, 3 from the tourism sector, 2 from the agriculture sector

Component: Component 3: Strengthening Institutional Framework to support Wetlands Management

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Indicator 3.1: The National Ramsar Committee is in place and functional	Number	0.00 28-Feb-2014	1.00 31-Dec-2020		1.00 31-Dec-2020

Comments (achievements against targets):
The National Ramsar Committee was created by ministerial decree n ° 220 / MFEPRN / SG / DGEPN issued on February 16, 2015. Four meetings have since been held in June 2015, June 2016, April 2018, and July 2019 bringing together the main insti tutional and civil society actors in the management of Gabon's wetlands. During these meetings, a roadmap for the implementation of the recommendations of the Ramsar convention in Gabon was prepared for the period 2016-2020. The National Ramsar Committee monitors and reports on the implementation of the recommendations of the Ramsar convention in Gabon, in particular through the monitoring of its roadmap and the activities implemented within the framework of the project. The action plan established by the project includes the organization of annual meetings of the National Ramsar Committee.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Indicator 3.2: Ramsar subcommittees at the selected sites are in place and functional	Number	0.00 28-Feb-2014	3.00 31-Dec-2019		3.00 31-Dec-2020

Comments (achievements against targets):

This indicator is achieved with the implementation formalized by ministerial decree 220 / MFEPRN / SG / DGEPN of February 16, 2015. The need to set up Ramsar subcommittees was recommended by the Ramsar Convention. The objective is the operationalization o f three sub-committees covering the project sites. These three Ramsar sub-committees were effective in December 2017 (Bas-Ogoo ué Ramsar site sub-committee), April 2018 (Birougou Ramsar site sub-committee), and December 2018 (Ramsar site of Setté Cama). It was also decided to take several approaches depending on the different national statutes of wetland ecosystems. Monts Birougou, Setté-Cama, and Petit Loango cover the national parks of Loango and Birougou and parts of their buffer / peripheral zones. It was decided that the missions to be conducted by the Ramsar sub-committees be entrusted to the bodies involved in the involvement of stakeholders in the management of national parks, set up in accordance with the regulations: the Local Management Consultative Committees (CCGL).

The Birougou Ramsar site sub-committee will have benefited from capacity building for agricultural cooperatives, with the theme “community project management”, from January 13 to 21, 2020. This training follows up on the recommendations of the previous supervision mission of the PIU in August 2019 which had identified several irregularities in the management of projects (in particular the work in a cooperative, financial, and human resources management). These shortcomings at one point affected the functioning of agricultural cooperatives. The sustainability of the contribution of the sub-committees to the manag ement of the sites (i) will be ensured in the national parks by the ANPN with regard to the CCGLs, whose existence is a regulatory obligation. With regard to the Bas-Ogooué subcommittee, the first roadmap will highlight the need to set up with th e industrial companies operating in the site, a sustainable financing mechanism for the operation of the sub-committee.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Indicator 3.3: Ramsar Information Sheets (RIS) are updated	Number	0.00 28-Feb-2014	4.00 31-Dec-2020		9.00 31-Dec-2020

Comments (achievements against targets):
The target set at the start of the project was for the Information Sheets on the four Ramsar sites targeted by the project to be updated. The partnership with the Ramsar convention secretariat made it possible to organize practical training for the various national stakeholders in 2015 and to update the information sheets for all nine Ramsar sites in Gabon in January 2018 (Bas - Ogooué, Monts Birougou, Petit Loango, Setté-Cama, Wonga - Wongué, Akanda, Pongara, Chutes du rivière Ivindo, Chutes du Mboungou Badouma, and Doumé).

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Indicator 3.4: Environmental audits for extractive industries operating in the selected Ramsar sites are conducted	Number	0.00 28-Feb-2014	4.00 31-Dec-2020		4.00 31-Dec-2020

Comments (achievements against targets):
The project widened its scope in 2019 beyond the set target to include agro-industrial and petroleum companies in the Ramsar sites of Bas-Ogooué and Loango / Setté-Cama, bringing the number of companies monitored to 25 companies. Although not being within the geographical limits of the project, the project approved that the General Directorate of the Environment and the Protection of Nature (DGEPN) extend its environmental protection actions to the locality of Port-Gentil, which is in the expansion area of the RAMSAR site in Bas-Ogooué, which could suffer from poor environmental practices of

companies whose activities extend beyond the sole locality of Port-Gentil, in particular with regard to subcontracting in the oil sector, some sites such as ONAL of the company Maurel & Prom are located in Bas-Ogooué. This is how the specialized teams of the DGEPN carried out audits of companies operating in the petroleum, forestry, and mining sectors. The entire environmental assessment and mon itoring cycle is taken into account in all of the DGEPN's missions: validation process of environmental and social impact study (ESIA), monitoring of Environmental and Social Management Plans (ESMP), environmental audits, unannounced verification of environmental compliance, census, mapping and monitoring of classified installations, as well as (iii) an expansion of the sectors previously targeted by the audits (initially limited to the oil, mining and forestry sectors) to all sectors of activity including agro-industrial activities. The results of the audits carried out also highlight shortcomings in the implementation of the Environmental a nd Social Management Plan, in particular on waste management and on soil and surface water protection measures; Hence the need for regular monitoring of the environmental compliance of companies' activities, making it possible to control the impacts of these activities on these sites.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Indicator 3.5: Maps including human settlements, industrial activities, and hydrological systems for the selected Ramsar sites are elaborated	Number	0.00 28-Feb-2014	3.00 31-Dec-2020		2.00 31-Dec-2020

Comments (achievements against targets):
Basic maps of Ramsar sites are currently available and accompany the fact sheets sent to the convention secretariat. Beyond these maps, the geomatics service of the ANPN was strengthened within the framework of the project and the DGEPN created its geomatics service in 2017. The data resulting from the studies carried out within the framework of the project currently make it possible to produce maps including in particular on human settlements, industrial activities, and hydrological systems for Bas-Ogooué (these different maps are presented in the book (Le Delta de l'Ogooué). But the different existing data have yet to be combined to produce similar maps for the other Ramsar sites, and only two maps could be produced by the end of the project.

