Document of

The World Bank

FOR OFFICIAL USE ONLY

Report No: ICR128693

IMPLEMENTATION COMPLETION AND RESULTS REPORT

(TF014109; TF057165; IDA-52060)

ON GRANTS FROM THE

GLOBAL ENVIRONMENT FACILITY TRUST FUND

IN THE AMOUNT OF US$ 6 MILLION & US$ 5.56 MILLION

AND ON A CREDIT

FROM THE

INTERNATIONAL DEVELOPMENT ASSOCIATION

IN THE AMOUNT OF SDR 1.4 MILLION

(US$ 2.0 MILLION EQUIVALENT)

TO THE

REPUBLIC OF BENIN

FOR THE

BENIN FOREST AND ADJACENT LAND MANAGEMENT PROJECT

(P069896 and P131051/P132431)[1]

July 31, 2018

Environment & Natural Resources Global Practice
Africa Region

[1] This ICR covers an original project (P069896) and additional financing (P131051; P132431). As the system is unable to combine the P codes utilized throughout the life of the project, the ICR will be submitted under both P069896 and P131051/P132431.

CURRENCY EQUIVALENTS

Exchange Rate Effective: January 31, 2018

Currency Unit	=	CFA
SDR 1.00	=	US$1.457120
US$ 1.00	=	CFA 528.46490

FISCAL YEAR
July 1 - June 30

Regional Vice President:	Hafez M. H. Ghanem
Country Director:	Pierre Frank Laporte
Senior Global Practice Director:	Karin Erika Kemper
Practice Manager:	Benoit Bosquet
Task Team Leader(s):	Salimata D. Follea
ICR Main Contributor:	Ellen J. Tynan

ABBREVIATIONS AND ACRONYMS

AF	Additional Financing
CAS	Country Assistance Strategy
CBO	Community Based Organization
CMU	Country Management Unit
CPS	Country Partnership Strategy
CeRPA	Regional Centers for Agriculture Promotion/*Centres Régionaux pour la Promotion Agricole*
CTAF	Forest Management Technical Unit/*Cellule Technique d'Aménagement Forestier*
CTF	Conservation Trust Fund
DGEFC	General Directorate of Water, Forests and Hunting/*Direction Générale des Eaux, Forêts et Chasse*
DGFRN	General Directorate of Forests & Natural Resource Management/ *Direction Générale des Forêts et des Ressources Naturelles*
IGA	Income Generating Activity
ESMF	Environmental and Social Management Framework
FALMP	Forests and Adjacent Lands Management Project/ *Programme de Gestion des Forêts et des Terroirs Riverains*
FAP	Forest Action Plan
FMR	Financial Monitoring Reports
FSOA	The West Africa Savannah Foundation/*Fondation des Savanes Ouest-Africaines*
GDP	Gross Domestic Product
GEF	Global Environment Facility
GEO	Global Environment Objectives
GoB	Government of Benin
GF	Gazetted Forests/ *Forêts Classées*
IDA	International Development Association
IUCN	International Union for Conservation of Nature
KfW	German Development Agency /*Kreditanstalf fur Wiederaufbau*
MEHU	Ministry of Environment, Housing and Urban Development/*Ministère de l'Environnement, de l'Habitat et de l'Urbanisme*
MS	Moderately Satisfactory
MTEF	Medium Term Expenditure Framework
NEAP	National Environmental Action Plan
NGO	Non-Governmental Organization
ONAB	National Timber Office/*Office National de Bois*
ORAF	Operational Risk Assessment Framework
PDO	Project Development Objective
PEFA	Public Expenditure and Financial Accountability
PFM	Public Financial Management
PFMP	Participatory Forests Management Plan
PGFTR	Forests and Adjacent Lands Management Program/*Programme de Gestion des Forêts et des Terroirs Riverains*
PRSC	Poverty Reduction Strategy Credit
PRSP	Poverty Reduction Strategy Paper
SAWAP	Sahel and West Africa Program for the Great Green Wall Initiative
SLWM	Sustainable Land and Water Management

TABLE OF CONTENTS

DATA SHEET

BASIC INFORMATION

Product Information

Project ID	Project Name
P132431	BJ-Forest & Adjacent Land Mgmt Addit Fin
Country	**Financing Instrument**
Benin	Investment Project Financing
Original EA Category	**Revised EA Category**
Partial Assessment (B)	Partial Assessment (B)

Related Projects

Relationship	Project	Approval	Product Line
Supplement	P131051-Benin AF Forest and Adjacent Land Management	14-Mar-2013	Global Environment Project

Organizations

Borrower	Implementing Agency
Ministry of Environment	General Direction of Forests and Natural Resources (DGFRN)

Project Development Objective (PDO)

Original PDO

The PDO/GEO of the original project will remain the same as the PDO/GEO of the additional financing, i.e. “to assist the Recipient in its effort to lay down the foundation for a collective integrated ecosystem management system of its forests and adjacent lands”.

FINANCING

	Original Amount (US$)	Revised Amount (US$)	Actual Disbursed (US$)
World Bank Financing			
P132431 IDA-52060	2,000,000	1,990,102	2,044,232
P131051 TF-14109	5,555,556	5,555,556	5,555,556
Total	**7,555,556**	**7,545,658**	**7,599,788**
Non-World Bank Financing			
Borrower	0	0	0
Total	**0**	**0**	**0**
Total Project Cost	**0**	**7,545,658**	**7,599,788**

KEY DATES

Project	Approval	Effectiveness	MTR Review	Original Closing	Actual Closing
P132431	14-Mar-2013	28-Oct-2013		31-May-2016	31-Jan-2018
P131051	14-Mar-2013	28-Oct-2013		31-May-2016	31-Jan-2018

RESTRUCTURING AND/OR ADDITIONAL FINANCING

Date(s)	Amount Disbursed (US$M)	Key Revisions
05-Oct-2015	.97	Change in Loan Closing Date(s)

KEY RATINGS

Outcome	Bank Performance	M&E Quality
Satisfactory	Satisfactory	Modest

RATINGS OF PROJECT PERFORMANCE IN ISRs

No.	Date ISR Archived	DO Rating	IP Rating	Actual Disbursements (US$M)
01	18-Sep-2013	Satisfactory	Satisfactory	0

02	07-Apr-2014	Satisfactory	Satisfactory	.53
03	03-Nov-2014	Satisfactory	Satisfactory	.97
04	19-May-2015	Moderately Satisfactory	Moderately Satisfactory	.97
05	08-Dec-2015	Moderately Satisfactory	Moderately Satisfactory	.97
06	19-May-2016	Moderately Satisfactory	Moderately Satisfactory	1.52
07	30-Nov-2016	Satisfactory	Satisfactory	1.52
08	25-Apr-2017	Satisfactory	Satisfactory	1.57
09	15-Dec-2017	Satisfactory	Satisfactory	2.04

SECTORS AND THEMES

Sectors

Major Sector/Sector	(%)
Agriculture, Fishing and Forestry	**100**
Agricultural Extension, Research, and Other Support Activities	24
Fisheries	13
Crops	25
Livestock	13
Forestry	25

Themes

Major Theme/ Theme (Level 2)/ Theme (Level 3)	(%)
Private Sector Development	**100**
Jobs	100
Urban and Rural Development	**67**
Rural Development	67
Rural Non-farm Income Generation	67

Environment and Natural Resource Management	**133**
Climate change	100
Mitigation	50
Adaptation	50
Environmental policies and institutions	33

ADM STAFF

Role	At Approval	At ICR
Regional Vice President:	Makhtar Diop	Hafez Ghanem
Country Director:	Madani M. Tall	Pierre Frank Laporte
Senior Global Practice Director:	Jamal Saghir	Karin Erika Kemper
Practice Manager:	Jonathan S. Kamkwalala	Benoit Bosquet
Task Team Leader(s):	Salimata D. Follea	Salimata D. Follea
ICR Contributing Author:		Ellen J. Tynan

NB: This ICR covers both the original project (P069896) and the Additional Financing (AF) project (P131051/P132431). Due to the multiple project numbers for this project and the inability of the system to include data from both the original project and the Additional Financing, this data sheet includes the information from the *most recent* (AF) project only. A restructuring of P069896, approved in May 2011 with 61% of the GEF grant amount disbursed, is not reflected in this datasheet. The restructuring was for: (i) revision of the subsidiary objectives (SOs) and associated indicators; (ii) a reallocation of funds; and (iii) an extension of the closing date by 18 months, from November 30, 2011 to May 31, 2013. Updated tables covering all sources of financing are provided below.

ADM STAFF AT APPROVAL OF THE ORIGINAL PROJECT (P069896)

Vice President:	Gobind T. Nankani
Acting Country Director:	Nils O. Tcheyan
Sector Manager:	Joseph Baah-Dwomoh
Task Team Leader:	Clotilde Ngomba

CONTINUATION OF RATING PERFORMANCE IN ISR COVERING BOTH THE ORIGINAL PROJECT (P069896) AND THE ADDITIONAL FINANCING (AF) PROJECT (P131051/P132431)

No.	Date ISR Archived	DO Rating	IP Rating	Actual Disbursements (US$M)
10 (P069896)	27-Dec-2010	Moderately Satisfactory	Moderately Satisfactory	3.49
11 (P069896)	11-Jul-2011	Moderately Satisfactory	Moderately Satisfactory	3.70
12 (P069896)	22-Dec-2011	Satisfactory	Satisfactory	4.03
13 (P069896)	16-Jun-2012	Satisfactory	Satisfactory	4.87
14 (P069896)	09-Jul-2012	Satisfactory	Satisfactory	4.87
15 (P069896)	05-Jan-2013	Satisfactory	Satisfactory	5.99
01 (P131051/P132431)	18-Sep-2013	Satisfactory	Satisfactory	0
02 (P131051/P132431)	07-Apr-2014	Satisfactory	Satisfactory	.53
03 (P131051/P132431)	03-Nov-2014	Satisfactory	Satisfactory	.97
04 (P131051/P132431)	19-May-2015	Moderately Satisfactory	Moderately Satisfactory	.97
05 (P131051/P132431)	08-Dec-2015	Moderately Satisfactory	Moderately Satisfactory	.97
06 (P131051/P132431)	19-May-2016	Moderately Satisfactory	Moderately Satisfactory	1.51
07 (P131051/P132431)	25-Apr-2017	Satisfactory	Satisfactory	1.52
08 (P131051/P132431)	25-Apr-2017	Satisfactory	Satisfactory	1.57
09 (P131051/P132431)	15-Dec-2017	Satisfactory	Satisfactory	2.04

FINANCING COVERING BOTH THE ORIGINAL PROJECT (P069896) AND THE ADDITIONAL FINANCING (AF) PROJECT (P131051/P132431)

		Original Amount (US$)	Revised Amount (US$)	Actual Disbursed (US$)
World Bank Financing				
P069896	TF-57165	5,990,000	5,990,000	5,990,000
P132431	IDA-52060	2,000,000	2,000,000	2,044,232
P131051	TF-14109	5,560,000	5,555,556	5,555,556
Total		**13,550,000**	**13,545,556**	**13,589,788**
Non-World Bank Financing				
Borrower		0		
Total		0		
Total Project Cost		**13,550,000**	**13,545,556**	**13,589,788**

KEY DATES COVERING BOTH THE ORIGINAL PROJECT (P069896) AND THE ADDITIONAL FINANCING (AF) PROJECT (P131051/P132431)

Project	Approval	Effectiveness	MTR Review	Original Closing	Actual Closing
P069896	24-Aug-2006	27-Mar-2007	09-Nov-2009	30-Nov-2011	31-May-2013
P132431	14-Mar-2013	28-Oct-2013		31-May-2016	31-Jan-2018
P131051	14-Mar-2013	28-Oct-2013		31-May-2016	31-Jan-2018

I. PROJECT CONTEXT AND DEVELOPMENT OBJECTIVES

A. CONTEXT AT APPRAISAL

Context

1. The country of Benin, located in West Africa and bordered by Togo to the west, Nigeria to the east and Burkina Faso and Niger to the north, covers 114, 762 sq km and, as of 2017, had an estimated population of over 11 million. In 2006 when the Forest and Adjacent Lands Management project (FALMP) was approved, the population was approximately 8.2 million; Benin's population growth rate (ranging between 2.76%-2.9%) has been consistent and relatively high (among the top 15 fastest growing countries in Africa) over the past 10 years. According to the World Bank, the country has seen moderate growth of GDP (4-5% annually) over the past two decades, but poverty rates remain high. Poverty rates have risen from about 37.5% in 2006 when the project began, to just over 40% in 2015.[2] Benin's economy relies heavily on agriculture (25% of GDP) and between 45-55% of the country's population is employed in the sector, particularly in rural areas (the majority) of the country. A 2009 study undertaken by the forestry administration (Directorate General of Forests and Natural Resources) estimated that the forest sector contributes approximately 6-7% to GDP (based solely on production of shea butter and fuelwoods). In addition to this contribution, the country's forests provide a wide range of basic resources from fuel (wood and charcoal) and timber to other forest products to both rural and urban populations.

2. The Forest and Adjacent Lands project was undertaken in two phases over a period of almost 12 years: a first phase (P069896) from 2006-2013 and a second phase, Additional Financing (P131051/P132431)[3] which was approved in February 2013 and completed January 31, 2018. The original project was developed within a policy context of a Country Assistance Strategy which had identified managing natural resources with communities as a key approach to reducing poverty and a Poverty Reduction Strategy Paper focused on reducing poverty in the country with a focus on the forestry sector. The project built upon the results of the Natural Resources Management Project/ *Projet de Gestion des Ressources Naturelles (PGRN)*[4], which included a number of valuable lessons, particularly with regard to co-management approaches, and broadening the type of income generation activities linked to reducing pressure on forest resources.

[2] Latest available data for poverty rates is 2015.

[3] The Additional Financing project was a fully blended IDA/GEF project composed of an IDA credit in the amount ofUS$2 million (P132431) and a GEF Grant of US$5.56 million (P131051).

[4] The Natural Resources Management Project was approved in 1992 with the aim of supporting development for the planning, management, and monitoring of natural resources, including the strengthening of supporting legislation. The project initiated testing of the model for achieving sustainable NRM by working with 'organized rural communities' and focused on strengthening capacity for the newly established DGFRN and the National Remote Sensing Center. It also initiated *inter alia* actions for developing participatory forest (and NR) management plans; land and watershed surveys; and wildlife management actions, all with an emphasis on involving local communities. (The project was co-financed with by the German Technical Cooperation agency (GTZ), United Nations Development Program (UNDP) and the French Development Agency (AFD).)

3. At the time of appraisal of the FALMP, in addition to its open (and highly degraded) savannah woodland, the country had about 2.6 m ha of forests classified as follows: (i) gazetted forests -GF (1.3 m ha); (ii) national parks (750,000 ha); (iii) hunting zones (580,000 ha); and (iv) reforestation areas (4,000 ha). The forest resource as a whole was considered to be seriously degraded by a range of pressures. These pressures were linked directly to the country's strong reliance on agriculture, including as a way of addressing rural poverty, which had led to as much as 70,000 ha of forest cover (including within gazetted forests) disappearing each year.[5] A number of additional pressures beyond those from agriculture were also identified as key contributors to forest degradation, including: (i) forest loss from bush fires; (ii) firewood and charcoal production; (iii) grazing techniques; (iv) overall population pressure; and (v) limited development of an integrated ecosystem approach to forest management due to a lack of technical and institutional capacity. Given this combination of technical, social and economic constraints to improving the state of the natural resource and improving sustainability of outcomes, as well as the need to address the complexity of managing the gazetted forests and their adjacent lands, the project focused on addressing these systemic issues by laying the foundation for a collective integrated ecosystem management approach, i.e., through a multidimensional approach, rather than a one-dimensional approach, such as reforestation alone.

4. The project was developed within the context of a government strategy towards forests and natural resources management which included the country's Forest Strategy (November 2002) which emphasized the need for empowering local communities to take a greater responsibility for the protection of forest assets and to promote alternative income-generating activities that do not degrade forests, along with other actions related to reorganizing the Directorate of Forests and Natural Resources; establishing a national system for participatory planning; and development of information and communications campaigns focused on raising awareness *inter alia* in rural communities on forest policies, rights of communities, and mechanisms for participation. The project was also developed in the context of the Government of Benin's (GoB) commitment to the larger issues of both biodiversity protection and desertification in line with the country's National Biodiversity Protection Strategy and Action Plan (March 2002) and its National Action Plan against Desertification (adopted November 1999). The Country Assistance Strategy (CAS) at the time of appraisal sought to assist the country in reducing poverty and attaining the millennium development goals and identified natural resource management implemented with communities as a tool towards achieving these goals. The rationale for Bank involvement focused on: the project's alignment with the CAS; a scaling up of activities undertaken under the PGRN in order to cover remaining gazetted forests in the country and continue the success of participatory forest management plans and other co-management activities; the alignment with the PRSC; and the government's strong ownership.

5. This ICR covers the following:

(i) the original project, FALMP (P069896) approved in June 2006;

(ii) the Level 2 restructuring of the original project approved in May 2011; and

[5] Project Appraisal Document – Forests and Adjacent Lands Management Project, June 7, 2006.

(iii) the Additional Financing, (FALMP-AF) (P131051/P132431) approved in March 2013.

6. The Additional Financing was developed: (i) in recognition of the longer timeframes needed for significant progress to be seen in the forestry sector, particularly with regard to reforestation and regeneration initiatives; (ii) to further strengthen the integrated ecosystem management approach and sustainable land management within the context of the GEF Sahel and West African Program (SAWAP) and the 'Great Green Wall Initiative'; and (iii) to support the implementation of the participatory forest management plans developed under the original project.

Theory of Change (Results Chain)

7. The project's theory of change (results chain) is illustrated in Figure 1. The FALMP was designed "to assist the Recipient in its efforts to lay down a foundation for a collective integrated ecosystem management system for its forests and adjacent lands. To create this 'foundation,' it was necessary to both *address the systemic issues putting pressure on the forests and adjacent lands* and *to create institutional and culture change and develop technical tools* for sustainable forest management. Thus, the project looked to assist the recipient to lay down the foundation for (1) a *collective* management system, i.e., one relying on both State and civil society (community) actors as full participants in the (2) *integrated ecosystem management system,* i.e., a multi-dimensional holistic approach to forest management which looks at the resource as part of a complex whole rather than simply as an isolated resource[6]. This could be achieved by creating change and achieving outcomes: (i) Technically through increasing capacity within the forest administration and other partners, particularly with regard to training, communications and monitoring and evaluation; (ii) Socially by enhancing integrated forest management with communities through the preparation and implementation of participatory forest management plans, and the promotion of alternative income generating activities and land management; and (iii) Economically by improving the sustainability of fuelwood production and markets therefore creating additional income through taxation and use fees for both the forest department and communities while improving management of the fuelwood market.