Beyond the missions organized within the framework of the project and the Ramsar sites, the geomatics services of the ANPN and the DGEPN will have produced thematic maps for other administrations. Today, due to the proven expertise of the Geomatics Department of the DGEPN set up by the project, it serves all of the Departments of the Ministry of Water and Forests.

Component: Component 4: Project Management, Monitoring and Evaluation

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Indicator 4.1: Minimum implementation of annual work plan is completed	Percentage	0.00 28-Feb-2014	91.00 31-Dec-2020		91.00 31-Dec-2020

Comments (achievements against targets):

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Indicator 4.2: Project safeguard instruments are diligently implemented	Yes/No	No 28-Feb-2014	Y 31-Dec-2020		Yes 31-Dec-2020

Comments (achievements against targets):

Following the transfer of the specialist in environment and social development, the project mobilized its coordinator, also a specialist in this field. He received additional training from the World Bank in order to implement environmental and social safeguard policies and instruments. An action plan for

the implementation of environmental and social safeguards was prepared (i) to preselect IGAs, and (ii) to support the population living in Mouyiki (within the Ramsar site of Birougou), through beekeeping development activities.

B. KEY OUTPUTS BY COMPONENT

Objective/Outcome 1: Enhanced protection of biodiversity in selected forested wetlands on the Ramsar list through knowledge creation	
Outcome Indicators	1.Ecosystem services valuations are undertaken for each selected Ramsar site 2. Establishment of a monitoring system for Gabon's WII
Intermediate Results Indicators	1. Research scheme for the three selected Ramsar sites developed and being implemented. 2. Ecological monitoring system for Wetland Ecosystems is implemented 3. Diagnostic studies to improve knowledge of the biodiversity of the selected sites developed
Key Outputs by Component (linked to the achievement of the Objective/Outcome 1)	1. Spatial Monitoring and Reporting Tool (SMART) setup and operational at all sites 2. Ecological monitoring system established, including necessary data on: (i) monitoring of migratory birds in Bas-Ogooué (in progress since 2017); (ii) existence of a diagram of movements of 5 species of migratory birds; (iii) preliminary studies for the implementation of a protocol for monitoring fishery dynamics in the Setté-Cama lagoons; and (iv) availability of the taxonomic inventory of flora and fauna allowing ecological monitoring on the Birougou site. 3. Development of methods and protocols for monitoring certain biological parameters particular with regard to monitoring waterbirds and lagoon ichthyo-fauna. 4. Valuation and assessment of the ecosystem services including calculations for 6 ecosystem services in the 3 Ramsar sites finalized

	5. Increased knowledge of how to decrease economic losses of six ecosystem services within the three selected sites 6. Increased knowledge of conservation efforts within the three selected sites 7. 9 planned studies completed as follows: (i) mapping of Ramsar sites including human settlements, industrial activities and hydrological systems of wetlands; (ii) socio-economic diagnosis of each HZI, identifying the main stakeholders and traditional uses of natural resources; (iii) establishment of the current state of knowledge (diagnostics, baselines, inventories) and determination of the information gaps to be filled as a priority in order to produce a (iv) monograph on the biodiversity of Bas-Ogooué, entitled " the Ogooué Delta ”including a complementary study on the populations of large aquatic fauna in the Ramsar site of Bas-Ogooué. The English version of this monograph is available online at www.pazhgabon.com; (v) monitoring of populations of migratory aquatic birds in Bas-Ogooué - phase 1; (vi) monitoring of populations of migratory aquatic birds in Bas-Ogooué - phase 2; (vii) preliminary assessment of the main environmental services provided by the 3 selected areas; (viii) taxonomic inventories for carrying out a complete checklist on fauna, in order to identify rare species in Birougou; (ix) study on the ecological role of lagoons as spawning grounds for the reconstitution of fish stocks. The development of a National Strategy on Wetlands, supported by the capitalization of the various products and activities of the project, brought to a close the series of studies initiated by the PAZH.
Objective/Outcome 2: Conservation measures developed for sustainable wetlands management	
Outcome Indicators	1. Management plans are prepared for each selected site and under

	implementation. 2. National wetlands management strategy is developed
Intermediate Results Indicators	1. Forest area under sustainable forestry management 2. Mapping of wetlands including human settlements, industrial activities and hydrological systems of Ramsar sites is finalized
Key Outputs by Component (linked to the achievement of the Objective/Outcome 2)	1. 2 Management plans developed under the project and 4 management plans under implementation for all project sites 2. National wetlands management strategy developed. 3. Manual for the Management of Gabon Wetlands developed 4. Increased 12 ha land area where SLM practices have been adopted 5. Increased scores from PAMETT for the three Ramsar sites 6. 9 Ramsar Information Sheets for the selected sites updated 7. 20 IGAs: including, 19 cooperatives and 1 vulnerable community beekeeping project (NTFP).Cooperative IGAs comprised: 9 activities in the fisheries sector, of which 3 relate to aquaculture – provision of fishing equipment (canoes, motors, nets meeting the standards of the fishing code, vests, scales, smoking rooms, etc.), refurbishment of fishing center (with recruited staff (3) in Gamba) construction of fish shed (Ebel Abanga); 1 activity for the NTFP sector: construction and development of a soap-making workshop based on Moabi in Lambaréné; 5 activities in the tourism sector - 2 activities in Gamba (Setté Cama site - construction of 2 bungalows on Gamba beach for the benefit of the NGO Ibonga; and 3 activities in Lambaréné - construction and reinforcement of the operational capacities of the ecotourism village of Tsam Tsam in Oguémoué for NGO OELO (Organisation Ecotouristique du Lac Oguémoué) and development of the House of Nature in Lambaréné; development of a pontoon boat for the discovery of Ogooué and the Lakes). 4 activities in the agriculture sector: 3 in

	Birougou (nearly 10 ha planted with compost and a cassava and sugar cane processing store in Moukimbi) and 1 plantation of 2 ha in Ebel Abanga. 8. 6 IGA training workshops carried out at 3 sites. 9. Construction of 2 surveillance bases and 3 surveillance antennas in Ashouka, Nengué Ntogolo and Moukimbi. 10. Development and equipping of surveillance programs in project sites: For Bas Ogooue - recruitment of five eco-guards, two Pilots; the construction of two checkpoints (Ashouka and Nengué-Ntogolo), the acquisition of a motorized boat of 7m - 50hp x 2, of a motorized boat - 150hp x 2. 11. GIS unit established in DGEPN and GIS capacity enhanced in ANPN. ArcGis software[26] to all departments of the ministry. 12. Construction of a community environmental education center and other awareness raising initiatives.