8. In developing the approach and design of the FALMP, the government of Benin recognized both the environmental and economic importance of its gazetted and protected forests and the reality of rural poverty and the resulting pressures on forest resources[7]. The project is predicated on: (i) an understanding of the *economic, conservation and cultural value of forest resources*; (ii) the assumption that rational, *integrated ecosystem management* of natural resources will reverse degradation of forests upon which rural populations depend for subsistence; and (iii) that the State has a limited capacity to protect forest resources from misuse, necessitating a *collective* approach to management directly involving local communities in the decisions and management resources and benefit from them.[8]

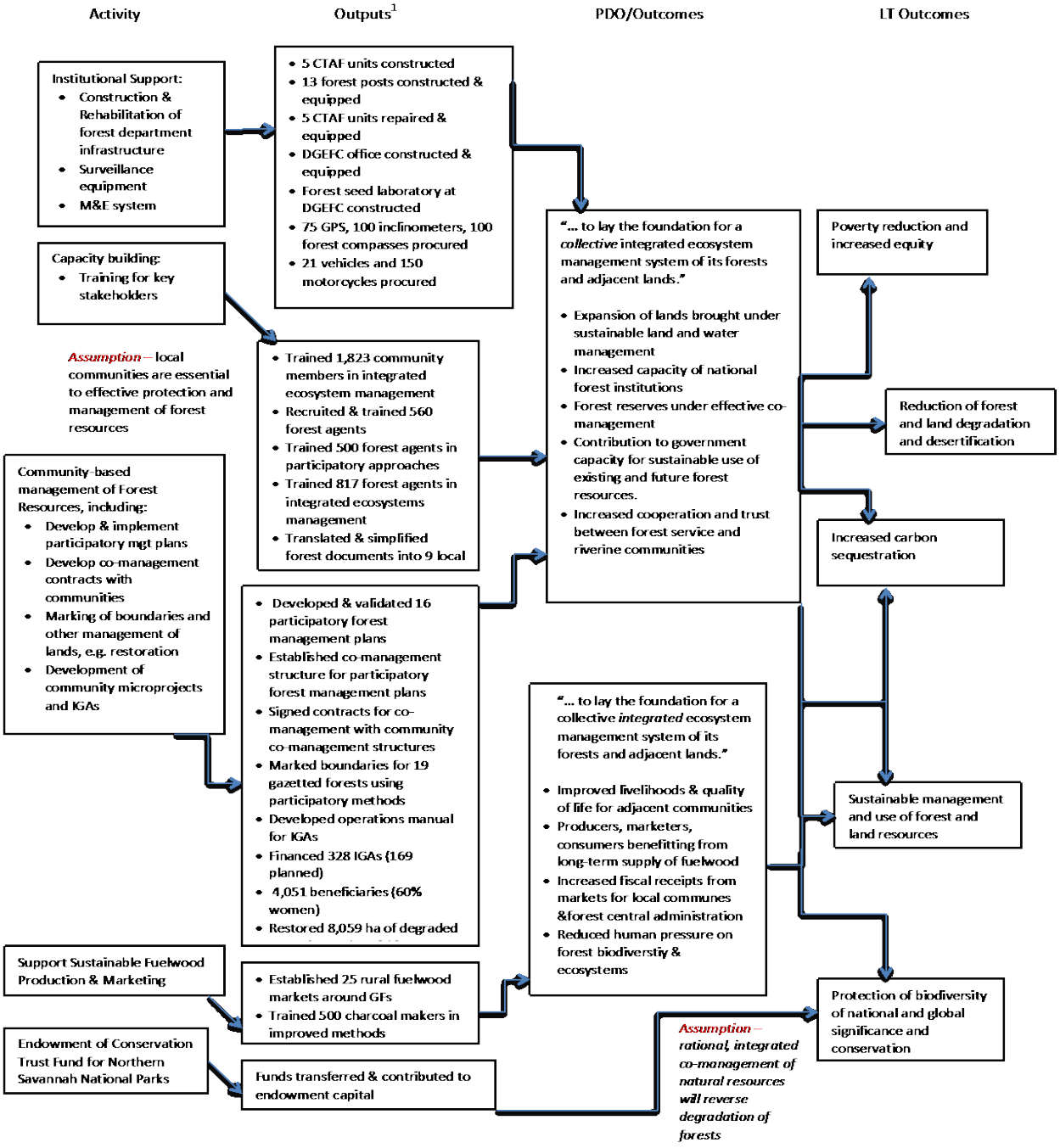
[6] Integrated ecosystem management represents "an ecological approach to natural resource management that aims to ensure productive and healthy ecosystems by integrating social, economic, physical, and biological needs and values." ("Integrated Ecosystem Management." Global Environment Facility. May 2016.)

[7] Recognized in earlier investments, e.g., the Benin: Natural Resource Management Project approved in February 1992.
[8] See Implementation Completion Report on the Benin: Natural Resources Management Project, December 1999.

9. A management approach that relied solely on the State's institutional, technical and physical capacities, was seen to be costly, ineffective, unsustainable, and lacking a basic recognition of communities. In addition, recognition of the needs of poor communities in the lands adjacent to gazetted forest was essential to orient the project effectively within the socio-economic realities of the project sector/area. Communities have exploited forest resources unsustainably due to a range of socio-economic and resource conditions, including heavy reliance on agriculture for income generation; severe degradation of soils and traditional approach of seeking new lands annually; high demands for fuelwood and timber; high poverty rates and a lack of options for income generation; a lack of benefit from formal forest 'rents;' and a lack of understanding of the role forests play in the long-range sustainability of the environment and resources they must ultimately depend on.

10. In order to address these systemic issues and achieve the desired results for forest management and conservation, any new approach had to go beyond just technical solutions to culture change within government/forestry service and among communities: a move from a 'policing approach' to true collaboration with communities in integrated forest (ecosystem) management. In addition, the project had to address poverty and a lack of options for income generation as root causes for unsustainable exploitation of forest resources and the on-going challenges of institutional capacity and resource needs for the forest agents working to conserve and manage the country's forests.

Figure 1: The Results Chain



[1] See Annex 6 for a complete list of outputs

Project Development Objectives (PDOs)

11. The PDO for the project as listed in the legal agreement[9] is: To assist the Recipient in its efforts to lay down the foundation for a collective integrated ecosystem management system of its forests and adjacent lands. This PDO remained the same throughout the life of the project.[10]

Key Expected Outcomes and Outcome Indicators

12. The key expected outcomes were to lay down the foundation for a (i) collective and (ii) integrated ecosystem management system of [the country's] forests and adjacent lands. The key performance indicators under the original project[11] were:

- 70% of gazetted forests with a participatory forest management plan under implementation by year 5
- 70% of reduction of the number of unauthorized fires deliberately started for hunting or agriculture in the project area by year 5
- 20% of increase of household incomes for community members receiving micro-project grants by year 5
- 25% of threatened species covered by a conservation zone with the project area by end of Project
- 70% of all key biodiversity spots – identified within the Project zone – that are protected by a legal recognition by end of project
- 1000 ha increase in forest cover in the project area as measured by the number of hectares reforested by year 5 and resulting in an equivalent increase in above-above ground carbon sequestration capacity
- 30% of increase in efficiency of conversion of wood to charcoal by end of project

(*The complete list of outcomes and indicators for the project, including changes made at restructuring and additional financing is shown in Annex 1a.)*

[9] GEF Trust Fund Grant Agreement TF057165-BEN, August 24, 2006.
[10] As a project designed prior to streamlined procedures between the World Bank and the GEF and its evolution from an existing IDA-funded project, in addition to the project development objective listed above, the FALMP also had a separate PDO in the Project Results Framework of the PAD which reads somewhat differently: "To promote socially, technically and economically viable management of forest and adjacent lands resources by communities, within a strengthened institutional framework."
[11] The original Project Appraisal Document lists performance indicators in: (i) the main body of the text; (ii) Annex A; and (iii) Annex B, each with slightly different wording. Those included here are those listed in the Results Framework: Annex A, which include all seven indicators (only 6 are included in the main body of the text) and contain the most specificity.

Components

13. The original project approved in 2006 had four components. Data on actual expenditures for the project are not available by component; however, the project disbursed US$5.987 million of the total US$6 million budget at financial closure (May 31, 2013). The project also included US$1.35 million from the government (US$1 million) and local communities (US$0.35) as well as parallel financing under the Poverty Reduction Support Program of US$15 million. As parallel financing this the PRSP support is not included in the project financing tables nor tracked by the project.[12]

- *Component 1: Institutional Support and Capacity Building* (**Estimated**: US$0.9 million of which GEF US$0.04 million and Borrower US$0.5 million) which included institutional, technical and financial capacity strengthening of the forestry administration, the private operators, Non-Governmental Organizations – NGOs, and community members along with instituting a communications program, training program and monitoring and evaluation system. This component was linked to making infrastructure, information and the tools necessary for management and decision making available to all those involved in the project, to enable them to fulfill their responsibilities of developing and undertaking *integrated ecosystem management* on a *collective* basis.