26 ArcGIS is a geographic information system (GIS) for working with maps and geographic information maintained by the Environmental Systems Research Institute (Esri). ... ArcCatalog, for GIS data management and manipulation tasks.

ANNEX 2. BANK LENDING AND IMPLEMENTATION SUPPORT/SUPERVISION

A. TASK TEAM MEMBERS

Name	Role
Preparation	
Salimata D. Follea	Task Team Leader(s)
Kouami Hounsinou Messan	Procurement Specialist(s)
Enagnon Ernest Eric Adda	Financial Management Specialist
Lucienne M. M'Baipor	Social Specialist
Paula F. Lytle	Social Specialist
Emeran Serge M. Menang Evouna	Social Specialist
Supervision/ICR	
Salimata D. Follea	Task Team Leader(s)
Rose Caline Desruisseaux-Cadet, Lanssina Traore	Procurement Specialist(s)
Henie Dahlia Takodjou Meku	Financial Management Specialist
Andrianina Noro Rafamantanantsoa	Team Member
Antoinette Pongui	Procurement Team
Sylvie Munchep Ndze	Procurement Team
Celestin Adjalou Niamien	Team Member
FNU Owono Owono	Social Specialist
Cyrille Valence Ngouana Kengne	Environmental Specialist
Charlie Foyet Sonkeng	Environmental Specialist
Astrid Greta Gotalowya Ossouka	Team Member
Ellen J. Tynan	ICR Author
Dania Mosa	ICR contributing author
Dinara Akhmetova	ICR contributing author

B. STAFF TIME AND COST

Stage of Project Cycle	Staff Time and Cost	
	No. of staff weeks	US$ (including travel and consultant costs)
Preparation		
FY13	6.587	59,899.21
FY14	14.335	158,270.65
FY15	0	0.00
Total	**20.92**	**218,169.86**
Supervision/ICR		
FY15	5.473	64,321.95
FY16	9.809	70,196.32
FY17	12.291	93,269.70
FY18	9.077	84,777.37
FY19	4.772	55,798.66
FY20	7.300	77,877.59
Total	**48.72**	**446,241.59**

ANNEX 3. PROJECT COST BY COMPONENT

Components	Amount at Approval (US$M)	Actual at Project Closing (US$M)	Percentage of Approval (%)
Component 1: Generating Knowledge and Monitoring of Selected Critical Wetlands Ecosystems	.60	.59	99
Support for Sustainable Management of Selected Critical Wetlands Ecosystems	3.11	3.00	96.5
Strengthening Institutional Framework to support Wetlands Management	3.326	3.04	91.6
Project Management, Monitoring and Evaluation	.485	.48	99
Total	**7.52**	**7.12**	**94.70**

ANNEX 4. EFFICIENCY ANALYSIS

Project design and ex-ante economic analysis.

The original project development objective was to enhance the protection of biodiversity in selected forested wetlands on the Ramsar list through knowledge creation and development of conservation measures for sustainable wetlands management. Ramsar Convention entered into force in Gabon on 30 April 1987; Gabon currently has 9 sites designated as Wetlands of International Importance (Ramsar Sites), with a surface area of 3,001,769 hectares. The project focused on three of these sites: Bas Ogooué, Monts Birougou, and Petit Loango/Setté-Cama, as they best represent three main types of wetland habitats: coastal (Petit Loango and Setté-Cama), alluvial plan (Bas Ogooué), and forested high interior (Monts Birougou). The project was designed to be implemented by four components, to improve the level of knowledge about Gabon WII, establish a system for monitoring the ecological characteristics of wetlands ecosystems, establish the conditions necessary for managing an effective WII network in the country, and place an economic value on wetlands ecosystem services.
PAD economic analysis states that project benefits at the national would be derived from greater capacity for knowledge acquisition, technical expertise, and institutional protection of wetland ecosystems. At the local level, the chief project benefits are better protection of biodiversity through an improved capacity to implement conservation measures. Most of the benefits of this project are broad-based public goods. In addition to the qualitative assessment, the PAD provided GEF incremental cost analysis - an assessment of the GEF additionality and range of global environmental benefits to be delivered for biodiversity conservation and reduction of land degradation. The ex-ante analysis defined, but not measured the range of the benefits that would be delivered by the project as follows: (i) reduced vulnerability and exposure to climate change hazards such as floods, storms, and coastal erosion; (ii) increased off-site benefits such as hydrological management and enhancement of biodiversity; and (iii) socio-economic benefits from improved protection and productivity of wetland products and services.

Methodology

The ex-post economic analysis presents an incremental analysis of the economic benefits generated by the project, including an assessment of key benefit streams related to environmental goods and services provided by wetlands and carbon sequestration from improving the conservation of inland and coastal wetland ecosystems. With project situation considered prevention of wetlands productivity loss as a result of the project interventions: benefits stream is measured as prevented net annual losses in provisional and regulating (and supporting) services, resulted from sustainable management and conservation of wetlands (as a marginal benefit generated through improving the conversation and sustainable management of wetlands, the yearly average net loss of fisheries, hunting, carbon sequestration, and watershed services such as flood, soil erosion prevention and water regulating services were selected). With the project, this loss will convert into an avoided loss of marine ecosystems. The revenue stream from tourism and income generation activities was estimated separately, but not included in the assessment of the project's overall economic analysis due to data limitation.
The without-project scenario assumes that future development trends follow a no-conservation path, with low bound and high bound value for losses in wetlands ecosystem services. This scenario assumes

that without conservation actions, the loss of habitats in Ramsar sites will follow deforestation and loss of habitats rate outside of the wetland, based on regional data.

Table 1: Average annual deforestation rate by region (Global Forest Watch, 2018)

Region	Annual deforestation rate (2015-2016),%	Annual deforestation rate (2016-2017),%	Annual deforestation rate (2017-2018),%	Average annual deforestation,%
Moyen-Ogooue	0.36	0.26	0.39	0.34
Ogooue-Maritime	0.11	0.17	0.18	0.15
Ngounie	0.36	0.47	0.42	0.42
Ogooue-lolo	0.15	0.20	0.18	0.18

For mangrove environment, the rate of loss of mangrove ecosystems applied is 1.7 percent per year in the Congo Basin region, recorded between 2000-2010.
To assess the incremental benefits delivered by the project, assumptions were used considering the possible benefits in the project sites. Project benefits were estimated for two benefit streams: (i) ecosystem benefits stream as an effect of estimated loss reduction resulted from improved wetlands sustainable management and conservation, and (ii) estimated carbon sequestration. These estimates we provided by one of the studies supported by the project, economic valuation of ecosystem benefits generated by three target wetlands.

Economic Benefits Generated by the Project

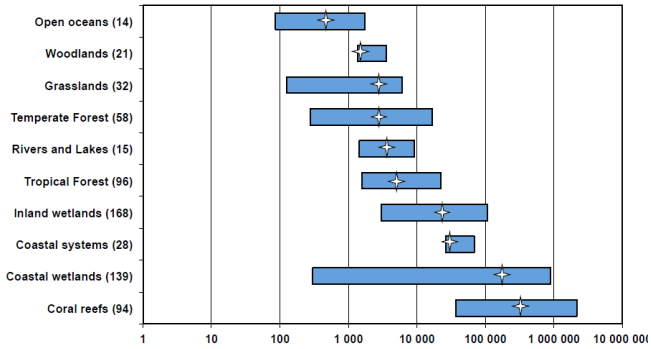
Environmental services provided by ecosystems can be categorized in a various way. For this purpose, we adopt classification of ecosystem services by the Millennium Ecosystem Assessment[27]:

1. Provisioning services: products obtained from ecosystems, e.g. fresh water, food, fiber, fuel, genetic resources, biochemical, natural medicines, and pharmaceuticals.
2. Regulating services: benefits obtained from the regulation of ecosystem processes, e.g. water regulation, erosion regulation, water purification, waste regulation, climate regulation and natural hazard regulation (e.g. droughts, floods, storms).
3. Cultural services: nonmaterial benefits people obtain from ecosystems through spiritual enrichment, cognitive development, reflection, recreation, and aesthetic experiences, e.g. cultural diversity, knowledge systems, educational values, social relations, sense of place, cultural heritage, and ecotourism.
4. Supporting services: those that are necessary to produce all other ecosystem services. They differ from provisioning, regulating, and cultural services in that their impacts on people are often indirect or occur over a very long time, whereas changes in the other categories have relatively direct and short-term impacts on people. Some services, like erosion regulation, can be categorized as both a supporting and a regulating service, depending on the time scale and immediacy of their impact on people. Supporting services include primary production, nutrient cycling, and water cycling.

[27] Source: derived from MA (2005a)

Even without considering biodiversity, wetlands offer considerable environmental benefits. A study estimated the global value of services rendered by wetlands at $7 trillion (Costanza et al., 1997[28]) or between $12,000 and $28,000 per hectare. Summary of the literature on the monetary values of various ecosystems (TEEB 2013[29]) demonstrate that wetlands ecosystems, especially coastal wetlands, have the highest values. TEEB 2010 provides an overview of the wider literature on the monetary values of ecosystem services provided by wetlands

Figure 1: Range of values of all ecosystem services provided by different types of habitat (Int.$/ha/yr 2007/PPP-corrected)[30]



TEEB Meta-analysis of existing literature summarized monetary value of the various types of wetlands ecosystem services (lower and upper bounds), which varies from $14 per ha/year to over $1milion per ha/year for coral reefs services (Table 2).

Table 2: Monetary values of services provided by wetlands (Int.$/ha/year – 2007 values)

[28] Costanza, Robert et al. 1997. "The value of the world's ecosystem services and natural capital." Nature 387 (6630): 253-60
[29] 2013. Russi D., ten Brink P., Farmer A., Badura T., Coates D., Förster J., Kumar R. and Davidson N. The Economics of Ecosystems and Biodiversity
for Water and Wetlands. IEEP, London and Brussels;
Ramsar Secretariat, Gland.
[30] Note: Figure xx shows range and average of total monetary value of the bundle of ecosystem services per biome. The total number of published value estimates per biome is indicated in brackets; the average value of the value range is indicated as a star sign. Source: de Groot et al. (2012) building on TEEB (2010).

Category of wetlands	Service category	No. of estimates	min value (Int.$/ha/y)	max value (Int.$/ha/y)
Coral reefs	provisioning services	33	6	20,892
	regulating services	17	8	33,640
	habitat services	8	0	56,137
	cultural services	43	0	1,084,809
	Total	**101**	**14**	**1,195,478**
Coastal systems (habitat complexes e.g. shallow seas, rocky shores & estuaries)	provisioning services	19	1	7,549
	regulating services	4	170	30,451
	habitat services	2	77	164
	cultural services	7	0	41,416
	Total	**32**	**248**	**79,580**
Mangroves & tidal marshes	provisioning services	35	44	8,289
	regulating services	26	1,914	135,361
	habitat services	38	27	68,795
	cultural services	13	10	2,904
	Total	**112**	**1,995**	**215,349**
Inland wetlands other than rivers and lakes (floodplains, swamps/ marshes and peatlands)	provisioning services	34	2	9,709
	regulating services	30	321	23,018
	habitat services	9	10	3,471
	cultural services	13	648	8,399
	Total	**86**	**981**	**44,597**
Rivers and lakes	provisioning services	5	1,169	5,776
	regulating services	2	305	4,978
	habitat services	0	0	0
	cultural services	5	305	2,733
	Total	**12**	**1,779**	**13,487**

Sources: TEEB (2010); de Groot et al. (2010); See also Brander et al. (2006, 2011), Ghermandi et al. (2011), Barbier 2011 and TEEB (2010) for other overviews of valuation studies and associated meta-analyses.