- *Component 2: Community-based Management of Forest Resources* (**Estimated**: US$5.57 million of which GEF US$4.52 million and Borrower US$1.05 million) aimed at ensuring viable long-term management of forest resources and improving the income and livelihood of people living in communities adjacent to the forests. This component supported an *integrated*, holistic approach to management of resources and ecosystems by directly addressing community's economic welfare in the forests adjacent lands rather than merely looking at the forests alone. This was to include preparation and implementation of Participatory Forest Management Plans (PFMPs), management of forest adjacent lands and promotion of income generating activities.

- *Component 3: Sustainable Fuelwood Production and Marketing* (**Estimated**: of which GEF US$0.50 million) aimed at reducing forest degradation caused by unsustainable exploitation for firewood and charcoal production in gazetted forests and ecologically sensitive forests in adjacent lands. The project would pilot an approach to promoting production and utilization of wood fuel from the sustainably managed forests, including promotion of more energy efficient technologies and generating demand for wood fuel from sustainable sources.

- *Component 4: Project Management* (**Estimated**: US$1.19 million – GEF: US$0.94 million; Borrower: US$0.25 million) to support strengthening of effectiveness and enhancing the quality of project operations. The overall supervision of the Forest and Adjacent Lands Management Project was under the then Directorate of Forests and Natural Resources (DFRN).

[12] Disbursements of co-financing of US$1 m from the government and US$0.35 m from beneficiaries were not tracked by the project. The government financing was provided in the form of operational budget to DFRN and its CTAFs. The community contribution was related to the IGA micro projects, and could be provided in cash or in kind. This contribution mentioned in the PAD but was not part of the project total amount of funding.

B. SIGNIFICANT CHANGES DURING IMPLEMENTATION

Revised PDOs and Outcome Targets

- The PDO from the grant agreement remained the same throughout the life of the project and was consistent with that listed in all later project documents, including the restructuring paper (May 2011) and Additional Financing project document (March 2013).

Revised PDO Indicators

14. *At the time of the May 2011 restructuring*, the PDO level indicators went from seven indicators measured by percentage down to three numerical indicators. These revised indictors were: (i) number of additional hectares of forest or degraded forest brought under sustainable management as a result of areas covered by Participatory Forest Management Plans (PFMPs); (ii) number of threatened species identified in the baseline study of biodiversity which benefits from conservation measures; (iii) number of rural fuelwood markets under the PFMP guidelines within project area.

15. These revisions were made to ensure that the indicators were: (i) achievable; (ii) measurable, and for which accurate data to substantiate achievements could be collected; and (iii) in line with the desired project outcomes.

- *Additional hectares of degraded forest brought under sustainable management as a result of areas covered by Participatory Forest Management Plans* was an indicator particularly for the 'collective' ecosystem management aspect of the PDO as the management plans were developed in full collaboration with community-based organizations and other civil society stakeholders. The foundation for this work had to be laid prior to the development of the PFMPs as well with the establishment of the Community-Based Organizations (CBOs) and the necessary support and training to make them fully functional.
- *Number of threatened species identified in the baseline study of biodiversity which benefits from conservation measures* tracks conservation outcomes related to the success of the establishment of an 'integrated ecosystem management system.'
- *Number of rural fuelwood markets under the PFMP guidelines within project area* relates the 'integrated' aspect of the system with regard to the management of forest resources.

16. At the time of the Additional Financing, given the importance placed at this phase of the project on actual implementation of the prepared PFMPs, a PDO-level indicator on implementation was added, i.e., number of forest management plans under effective implementation. Of the remaining PDO-level indicators, the "number of hectares brought under sustainable management" remained as a PDO indicator while the other two shifted to become intermediate indicators – "number of threatened species" under Component 2: Community-based Management of Forest Resources; and "number of rural

fuelwood markets" under Component 3: Sustainable Fuelwood Marketing and Production. (*See Annex 1a for a table including all indicators and changes.)*

Revised Components

17. Project components mostly remained consistent throughout the life of the project with the following small changes:

- During the original project restructuring, *activities* were reorganized and some funds were re-allocated among components.
  - Under component 1: No changes were made in terms of component design. GEF resources were utilized to ensure suitable implementation of training, communication and Monitoring and Evaluation activities.
  - Under component 2: No changes were made in the content. The extension of the project closing date enabled the preparation of nine additional Participatory Forests Management Plans and the start implementation of the five plans completed in the first part of the project. Funding was reduced for the component as no new micro-projects were financed under the restructured project. Focus was put on the implementation of micro-projects already financed.
  - Under component 3: The component activities were re-focused on the promotion of better use of existing tools and technique and also on the improvement of the distribution chain of fuel wood in the project area.
  - Under component 4: Technical advisory services were removed under the restructured project. Funds were increased slightly to strengthen the PIU support for the development of Participatory Forests Management Plans.
- Under the Additional Financing, *components were expanded* to build on the progress made under the first stage of the project (including work in three additional gazetted forests), and *a new component was added* to support to the endowment of a conservation trust fund, the West Africa Savannah Association/*Fondation des Savanes Ouest-Africaines* (FSOA). Specifically, the Additional Financing included 5 components, as follows:

Component 1: Institutional Support and Capacity Building (**Estimated**: US$1.46 million GEF; **Actual**: US$1.59 million GEF). Additional resources were used to support construction and rehabilitation of forest department infrastructure at the local level and to procure equipment and vehicles essential for forest surveillance and patrolling by decentralized foresters – key for effective implementation of the PFMPs. The component also financed capacity building activities, including *training in integrated ecosystem management for key stakeholders* involved in the implementation of the PFMPs, including local government, communes, user associations (including traditional decision-making authorities) - CBOs, and local NGOs;

Component 2: Community-based Management of Forest Resources (**Estimated**: US$4.45 million of which US$2.45 million GEF and US$2 million IDA; **Actual**: US$4.26 million of which US$2.36 million GEF and US$1.89 million IDA.). Additional resources were focused on demarcating forest boundaries, restoring degraded surfaces, rehabilitating old plantations, enhancing agroforestry, and managing rangelands and protected zones for long-term conservation of the forests. These activities were

completed collectively with communities and part of the forest management plans developed on a participatory basis.

Component 3: Sustainable Fuelwood Production and Marketing (**Estimated**: US$0.17 million GEF; **Actual**: US$0.21 million GEF). Additional resources created additional rural wood markets and fuel-wood plantations to cover the entire project intervention area. Given the on-going demand for fuelwood these plantations are essential to the long-term viability of the resource.

Component 4: Endowment of the Conservation Trust Fund (**Estimated**: US$0.93 million GEF; **Actual**: US$0.93 million GEF). This component was new under the additional financing (see below under revisions discussion) and was aimed at supporting the endowment of a conservation trust fund under the West African Savannah Association/*Fondation des Savanes Ouest-Africaines* (FSOA). The Conservation Trust Fund - CTF (now fully operational) provides long-term financing to the core recurrent costs of the Northern Savannah national parks.

Component 5: Project Management (**Estimated**: US$0.55 million GEF; **Actual**: US$0.56 million GEF). The component supports the project management unit under the DGFRN through technical capacity building and M&E of project activities.

(Small differences between estimated and actual costs are due to exchange rate fluctuations and some slight under disbursement under Component 2.)

Other Changes

18. *During project restructuring* (2011), changes were made to the original list of intermediate indictors when new indicators were developed for each component in order to ensure the achievability and measurability of indicators. Additionally, while components remained the same, some sub-activities, particularly those focused on land tenure were dropped due to the need to focus on activities under the aegis of the DGFRN; and a reallocation of funds was made to emphasize activities, which would support achievement of the PDO.

19. *Under the Additional Financing*, the project context expanded in line with the Sahel and West Africa Program (SAWAP) and Green Wall Initiatives and further emphasized (beyond that of the original project) issues of sustainable land management. Due to this expanded emphasis, new targets were added related to bringing additional hectares under sustainable management and activities related to training farmers in improved production methods were also added. These contributed to the broader program context and goals relating to sustainable land management as well as providing key elements necessary for achieving integrated ecosystem management, particularly in adjacent lands.

20. Institutional arrangements and project management remained relatively consistent throughout the life of the project, with the project management unit under the Department of Forests and Natural Resources (later the Department of Water, Forests and Hunting). However, the forestry service did shift from being under the aegis of the Ministry of Agriculture, Livestock and Fisheries to the Ministry of Environment, Habitat and Urbanism (currently called the Ministry of Environment and Sustainable Development) in 2007 to better address the environmental aspects of the forestry sector.

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

21. The changes described above took place at two points during project implementation: first, during the Level 2 restructuring of 2011 and second, under the additional financing (2013).