The wetland management program generally involves activities to protect, restore, manipulate, and provide for the functions and values emphasizing both quality and acreage by still advocating sustainable usage of them [Walters, C. 1986.]. Management of wetland ecosystems requires a systematic monitoring, cooperation among the major stakeholders (departments concerned with environment, soil, natural resource management, public interest groups, citizen groups, agriculture, forestry, urban planning and development, research institutions, government, policy makers, etc.). Wetland management must be an integrated approach in terms of planning, execution and monitoring requiring effective knowledge on a range of subjects from ecology, economics, watershed management, and planners and decision makers, etc.

Results achieved by the project will lead to improved, sustainable wetlands management and conservation:

i) data collection and assessment, enhanced knowledge about wetlands sites, threats and opportunities: nine studies conducted with the project support including mapping of Ramsar sites, socio-economic diagnosis, assessment of available data and gaps in knowledge management, Ogooué delta biodiversity assessment, monitoring of the migratory species and taxonomic inventories in key wetlands, role of coastal wetlands for marine species, and preliminary assessment of the key environmental services provided by targeted by project wetlands.

ii) Capacity building, methodology, and equipment for enhanced surveillance, operating monitoring systems SMART set up with expanded coverage, which resulted in clearing of Ramsar sites from illegal gold mining activities and significant decrease in wildlife crime observed during project implementation.

iii) Community support and stakeholders: to ensure the ecological integrity of the Ramsar site of Lower Ogooué, LAB activities will be taken over by the ANPN as part of a sponsorship by the Presidential Reserve, Ramsar Site of Wonga Wongué and Loango National Park (Bas-Ogooué as an extension of Wonga Wongué and Setté-Cama to be supported by Loango National Park oversite). Agricultural Fund supported 18 cooperatives and community organizations, with 50 percent of female participants. Action plan for disadvantaged population group resulted in installation of 33 beehives and processing equipment. Sustainable management plan for wetland sites was developed for the Lower Ogooué and Setté Cama wetlands.

iv) Institutional framework: fully equipped geomatic cell was established in DGEPN, to support development of database for environmental impact studies (EIS) and their application. The Geomatics Cell supported the Government in selecting an adequate site for the construction of the Waste Treatment and Valuation Centre in Libreville, through the production of thematic maps. Moreover, support to wetland governance led to establishment of the Ramsar National Committee, with the subcommittees in the Ramsar sites supported by the project.

v) Enhanced management of the wetlands areas and improved conservation as recorded in the METT (Protected Areas Management Effectiveness Tracking Tool) score. Based on the PA-METT criteria, all project sites have made significant progress, and each has reached its target value. The final PA-METT scores obtained at the project closure demonstrate a clear evolution, linked to the strengthening of the operational capacities of the wetlands protection stuff and field officers, and the resources deployed during project implementation period at the Ramsar sites.

Table 3 achievement of the Protected Areas Management Effectiveness METT score for each site

	Reference value	2015		2016		2017		2018		2019		2020	
		target	result	target	result	target	result	target	result	target	result	target	result
Birougou Mountains	36	36	42	36	-	36	52	40	-	45	-	45	64
Setté-Cama	36	36	36	36	-	36	55	40	-	45	-	45	62
Petit Loango	49	49	49	49	-	49	66	50	-	55	-	55	74
Bas-Ogooué	13	13	13	13	-	15	38	15	-	20	-	20	63

Results achieved by the project demonstrate improvements in the management of the wetlands area; we can also assume that it will result in reduction/avoidance of losses of ecosystem services provided by wetlands. Using the assessment of the project-led study, the following information and data were applied to estimate project efficiency at the closure.

Funded by the project study[31] on evaluation of wetlands ecosystem services estimated the economic value

[31] Biotope. 2018. Evaluation préliminaire des principaux services environnementaux fournis par les zones humides

of avoided losses of ecosystem services[32] as a result of conservation and sustainable management of the targeted by project Ramsar sites; the results show these values varies between 25 and 35 billion FCFA or US$ 43-60 million.

The valuation study examined major ecosystem services delivered by the target wetlands and estimated scenarios with and without conservation interventions. The economic valuation focused on six ecosystem services, including three direct-use provisional services for local communities and three regulatory services related to indirect use values. Non-use values (heritage value, value of existence) were not assessed in this study. The selected ecosystem services are:

- Direct-use provisional services: fish products, hunting products, biomass fuel.
- Indirect use-value regulatory services (global climate regulation).
- Regulation and clean water supply/erosion protection.

Annual potential value of the selected ecosystem services as estimated by the project from each site vary between 27 and 6,700 per hectare (Table 4)

Table 4: Annual potential value of the selected ecosystem services in selected Ramsar sites, FCFA/ha

	Fishing (provisional and regulatory services)	**Hunting**	**Biomass fuel**	**CO2**	**Watershed protection**
Bas Ogooue	n/a	600 – 1,389	6,057 -12,009	n/a	3,694
Petit Loango	27-182	62-144	661-1,323	n/a	417
Sette Cama	52-353	57-131	610-1,241	n/a	379
Birougou	n/a	324-751	3,364-6,690	n/a	2,098

Table 5: Summary of the reduction/avoidance of losses of ecosystem services provided by targeted wetlands.

	Petit Loango		**Bas Ogooue**		**Sette Cama**		**Birougou**	
	low bound	**high bound**	**low bound**	**high bound**	**low bound**	**high bound**	**low bound**	**high bound**
Hunting	0.3	0.6	1.6	3.4	0.08	0.2	0.5	1.1
Fishing - supply services	0.5	0.6	N/a	N/a	0.9	1.1	N/a	N/a
Fishing - Support service / fish stock value (David et Cillauren 2018[33])	0.5	0.9	N/a	N/a	1	1.7	N/a	N/a
Fishing - Support service / fish stock value (Rononback et al., Thollot, 1996)	0.4	3.1	N/a	N/a	N/a		N/a	N/a
Biomass fuel	3	6	15	29	1	2	5	10
Global climate regulation	981	1,389	3,894	4,966	733	1,227	1,362	1,721

sélectionnées au Gabon. ANPN – PAZH.

[32] Six services considered a priority: fish products, fish products, hunting products, combustible biomass, global climate regulation, water regulation, erosion protection

[33] 2018. David, Gilbert, and Hope Cillaurren. Methodology of calculating the monetary assessment of the supply service provided by mangroves vis-à-vis the human populations along the shoreline. Ird.

Watershed protection	84	84	436	436	28	28	153	153
Total annual, FCFA million	**1,069**	**1,481**	**4,347**	**5,434**	**764**	**1,260**	**1,521**	**1,885**
Total annual, $ million	**1.9**	**2.7**	**7.8**	**9.8**	**1.4**	**2.3**	**2.7**	**3.4**

Distribution of Costs and Benefits Over Time

A 20-year period is assumed to assess the economic feasibility of the project. While the project costs are only assumed to emerge for the six years of project implementation, the benefits and operational costs are assumed to be generated beyond the implementation period[34]. Project costs over the implementation period are approximated considering the project financing of US$ 7.1 million by the GEF and capital one-time investments by the government at the time of project approval (US$5.4 million). Operating costs were estimated as annual government expenditures for protection, monitoring and surveillance of the targeted wetlands and related protected areas.

Results

Table 6 shows main parameters under low and high bound values of the avoided losses for the selected ecosystem services. Project NPV is negative at low-bound value of net avoided losses, with the IRR at 4 percent and benefit/cost ratio at 1.1. However, increase in O&M costs increase annually following conservative 3 percent rate, project NPV is positive with IRR at 13 percent. High bound avoided losses value result in project NPV US$44.8 million and IRR at 16 percent even under the increased O&M costs scenario.

Table 6. Net Present Value (NPV) and Benefit-Cost (BC) ratio under different scenarios

a) No increase in O&M cost

Project costs	0	1	2	3	4	5	6	17	18	19	20
GEF resources	807,882	256,774	1,187,726	1,456,971	1,276,012	1,018,113	1,121,570				
Government contribution (O&M, investments)	10,083,730	4,940,504	5,871,456	6,140,701	5,959,742	5,701,843	5,805,300	4,683,730	4,683,730	4,683,730	4,683,730
Total	10,891,612	5,197,278	7,059,182	7,597,672	7,235,754	6,719,956	6,926,870	4,683,730	4,683,730	4,683,730	4,683,730
Project benefits, low bound							13,824,740	13,824,740	13,824,740	13,824,740	13,824,740
Net Benefits	(10,891,612)	(4,940,504)	(5,871,456)	(6,140,701)	(5,959,742)	(5,701,843)	12,256,818	9,141,009	9,141,009	9,141,009	9,141,009
Project NPV	30,635,422										
IRR	13%										
B/c ratio	1.44										
Project benefits, high bound							18,062,118	18,062,118	18,062,118	18,062,118	18,062,118
Net Benefits	(10,891,612)	(5,197,278)	(7,059,182)	(7,597,672)	(7,235,754)	(6,719,956)	11,135,248	13,378,388	13,378,388	13,378,388	13,378,388

[34] As reported by the PA METT at the project design stage (2014)

Project NPV	61,388,442
IRR	18%
B/c ratio	1.88

b) Annual increase in O&M costs (3 percent)

Project costs	0	1	2	3	4	5	6	…17	18	19	20
GEF resources	807,882	256,774	1,187,726	1,456,971	1,276,012	1,018,113	1,121,570				
Government contribution (O&M, investments)	10,083,730	4,824,242	4,968,970	5,118,039	5,271,580	5,429,727	5,592,619	7,741,493	7,973,737	8,212,950	8,459,338
Total	10,891,612	5,081,016	6,156,696	6,575,010	6,547,592	6,447,840	6,714,189	7,741,493	7,973,737	8,212,950	8,459,338
Project benefits, low bound							13,824,740	13,824,740	13,824,740	13,824,740	13,824,740
Net Benefits	(10,891,612)	(5,081,016)	(6,156,696)	(6,575,010)	(6,547,592)	(6,447,840)	7,110,551	6,083,247	5,851,002	5,611,790	5,365,402
Project NPV	(5,922,814)										
IRR	4%										
B/c ratio	1.16										
Project benefits, high bound							18,062,118	18,062,118	18,062,118	18,062,118	18,062,118
Net Benefits	(10,891,612)	(5,081,016)	(6,156,696)	(6,575,010)	(6,547,592)	(6,447,840)	11,347,929	10,320,626	10,088,381	9,849,169	9,602,780
Project NPV	44,862,099										
IRR	16%										
B/c ratio	1.52										

Income-Generating Activities

Subcomponent 2.2. provided sub-grants to the communities in wetlands areas. The objective of this subcomponent is to help communities adjacent to the selected Ramsar sites develop income-generating activities for sustainable wetland management. Consistent data to assess the efficiency of the subprojects was not provided, thus this benefit stream was not included in the project level efficiency estimate. However, efficiency analysis was conducted for one of the subprojects implemented by the OELO, environment and ecotourism NGO operating on Lake Oguemoue.

Financial and economic analysis for the subproject considered net revenues from the tourism, data for this analysis were provided by the project report on this subproject for the period 2016-2018. Net revenues for the project life were estimated as an average based on 2016-2018 reports, and sensitivity analysis considered at least 50-80 percent of revenue reduction as a result of COVID impact on the local economy. Project costs are FCFA 30 million (equivalent to $53,000), input from the NGO FCFA 0.18 million ($200 per year), and O&E costs as 5 percent of the project amount.

All the case scenarios are positive suggesting that the project is economically viable, even with 90 percent reduction in benefits, at 6 percent discount rate and 10 years project life.

Table 7. Assessment of income generating activity effectiveness

	project	1	2	3	4	5	6	7	8	9	10

	life, year										
Project cost, $		18,024	18,024	18,024	2,704	2,704	2,704	2,704	2,704	2,704	2,704
NPV costs, $	60,850	17,004	16,041	15,133	2,141	2,020	1,906	1,798	1,696	1,600	1,510
Benefits, $					35,009	46,050	57,451	46,170	46,170	46,170	46,170
NPV benefits, $	215,425	0	0	0	27,730	34,411	40,500	30,706	28,968	27,328	25,781
Net benefits, $		-18,024	-18,024	-18,024	32,305	43,347	54,747	43,466	43,466	43,466	43,466
Project NPV, $	**154,574**	-17,004	-16,041	-15,133	25,589	32,391	38,595	28,908	27,271	25,728	24,271
IRR, %	**46**										
B/c ratio	**3.54**										
Benefits, $ (10% post project)					35,009	46,050	57,451	4,617	4,617	4,617	4,617
NPV benefits, $	0	0	0		27,730	34,411	40,500	3,071	2,897	2,733	2,578
Net benefits, $		-18,024	-18,024	-18,024	32,305	43,347	54,747	1,913	1,913	1,913	1,913
Project NPV, $	**53,070**	-17,004	-16,041	-15,133	25,589	32,391	38,595	1,273	1,200	1,133	1,068
IRR, %	**33**										
B/c ratio	**1.87**										