22. *Level 2 Restructuring changes and rationale*: The first set of changes made at restructuring focused primarily on a revision of outcome indicators. While the project was designed in line with objectives developed under the aegis of Benin's first Reduction Strategy Credit (PRSC), which provided budgetary support to the forestry and other key sectors, it became clear at mid-term review that the initial design stemming from the PRSC was overly ambitious. Under the PRSC, the government had set forth a range of objectives particularly with regard to institutional strengthening and staffing, reforestation, land tenure and participatory forest management plan development. The FALMP adopted much of this initial view and included a relatively high number of activities and outcome indicators, many of which depended on: (i) a set of comprehensive baseline data; (ii) results which could be ensured by DGFRN; (iii) a highly functioning and relatively sophisticated monitoring and evaluation system; and (iv) sufficient available funds to execute all activities and measure outcomes. *By 2009, at the time of mid-term review, it became clear that these conditions were not in place and that initial projections had been too ambitious and as such, continuing forward without clarifying and simplifying the project would jeopardize the achievement of the overall project objective*.

23. The restructuring included an extension of the completion date; a re-organization and streamlining of activities; a streamlining of indicators in line with this and that were measurable, achievable and aligned with project outcomes: laying the foundation for a (i) collective and (ii) integrated ecosystem management system; and a re-allocation of funds to ensure sufficient support to institutions and capacity building among all stakeholders. The capacity building and institutional support was essential for achieving the outcome of a 'collective' ecosystem management system as it supported the creation of a strong set of partners for participatory forest management. This in turn was a fundamental element for the transformational change needed for the PDO to be realized and for long-term sustainability in the sector. Indicators were revised to reflect absolute numbers rather than percentages, for example, "number of farmers trained" or "number of hectares reforested," rather than percentages, which required baseline data which was either not available or unreliable.[13] The government had recognized that monitoring and evaluation systems were not strong and attempted to both increase investments in this area and simplify the indicators such that they could be monitored with the capacity at hand.

24. *Additional Financing changes and rationale*: Changes made at the time of the additional financing essentially reflected a shift in emphasis from *developing* PFMPs to *implementing* them. The additional work and added activities, e.g. increasing the number of community members trained in integrated ecosystem management; expanding the number of micro-enterprises financed; increasing the number of fuelwood markets; and adding the funding of the FSOA were all aimed at cementing the results the project had achieved to that point and working towards sustainability of results. The changes thus enhanced the achievement of the PDO and outcomes and the longer-term outcome of culture change,

[13] In at least one case, this was due to poor quality of a study funded in the early stages of the project.

through increasing knowledge, and investing fully in participation and poverty reduction. In 2015, the government requested an extension of the project closing date by 20 months from May 31, 2015 to January 31, 2018 to compensate for delays in effectiveness and concomitant delays in reforestation and forest enrichment activities dependent upon the rainy season. (A level 2 restructuring paper for the AF was prepared and notification of approval was sent to the GoB in October 2015.)

25. For the most part, the changes made throughout the project enhanced the ability of the project to achieve the PDO. The project looked to assist the recipient to lay down the foundation for (1) a *collective* management system, i.e., one relying on both State and civil society (community) actors as full participants in the (2) *integrated ecosystem management system,* i.e., a multi-dimensional holistic approach to forest management which looks at the resource as part of a complex whole rather than simply as an isolated resource. Changes at restructuring under the original project served to bolster the capacity building needed to create strong community-level and government institutions to form the basis of collective forest (ecosystem) management. The streamlining of indicators helped to ensure these were well aligned with project outcomes and the DGFRN's sphere of influence and were measurable and achievable. Changes made under the Additional Financing moved the focus from development of participatory management plans to their implementation and further cemented the sustainability of outcomes through increasing activities to support *collective* management, e.g. increasing the number of community members trained in integrated ecosystem management; and *integrated ecosystem management for forests and adjacent lands*, e.g., financing purchase of improved seeds and additional technical capacity building in order to ensure sustainable management of agricultural lands adjacent to the forests and expanding the number of community microprojects and income-generating activities in order to increase local benefits and reduce human pressure on the forests; and increasing the number of fuelwood markets. Adding the funding of the CTF also looked to support the creation of a strong foundation for collective, integrated ecosystem management by supporting sustainable financing for conservation over the long term.

II. OUTCOME

A. RELEVANCE OF PDOs

Rating: High

Assessment of Relevance of PDOs and Rating

26. Drawing from the Strategic Country Diagnostic for Benin (2017) the current Country Partnership Framework (CPF) (FY19-23) looks to support the country in reaching its development objectives as outlined in its Government Action Program, 2016 to 2021 (Programmed d'Action du Gouvernement) through focusing on more effective employment of its human and natural resources, and geographical advantages, in ways that are sustainable and inclusive. The CPF is centered on three major focal areas with eight key objectives. Through its focus on establishing a foundation for a collective integrated ecosystem management system of its forests and adjacent lands, the project's PDO contributes to the highest objectives of the CPF, i.e., more effective employment of the country's human and natural resources, particularly in the context of Focus Area III: Increasing Resilience and Reducing Climate-

Related Vulnerability and its underlying Objectives 7: Increasing resilience and opportunity at the community level and 8: Addressing climate-related threats and vulnerabilities. The contribution to these CPF objectives is achieved through the project's (i) strong emphasis on capacity building at the community level which enhances the community's capacity to work together to address climate related threats; (ii) creating systems and making investments which promote long-term sustainable management and use of forest resource; and (iii) strengthening communities' resilience to climate-related threats and vulnerabilities, e.g., over-reliance on agriculture-based livelihoods with the potential to be adversely affected by climate change, through diversifying and improving income generation, especially for women.

27. The PDO is also in line with strategic objectives at the project inception as well. As mentioned above, the project was designed directly in line with the country's first Poverty Reduction Support Credit, which directly supported work in the forestry sector to improve management of the resource in order to improve management and capacity and increase sustainability and, eventually, forest rents. In the interim period during initial project implementation, the country developed its Country Assistance Strategy (CAS) FY09-12. The PDO remained relevant to the CAS particularly with regard to efforts to "strengthening capacities to manage the environment"[14] in both communities and with the DGFRN and its decentralized units to support collective integrated ecosystem management. The FY09-12 CAS emphasized this through its Strategic Objective 2: Improving Access to Basic Services and outcomes on improvements in environmental management in services (Outcome 2.1). A healthy and sustainably managed forest resource can contribute to a range of local and national level needs, including resource rents, fuel and timber, additional food security and contributions to overall ecosystem health and biodiversity.

28. Finally, on a global scale, the PDO directly supports the two priority areas of the World Bank's Forest Action Plan (FAP) (FY16-20) with regard to supporting investments in the sustainable forest management; and "forest-smart" interventions with a holistic, landscape approach. The PDO's emphasis on an integrated ecosystem approach supports Benin in looking at the issue of forest management and other interventions, e.g., increasing fuelwood plantations and managed markets, training in integrated agriculture and alternative income generation, along with sustainable management are all part of a landscape approach rather than a looking at forestry outside of its economic, social and larger environmental context. With regard to the collective ecosystem management aspect of the PDO, the FAP also notes under the Focal Area 1: Sustainable Forest Management the importance of participatory forest management an integral component of collective management. In addition to contributing to protection of species for global biodiversity conservation and using forest-based solutions to achieve sustainable development goals[15] (under Convention on Biological Diversity), the International Union for Conservation of Nature (IUCN) has also emphasizes the importance of an integrated approach to forest ecosystem management for enhancing restoration and improving the potential for mitigation and adaptation to climate change effects.

[14] Country Assistance Strategy for the Republic of Benin for the period FY09-12. International Development Agency, 2009. p. 28.
[15] Palmer, C.P. "Forest-based solutions to accelerating achievement of SDGs." Roundtable Statement. United Nations Forum on Forests, 13th session, May 2018.

29. Due to its local, global and continued relevance, the PDO's relevance is rated High.

B. ACHIEVEMENT OF PDOs (EFFICACY)

Rating: Substantial

Assessment of Achievement of Each Objective/Outcome

30. The project's main objective was to assist the Recipient in its efforts to lay down the foundation for a (i) *collective* and (ii) *integrated ecosystem management system of its forests and adjacent lands*. In order for this foundation to be laid, viable change was needed on three levels: technically with regard to Institutional support and capacity building for both forest agents and communities; socially with regard to collective (community-based) management of forest resources and Income Generating Activities (IGA) development; and economically with regard to creating and sustaining rural fuelwood markets. In addition, the project would contribute to the conservation of biodiversity in the Northern Savannah ecosystem through support to the conservation trust fund being established under the Foundation for West African Savannahs.

31. The very nature of forest resources, i.e., involving extensive areas that are difficult to monitor; being home to varied species with a range of needs/uses; and requiring long periods to see results/returns, makes them a challenge to manage. While co-management of resources (*collective* ecosystem management) has now long been recognized in many sectors as the most effective approach to management of natural resources, this is particularly true of forests: without communities that understand and receive benefit from the value of the resource and which can diversify their income sources, pressure on the forests remain high and due to the vast areas forests often cover it can prove nearly impossible to monitor and prevent incursions. Government resources are limited and even with expanded budgets and more agents, successful management and surveillance by the State alone has proved difficult, if not impossible. Thus, co-management of forests is considered best practice and promoted by a range of global partners such as REDD+, the World Resources Institute, IUCN, and the GEF. Recognizing this, the government of Benin fully embraced the concept of collective ecosystem management and the project components and activities were designed to *inter alia* build capacity within communities (e.g., training for community stakeholders and establishing functional CBOs); develop forest management plans with these Community Based Organizations - CBOs (i.e., development of participatory forest management plans (PFMPs)); and to implement these PFMPs with communities (e.g., collectively identifying areas for fuelwood and other plantations; contracting with communities for clearing and forest maintenance and 'rent' collection; and conducting joint surveillance missions).