Sustainable Forest Management

One of the other ways to estimate efficiency of the project interventions is to compare relative costs of the sustainable forest management interventions to the existing estimates in tropical forests. Investments per hectare for establishing SFM under the project are estimated as $26 per hectare, which is compatible to the similar projects under the Amazon sustainable program (between $15/ha and $22/ha) and some earlier assessment provided in the UNFCCC study (200735, updated 200836), which is the most comprehensive and popular study on costs of SFM (summary of existing literature and pre-studies). UNFCCC estimated the ratio of SFM investments as $12/ha to $20/ha for tropical and subtropical forests37. Based on these references, relative cost of establishing SFM under this project can be considered as appropriate.

Incremental cost analysis

The proposed GEF alternative was designed to provide resources to extend the coverage of management activities in Gabon's wetlands. The project treatment of three selected sites that were not under National park was supposed to bring some degree of planning activity to 1.9 million hectares of WII. In this case, 84 percent of the country's WII area would benefit from national and local management capacity building

[35] UNFCCC, 2007. Investment and financial flows to address climate change, Background paper on analysis of existing and planned investment and financial flows relevant to the development of effective and appropriate international response to climate change. UNFCCC, p. 272.
[36] UNFCCC, 2008. Investment and financial flows to address climate change: an update. Technical paper. , FCCC/TP/2008/7. 26 November 2008. UNFCCC, p. 111.
[37] 2014. Köthke, Margret. Costs of sustainable forest management in the tropics: State of knowledge, Thünen Working Paper, No. 27, Johann Heinrich von Thünen-Institut, Braunschweig, http://nbn-resolving.de/urn:nbn:de:gbv:253-201408-dn053660-3

through information collection and consolidation regarding land use, resources use rights and claims, environmental components, socio-economic data and analyses, monitoring and control, management plan development, and plan implementation.

The first step in the process of building a national institutional framework and mainstreaming wetlands concerns across sectors and levels of government was the establishment of a national inter-ministerial committee, as envisioned under the Ramsar Convention. The development of a national wetlands strategy would require an inter-ministerial collaboration to set wetland management priorities to guide land-use decisions concerning wetlands.

This objective was achieved fully. Improved management effectiveness score (METT) reached the target value in all selected sites. Based on the PA-METT records, all project sites have made significant progress, and each has reached its target value. The PA-METT scores at the end of the project show a clear evolution, linked to the strengthening of operational capacity, and the resources deployed continuously for more than five years in the various Ramsar sites.
The National Wetlands Strategy was developed under the project on the basis of studies and assessments prepared under the first component - studies on the strengthening of biological, socio-economic knowledge and ecosystem values; the ecological monitoring systems put in place as part of the project; the WII management manual in Gabon; feedback on the different ways in which Gabon's WII natural resources are managed, depending on their national status, and the frameworks for involving actors in their management.

One of the key GEF project indicators was the area of forests under sustainable management – the project reported that over 71,000 ha, well above the target value, were brought under sustainable management. This indicator has been limited to the conservation efforts, sustainable monitoring, and management of forests degraded as a result of illegal mining activities in the Birougou area. It is measured through the SMART patrol monitoring system, which tracks the rehabilitation of the old gold-mining activities sites in the premises of the national park covered by surveillance patrols. Interventions to combat illegal gold mining and poaching in Birougou, with the participation of the eco-guards from other parks, local police, and the teams of the Analysis and Intelligence Investigation Unit (CIAR) resulted in (i) clearing two gold mining camps and clearing the central and western areas of the Ramsar site, (ii) arrests of 20 offenders (and 18 imprisonments), (iii) clearing from illegal mining and regularly monitored now nearly 71,331,582 hectares of forests previously affected by gold mining.

The project has set up and operationalized the Ramsar Committees and Subcommittees at the national and local levels (Bas-Ogooué, Birougou and Setté-Cama). These institutions now serve as an interface between the administration and rural communities, thus promoting participatory management of the resources that abound in wetlands. Just as they allow the various jurisdictions involved or interested in wetland management to have a formal exchange framework through which they support the development and implementation of effective policies for sustainable management of wetland ecosystems.

Wetland Management Manual prepared by the project and adopted by all stakeholders (Administration, Communities, NGOs and Researchers) has established an effective framework for action by all stakeholders involved in wetland management. This Manual is the appropriate mechanism to guide the

various actions in aquatic environments while promoting the creation of effective synergies between the various stakeholders.

Conclusion and assessment of the project's use of resources

The income-generating activity promoting ecotourism evaluated for the economic and financial analysis will generate a Benefit-Cost ratio between 1.87 and 3.54; and an Internal Rate of Return (IRR) between 33 percent and 46 percent. The economic and financial analysis thus shows that project-supported investments will bring substantial financial and economic benefits to local communities supported by the project.

The project was restructured to adjust the implementation time, without the cost overrun. Despite a one-year extension, the actual project management costs remained within the estimated cost at the appraisal. There were no major changes in the project team. Compared to the outcomes achieved, the project is considered as efficient. Average size of similar projects funded by the GEF varies between US$ 5-7 million.

ANNEX 5. BORROWER, CO-FINANCIER AND OTHER PARTNER/STAKEHOLDER COMMENTS

Projet d'appui à la gestion durable des Zones Humides critiques du Gabon (PAZH)

FINANCEMENT GEF/BIRD – GABON

Don N°: TF 016689- GA

EVALUATION FINALE DU PAZH

Rapport Final

DECEMBRE 2020

The following is a summary and translation of the Borrower's Completion Report. The full report will be filed with the final ICR.