32. *Integrated* ecosystem management, the other key outcome for the project, is also essential for effective, long-term management and sustainability of forest resources. As mentioned above, integrated ecosystem management recognizes the full landscape and context within which the forest ecosystem operates. Thus, an integrated approach brings to bear not only biological aspects of conservation, but the physical, social and economic realities that impact the resource, as well. Recognizing these realities and the multifaceted approach needed for successful management, the project focuses not solely on a

one-solution approach, e.g., reforestation alone, but rather an integrated approach through its activities which focus on *inter alia*, conservation of biological diversity (e.g., reforestation and regeneration of degraded areas): awareness raising (e.g., training on integrated ecosystem management and participatory boundary marking); and reducing pressure from unsustainable economic activity (e.g., investment in income generating activities, training in alternative agriculture methodologies, investment in fuelwood plantations, and managed, regulated charcoal markets).

33. The project chose the largest gazette forests to work in and included activities within 6 *départements* (half of all *départements* in the country) namely: *l'Atacora, la Donga, le Borgou, l'Alibori, le Zou,* and *les Collines et le Plateau*. Specific sites included 19 gazetted forests: *Ouémé Boukou, Dan-Atchérigbé, Mékrou, Kouandé, Sota- Goungoun, Goroubi, Ouémé Supérieur, N'Dali, Logozohè, Alibori Supérieur, Ouénou-Bénou, Dogo - Kétou, Trois Rivières, Tchaourou-Toui-Kilibo, Agoua, Monts-Kouffé* and *Wari-Maro* ; four reforestation perimeters; and 2 adjacent areas (riverine territories): the *Djidja* territory around the gazetted forest complex of *Dan- Atchérigé*, and the intersectional territory *Ouémé – Okpara* around the *Ouémé Boukou* gazetted forest.

34. In order to set up a foundation for meeting the outcome for *collective* integrated ecosystem management, it was essential to first develop the capacity of both government level forest management units (centralized and decentralized) and communities such that they could be effective partners for future collective management. Specifically, on the technical and social level the project looked to achieve: (i) an increase in staffing and improved infrastructure for Direction of Water, Forest & Hunting, (DGEFC) particularly in the technical management units (CTAFs) in the various targeted gazetted forests; (ii) development and implementation of participatory forest management plans for targeted forests; (iii) functional community-based organizations for co-management of targeted forests; (iv) key stakeholders trained in integrated ecosystem management and efficient agriculture practices; and (v) creation of income generating activities for communities adjacent to the targeted gazetted forests. The project surpassed all indicators for related results:

- 16 Technical Forest Management Units covering 19 GFs (Target: 12)
- 193 CBOs created and operational (Target: 70)
- 1,823 community representatives trained in integrated ecosystem management (Target: 1,700)
- 829 forestry personnel trained in integrated ecosystem management (Target: 800)
- 19 Participatory Forest Management Plans under effective implementation (Target: 19)
- 328 income-generating activities developed and implemented (Target: 169)

35. These outputs helped to formulate the functional organizations at the level of community and within the forestry administration that are the essential institutional building blocks for both developing and implementing participatory forest management plans and other actions necessary for effective management. Without these in place, collective ecosystem management, which is at the heart of the transformation needed for effective sharing of responsibilities and sustainability, cannot occur. Developing forestry management plans in a participatory manner is difficult and time consuming. However, the government followed through on the process committing additional resources (e.g., hiring a participation specialist) and time (it took over 5 years to develop the early plans) in order to achieve the resulting plans. The initiative has been successful not only in achieving results as per indicators (both

of these indicators were surpassed: 276% and 133% of targets, respectively), but more importantly have resulted in CBOs, which fully participate in forest management and collaborate directly with forest agents. This is illustrated by:

- Yearly renewal and implementation of contracts for forest management between CBOs and DGFRN (on-going) in all 19 gazetted forests (continuing after project completion)
- Community participation in surveillance missions and community reporting of violations to commune authorities and DGFRN
- Current (post-project completion) CBO participation in PFMP development for updates to PFMPs (2019/2020) and to next management period (2020-2030)
- Lack of conflict during and after participatory boundary marking exercise (for all gazetted forests covered by the project) which delineated forest boundaries many of which had not been clear since the 1950s
- Collective agreement on departure of farmers' fields from gazetted forests with respect for harvest times and no conflict

36. Laying the foundation for *integrated* ecosystem management in the gazette forests and adjacent lands was the second desired outcome from the project. As mentioned, an *integrated* approach looks at the issue of ecosystem management holistically. With this in mind, the project looked to activities which would approach the issue from technical, social and economic fronts to *inter alia*: enhance and conserve biological diversity and reforest and regenerate degraded areas; reduce pressure on forests through developing alternative income generating activities within communities and providing training on efficient agriculture methods; and look to both reduce the pressure from unregulated and unmanaged charcoal markets in the country and provide economic benefits to adjacent communities and DGFRN through collection of fees and taxes on the markets. In a collective/participatory manner, the project successful implemented activities that led to the following results:

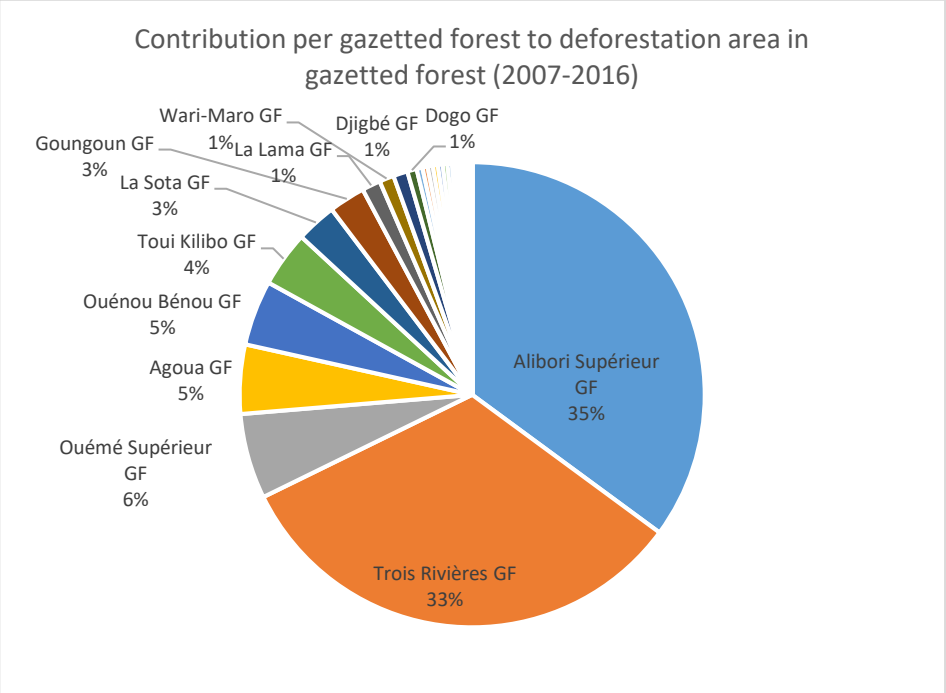
- 8,059 ha of degraded forests in 19 forest ecosystems restored (Original target: 7,700 ha)
- 713 ha enriched within the GFs (Target: 600) (Baseline: 500) (Component 2)
- 3,189 ha reforested within the GFs (Target: 1900) (Baseline: 1000)
- 30 threatened species identified in the baseline study of biodiversity which benefit from conservation measures (Target – 20)
- 328 income generating activities established
- Guidelines on sustainable production developed
- 530 charcoal producers trained on improved production techniques (Target: 160) (Baseline: 60)
- 25 rural fuelwood markets developed (Target: 30)[16]
- 165 ha of surface area with community fuelwood plantations in adjacent lands[17] (Target: 150)

37. These outputs/results both contributed to the outcome of an integrated ecosystem management system through establishing and concretizing technical initiatives (e.g., reforestation, restoration), and social and economic change through income-generating activities, rationalized fuelwood markets, and a

[16] Three additional markets are currently under development in the former project zone.
[17] "Established" means planted and managed as required under participatory forest management plans for each gazette forest. These only refer to forests planted under the project.

conservation trust fund and they also show early successful results of implementing such an integrated management system.

- *Lower rates of deforestation and degradation within gazetted forests in the project zone than in the rest of the country.* A recent analysis on forest degradation in Benin from 2007 to 2016, utilizing data from 2000 to 2016 collected under the Global Forest Cover Change project (Hansen et al., 2013)[18] showed that while forest degradation in the country had unfortunately continued during this period, those gazetted forests which were included within the FALMP had a *lower rate of degradation* (2.83% forest loss) than those forests which were not included in the project (3.73% forest loss).[19] This is significant in showing the efficacy of project interventions and sustainable results in the short to medium term, despite challenges with regard to surveillance and capacity in limiting the extent of degradation and deforestation within the project intervention area. (For further discussion of the overall high deforestation rates and surveillance challenges in the country, see discussion under 'Risks to Development Outcomes.')