Project Context and Implementation

The sustainable management of renewable natural resources and hence of biodiversity is a major issue for sustainable development. The Congo Basin is considered the world's second-largest tropical forest

after the Amazon. Gabon has created since 2002 a network of 13 national parks covering an area of more than 3 million hectares, or 11% of the national territory. It is thus the Gabonese state's role to preserve various exceptional natural resources. Among these are wetlands, nine of which have been classified as Ramsar sites. All these resources provide important ecosystem goods and services, which contribute to raising the country's gross domestic product.

However, the exploitation of wetlands by local populations can have negative impacts on their multiple ecological functions and hence a degradation of biodiversity. Activities like illegal fishing, artisanal mining with the use of uncontrolled chemicals, poaching, etc. constitute risks for the preservation of renewable natural resources. This raises the question of a strategy for their sustainable management, in particular for wetlands classified as Ramsar sites.

It is with a view to setting up an adequate framework for the management of wetlands that the PAZH project was initiated by Gabon and funding was requested in 2014 for its implementation from the Global Environment Facility (GEF) administered by the World Bank, in partnership with the Ramsar Convention Secretariat. Its objective is to improve the protection of biodiversity in selected forest wetlands (Bas Ogooué, Monts Birougou, Petit Loango / Setté Cama). It is therefore a question of producing knowledge allowing the implementation of concrete measures for the conservation and sustainable management of these ecosystems.

The PAZH is co-financed between the Gabonese State and the Global Environment Fund (GEF), whose contribution is USD 7,521,000. Its implementation was ensured by the Directorate Générale de l'Environnement et de la Protection de la Nature (DGEPN) and the National Parks Agency (ANPN). It was carried out from 2014 to 2020 on the basis of 3 operational components which are: (i) Improvement of knowledge and monitoring of ecosystems in critical wetlands, (ii) Support for the sustainable management of ecosystems in selected wetlands, (iii) Strengthening of the institutional framework for the management of selected wetlands as well as a component on Project management and monitoring-evaluation.

Lessons Learned

The main lessons of the preparatory phase of the project is that biodiversity is not only critical in protected areas in Gabon, there is significant biodiversity richness in areas beyond official protected areas. Given the rapid population growth and associated competing land use, it is also unrealistic to envision the conservation and sustainable use of biodiversity in larger production landscapes, including agriculture and forest land.

It is difficult to leverage coordination and resources between sectors without clearly defining roles and establishing the commitment required for intersectoral coordination. It is also important to build capacity and raise awareness of the functions of wetlands for particular sectors and for the economy as a whole.

Lessons learned regarding implementation of the project, particularly for the sustainable management of Ramsar sites:

- The success of biodiversity conservation actions and subsequently the sustainable management of Ramsar sites necessarily involves improving the living conditions of the populations who are their guarantors. Likewise, only concrete, visible and tangible achievements in the field make it possible to

mobilize actors. To this end, the development of ecological micro-projects constitutes sources of financial motivation for the populations for the conservation of biodiversity and an important pledge for the replication and for the sustainability of the achievements of such a project:

- good financial governance, reporting and accountability are essential for establishing a good working climate between partners, especially financial partners;
- the sustainability of good practices developed by the project can only be ensured through appropriate actions for conservation, protection and surveillance, development, awareness and capacity building of stakeholders in the process;
- Establishment of a climate of trust between populations, government institutions and with associations and private actors is to be strengthened through formalized frameworks that define roles, responsibilities.
- the success of conservation projects requires long-term financing, the Government should set aside substantial budgets for this purpose;
- The active support of the PIU remains a very important parameter in achieving the objectives of the project;
- The autonomy of the entity dedicated to the management of the project both vis-à-vis the administration and in its relations with all the stakeholders constitutes a determining element in the effective management of the project and in the achievement of better results. It is essential that the management unit has all the levers likely to facilitate the proper execution of its mission. These include optimal support for the administration on which it depends through the facilitation of certain processes that require its full involvement and through due diligence in the processing of requests submitted to it both in terms of procedures and technical aspects.

In terms of lessons learned in the operational and project management aspects:

- The importance of involving several partners corresponding to the needs of the project for the implementation of activities.
- Good business planning is essential for achieving results. The different periods of technical and financial support allowed actors to get involved in various activities. In particular, on the surveillance of zones and IGAs.
- The need for regular monitoring of scheduled activities to avoid implementation delays.
- Providing training for the project team and partners is essential in order to acquire knowledge of the processes and requirements of the donor. For the actors, capacity building was necessary to enable them to implement the activities.

Recommendations:

- It was agreed that the results of the various studies will be presented to decision-makers (parliamentarians and government) in November 2020, in accessible language, highlighting the importance of wetlands for the country's economy and the need to continue to provide public funds for the implementation of conservation measures after project closure. It is recommended to include this activity in the 2021 and 2022 Annual Work Plan of the DGEPN.
- One question that remains unanswered is sustainability after the project. Concretely, how is the appropriation of surveillance by state services? There is a need to continue efforts after the project to maintain a good level of indicators.
- It is very useful to carry out a beneficiary satisfaction survey in 2021 and to draw the main lessons

relating to the management of IGAs.

Conclusion

The direct beneficiaries who are the residents of the three Ramsar sites, are estimated at 70,000 people. Farmers and fishermen in the three Ramsar sites have improved their farming practices and fishing techniques. This should allow an increase in agricultural and fish productivity in the short and medium term. The establishment of various income-generating activities (financing of micro-projects) will improve the living conditions of the communities inside and near the three project sites. Therefore, securing environmental services can lead to an improvement in ecotourism potential in the area. The PAZH project will consequently contribute to food security and preserve wetlands.

As for national institutions, they have benefited from capacity building (information, techniques, institutions, and policies) to promote sustainable management of wetlands. Thanks to the project, several executives have thus improved their knowledge of good management of natural assets and biodiversity in Gabon.

The PAHZ project undoubtedly has achievements that must be sustained. This involves monitoring the activities put in place, in particular the monitoring of the various sites to control practices that are harmful to the conservation of biodiversity. For income-generating activities, a regular monitoring mechanism should be found to stimulate actors' enthusiasm for autonomy.

ANNEX 6. SUPPORTING DOCUMENTS

Photos of Income Generating Activities and capacity building support, including: ecotourism infrastructures (community craft center, kitchen), organic crops and farmers, surveillance and ranger stations, efficient fish processing.