- *IGAs and other initiatives leading to reduced human pressure on forest ecosystems and resources*. Interviews with community members participating in the IGAs were conducted systematically throughout the project zone and across activity type, e.g., livestock raising, beekeeping, agriculture and food processing, as part of an exercise to evaluate and glean lessons from the

[18] Hansen, M. C., P. V. Potapov, R. Moore, M. Hancher, S. A. Turubanova, A. Tyukavina, D. Thau, S. V. Stehman, S. J. Goetz, T. R. Loveland, A. Kommareddy, A. Egorov, L. Chini, C. O. Justice, and J. R. G. Townshend. 2013. "High-Resolution Global Maps of 21st-Century Forest Cover Change." Science 342 (15 November): 850–53. Data available on-line from: http://earthenginepartners.appspot.com/science-2013-global-forest.

[19] "Analyses des tendances de la dynamique forestière au Bénin entre 2007 et 2016," Deffry, I. 2018. Unpublished note on Benin Forestry Sector.

early phases of IGA implementation.[20] *More than 85% of respondents stated* that prior to the project they either took part in charcoal making or farmed within the forest boundaries, but *that after beginning to implement their microproject they completely stopped these unregulated/unsustainable activities*. The additional 15% of respondents (from livestock raising and food processing initiatives) stated that they had significantly reduced conducting unregulated activities in the gazetted forests.[21]

- *Collaborative relationships and environment improved between forest agents and community members in lands adjacent to the forests*. Collaboration between CTAF agents and community members was two-way with both agents providing support to community members through providing technical assistance for participants in the income generating activities. (CTAF agents were trained under the project to provide technical assistance for microenterprise participants – which continues today post-completion.) Community members actively participate in the full range of forestry management, including in the design and implementation of plantation, reforestation and surveillance activities. This collaboration is established and systematized within forest policy and forest management plans. This change in the 'culture of management' is a key component to the 'theory of change' and the sustainability of project results as well as essential for laying the groundwork for any future actions.

- *On-going system for the development and implementation of participatory forest management plans*. Participatory forest management plans are the tools through which integrated ecosystem management is undertaken. Thus, the achievements with regard to reforestation, restoration of degraded areas, plantation development, boundary marking, maintaining of forests and gradual departure of farmers from gazetted forests is undertaken within a planned, sustainable system. This system is established and on-going post completion.

- *Establishment of a system for more sustainable charcoal production and marketing*. On the economic level, the project looked to change the unsustainable use of forest resources through support to the energy (fuelwood) sector. This was achieved (partially) through: (i) creating and implementing guidelines for sustainable production of fuel wood and training charcoal producers in improved production techniques under the original project and creating; and, under the project's additional financing, (ii) creating and managing rural fuelwood markets in line with participatory forest management plans and (iii) increasing the amount of area with *new community fuel-wood plantations* in lands adjacent to targeted forests. These successful results led to increased effectiveness and efficiency of markets, e.g., fewer losses through theft, consistent supply for buyers, and easier access to buyers for producers with a cut in the 'middlemen.'[22] In addition, the taxation system has resulted in increased income for local community authorities and the DGEFC. Due to the increased efficiency for buyers, suppliers and producers, these fuelwood markets have remained operational signalling the likelihood that this economic approach enhances sustainability of results. There is also evidence that the 'rationalization' of these markets, training and access to alternative incomes through

[20] Lopez Villar, J. 2018. Evaluation Report of IGAs First & Second Generations: Forest and Adjacent Lands Management Project

[21] As reported during interviews with beneficiaries of income-generating activities (see Lopez Villar, J. 2018. Evaluation Report of IGAs First & Second Generations: Forest and Adjacent Lands Management Project, pp. 19-20) and in discussion with community members during three field missions related to information gathering for the ICR.

[22] Information provided in interviews with charcoal producers and suppliers, forest agents and local officials during ICR mission, November 2017.

microprojects has changed behavior as evidenced through interviews with charcoal producers – one example being the accounts of two members of the Agnon gari processing cooperative who said that in the past they had produced about 90 sacks of charcoal each month to sell and are now producing at most a small amount for personal use.

- *Establishment of a conservation trust fund* for long-term sustainable financing for conservation of the biological diversity of Benin's Northern Savannah ecosystem. The project's contribution was instrumental in establishing the CTF which is now fully capitalized and operational. The FSOA has stated that *the project's contribution was catalytic in operationalizing the CTF and developing GoB commitment*.
- *Government use of innovative approaches* which led in turn to:
    i. Enhanced outcome effectiveness through IGA implementation which: (a) allowed beneficiaries to begin to move away from activities related to unsustainable extraction of forest resources; (b) increased awareness of forest value and conservation; and (c) increased economic health not only of IGA participants, but also others in the community who provide goods and services to IGA participants.[23] The number of individuals entering the forest for unregulated extraction (both self-reported and reports from forest agents) have dropped significantly with reported reasons ranging from new knowledge of forest value to improved economic outlook due to IGA and/or reduced time to conduct extraction activities.[24]
    ii. Increased efficiency of fuelwood market and decreases in losses to individuals through theft and lack of market access; increased ownership of local community representatives in charge of markets; and enhanced tax and fee collection
    iii. Successful use of contracts with local communities to enhance forest management and generate additional income
- *Improvement of Monitoring and Evaluation system* with particular emphasis on biodiversity. The project undertook a range of activities to improve the monitoring and evaluation system for forests and key species of flora and fauna. This included: (i) development of baseline studies, e.g., a reference study on the biological diversity of the 19 gazetted forests covered under the project; an ethnobotanical study of Djidja territory; an inventory of the Ouémé-Okpara confluence; an inventory and ethnobotanical atlas of the garden of medicinal plants of Djidja; identification of Elephant Circuits in the Goungoun and Sota Forests (ii) development of key databases, e.g., an ecological, evaluation and environmental monitoring database; database of monitoring of the biodiversity for the project; (iii) acquisition of equipment and key data for surveillance, e.g., satellite images of orthophoto plans; acquisition of 75 GPS, 100 Clinomètre, 100 forest compasses, 100 marteaux forestiers; (iv) monitoring plans and on-going monitoring of species, microproject progress, e.g., monitoring of species covered under CITES; development and dissemination of environmental monitoring / monitoring files with IGA participants. These have contributed to a monitoring system which allows for the ability to identify and address issues as they arise as well as on achievements in increases in protection of particular species. Project

[23] Lopez Villar, J. 2018. Evaluation Report of IGAs First & Second Generations: Forest and Adjacent Lands Management Project.
[24] Ibid.

activities related to M&E in the field also feed into monitoring and evaluation of the project (discussed in Section IV A below).

38. The above outcomes in turn have the potential to lead to longer-term outcomes of: (i) protection of biodiversity of national and global importance; (ii) increased carbon sequestration potential; (iii) decreasing poverty in the communities adjacent to gazetted forests; and (iv) sustainable use of forest resources (e.g., fuelwood, timber).

39. With regard to long-term potential outcomes for carbon sequestration, an analysis of project data on reforestation and restoration coupled with its biome of tropical shrubland, shows results for greenhouse gas emissions show that the project will benefit with around 1.5 million tons of CO2- eq of emissions reductions up to 20 years (see Table 1).

40. Two projects, in addition to the World Bank's PGRN project, played a role in the project intervention area just prior to or during the early years of the project, namely: The Forest Ecosystem Management Project (*Projet d'Amenagement des Massifs Forestiers* (PAMF*)*) of the African Development Bank (AfDB) which was implemented from 2002 to 2008 in three forest ecosystems that were also part of the FALMP;[25] and the Lands and Natural Resources Management Program (*Le Programme de Gestion des Terres et des Ressources Naturelles* (PGTRN)) funded by the French Development Agency (AFD) and the German Organization for Technical Cooperation (GTZ) and implemented from 2000-2005 in communities outside of three gazetted forests[26] that were part of the FALMP. While the latter project did not intervene directly in the gazetted forests, some activities, such as income-generating activities, tree planting and soil restoration could have had a positive impact for communities participating in the FALMP. With regard to the PAMF of AfDB, the FALMP benefitted during its Additional Financing phase from the forest management plans developed under the PAMF, as well as the recruiting and training of forestry agents, training of community members and infrastructure development among other actions.

41. However, while both these projects likely created an enabling environment for the achievement of the objectives of the FALMP by *helping to establish a stronger base upon which the project's components would be implemented*, efficacy of achievement of project objectives are attributable primarily to the FALMP as during the project implementation there was only a slight overlap in time or location of other projects' activities during the 12-year life of the project.

[25] The three forest ecosystems included in PAMF were: Agoua, Monts Koufee and Wari-Maro.
[26] The three gazetted forests *near* communities included in the PGTRN were: Tchaourou Toui-Kilibo, Alibori supérieur, and Dogo Ketou.

Table 1: FALMP: Net Carbon Emission Reduction Estimates (up to 20 years)

Baseline	With project	Biome	Net carbon emission reduction up to 20 years
Additional hectares of forest or degraded forest brought under sustainable management, 5800 ha	Additional hectares of forest or degraded forest brought under sustainable management, 8059 ha	Tropical shrubland	-1,211,412
Surface areas of forest reserves reforested, 1000 ha	Surface areas of forests reserves reforested, 3189 ha	Tropical shrubland	-199,376
Surface areas enriched in gazetted forests, 500 ha	Surface areas enriched in gazetted forests, 713 ha	Tropical shrubland	-19,400
Surface areas of community fuel-wood plantations established in lands adjacent to forests, 0 ha	Surface areas of community fuel-wood plantations established in lands adjacent to forests, 165 ha	Fuel-wood plantation, tropical rainforest	-105,921
GRAND TOTAL			**-1,544,341**

Behavior and Attitude Change Among IGA Participants

"*Thanks to the IGA and the project, we no longer have to go into the forest."* - The women of the Aissogbe cooperative

"I used to make charcoal in the forest, but now I've stopped because of the chickens I am raising under the project." - Daniel Tobouregui.

Based on interviews with IGA participants (for the evaluation of the first and second generations of microprojects), both attitudes and behaviors have changed with regard to the importance of conserving forest resources and conducting unregulated activities in the GFs. Examples include: no longer making charcoal because income from other activities is greater or because it's 'bad for the environment' and 'charcoal creates harmful sicknesses;' no longer or less likelihood for creating new fields in the forest because the IGA provides a good income and it's no longer necessary to go to the forest; as well as participants stating that not only do they no longer farm in the forest, but they are committed to conducting the new activities of reforestation, etc. and protecting the flora and fauna. Two members of the Agnon gari processing cooperative said that in the past they had produced about 90 sacks of charcoal each month. Since the start of the cooperative and the expansion in gari processing they produce no charcoal or very small amounts for personal use.

Justification of Overall Efficacy Rating

42. The overall efficacy rating of the project is Substantial. The project achieved or surpassed 95% of the revised results indicators and significantly achieved the project outcomes of laying the foundation for a (i) collective (ii) integrated ecosystem management system for the country's forests and adjacent lands through technical initiatives (i.e. Institutional support and capacity building, lowering rates of deforestation and degradation within gazetted forests); social and economic change (i.e. implementing IGAs and other initiatives leading to reduced human pressure on forest ecosystems and resources, collaborative relationships and environment improved between forest agents and community members in lands adjacent to the forests, implementation of participatory forest management plans, establishment of a system for more sustainable charcoal production and marketing); and financial change (i.e. establishing a conservation trust fund for long-term sustainable financing for conservation of the biological diversity of Benin's Northern Savannah ecosystem). When compared with other countries in the region, such as Cote d'Ivoire, the project's achievements with regard to the extremely high level of collaboration and co-management between forest agents and community members is worthy of note. This has helped to establish the culture change essential for sustainability of project results and lays a strong foundation for any future work in the forest sector. This collaboration has been evidenced by the full and active participation of communities in management plan development and implementation, changed behavior and perspective on partnership with CTAF vs. its 'policing' their behavior on the part of the communities, and through communities *taking direct action on monitoring and controlling of unregulated forest incursions*.

> "These are not the foresters of 10 or 20 years ago. We manage the forest together. We are partners." Citizen of community adjacent to *Tchaourou-Toui – Kilibo* GF.

43. A split evaluation was not conducted, as the restructuring did not result in a change to the PDO or a notable reduction in project scope. Also, the project disbursements at the time of restructuring were less than 50% of the overall project financing so there will be no impact on the ratings.

C. EFFICIENCY

Rating: Substantial

Assessment of Efficiency and Rating

44. The PAD for the original grant included an incremental cost analysis. The original PAD estimated incremental costs of implementing GEF grant and achieving global and local environmental benefits compared to the baseline scenario of implementing forestry interventions as a component of the PRSC. The incremental costs represented the difference between the cost of the baseline scenario associated with the forestry component of PRSC (US$15 million) and the cost of the GEF Alternative (US$22.35 million). The total incremental costs for the project were therefore estimated at US$7.35 million, of which the GEF contribution is US$6.0 million, US$1.0 million for government (counterpart funds) and

US$0.35 million for beneficiaries. This represents the incremental cost for achieving multiple global environmental benefits, including enhancement of carbon storage, reduction of greenhouse gas emissions, conservation of biodiversity and sustainable resource use, as well as development of markets for products and services that support these benefits. Economic and financial analyses in the original PAD were carried out for the additional financing, based on the analysis of existing data on costs and benefits of activities financed under the original project, and assumptions made for other activities envisaged under the additional financing. Economic analysis examined economic viability of the project at the national level, trying to define quantifiable direct and indirect benefits of the additional financing, with the consideration of the annual contribution from the Government estimated as US$3 million over the project period. Some benefits, such as those related to certain non-timber forest products (hunting, biodiversity/ecological, and watershed protection) were not quantified. The analysis confirms the project's overall economic and financial viability as measured by the Internal Rate of Return (IRR) at 14%; Economic Rate of Return (ERR) as 17%, with a positive Net Present Value (NPV) estimated at US$11.754 million.

Economic benefits generated by the project.

45. The project generated a diverse portfolio of economic benefits including direct measurable benefits from the income-generating subprojects (activities, or IGAs), regulated and functioning wood fuel markets and indirect, intangible benefits. Measurable benefits coming from the IGAs and revenues from the sales of the wood fuel and as well as taxes generated directly from the markets sales. Given the challenges in measuring monetary value of the benefits to the whole range of the benefits generated by the project (see Annex 4 for details), only specific benefits were included in the ex-post economic assessment. For this project the ex-post economic analysis was based on the assessment of the benefits arising from IGAs and wood fuel markets individually due to the high revenues generated by the latter.

46. To assess project viability, cost-benefit analysis was applied. Overall, results demonstrate positive economic impact by the project for a conservative assessment at the medium income level (appox. US$390/yr (210,000 FCFA/year)) with the benefic/cost ratio above 1 and IRR 8-12%. (Please refer to Annex 4 for sensitivity analysis).

Wood fuel markets

47. This component aimed to reduce forest degradation caused by the unsustainable exploitation for firewood and charcoal production in gazette and ecologically sensitive forests adjacent lands. As it was reported by the PIU, 30 wood fuel markets were established and functioning under the project. Data on total revenue demonstrate stable growth of the sales, and taxes flow generated by the markets (Annex 4, Figure 4.2. FALMP AF: Revenue, taxes, sales Wood Fuel Markets).

48. The analysis considered all markets established under both original grant and additional financing, and cost associated with this component. The project demonstrated financial viability earlier than expected (based on assumptions made at the design stage) during the third year of project implementation, with a positive overall NPV and a higher than 18 benefit-cost ratio.

Implementation Efficiency

49. Project management costs were approximately 7% of total costs which is in line with what was originally specified in the PAD and additional financing paper, in line with the average recommended project management cost in GEF projects, and better than in similar forestry projects implemented in the region (e.g., Côte D'ivoire Protected Area Project – 15% at the closure; and Second National Fadama Development Critical Ecosystem Management Project – 11% at the closure). The two-year project extension was granted, and project was restructured, but all restructured indicator targets were met within the budget, demonstrating greater efficiency. Staff turn-over was not an issue, as original grant and additional financing were led by two TTLs, and there were no significant procurement issues. Delays in 2015 related to the design and implementation of the IGAs were addressed by the PIU and Bank project team, and mitigated through implementation of the action plan. Operating costs for CTAF was not taken into account although this affected management quality rather than project efficiency. In terms of cost savings, the project supported the establishment of the conservation trust fund in support to Protected Area Management project, which attracted additional funding from KfW. Compared to other GEF projects were conservation trust funds were established, this project achieved greater efficiency by contributing relatively small amount (US$1.0 mln) and raising over Euro 24mln. For example, according to the GEF Evaluation Of Experience With Conservation Trust Funds[27] financing provided by GEF for the establishment of CTFs varied from US$300,000 to US$16.5 million.

Conclusion

50. The ex-post economic efficiency analysis confirms viability of selected project interventions, even for the modest levels on income and various discount rates. The project funded 328 income generating activities with the funds expected for 169 activities, almost doubling return on these IDA funds. Based on this review the Economic Efficiency is rated as substantial.

D. JUSTIFICATION OF OVERALL OUTCOME RATING

Rating: Satisfactory

51. The project had a high relevance of its objectives to the current priorities or the Republic Of Benin as provided in the CPF, substantial achievement of the objectives and substantial level of efficient use of resources to achieve those results. Particularly because of the work put into participatory management plans and work with the communities along with improvements in technical capacity the likelihood of sustainability of results is high. Given the strong performance with regard to both effective and efficient results, the overall outcome rating is Satisfactory.

E. OTHER OUTCOMES AND IMPACTS

[27] 1998. GEF Evaluation of Experience with Conservation Trust Funds. GEF/C.12/Inf.6. Washington D.C.(file:///C:/Users/wb231078/OneDrive%20-%20WBG/Desktop/GCCIA_2015/ICR/Benin%20ICR/Forest/GEF.C.12.Inf_.6_5.pdf).

Gender

52. The project provided significant benefits to women who were the majority of beneficiaries of the income-generating activities. Under the AF portion of the project, there were 328 new microprojects with women representing 60% of the beneficiaries. Interviews with women participating in the first generation of IGAs, (335 women were direct beneficiaries in the first generation with over 2,424 women benefitting by project's end) found reports of a number of positive effects on women's well-being, including positive impacts from starting or expanding businesses, such as raising of chickens, goats, pigs, sheep and processing of cassava (gari) and shea butter (karate). Individual entrepreneurs and cooperatives have both benefitted from the income generating investments under the project. New production facilities for gari and shea butter were designed by the women themselves to conform to their needs and the women selected and prioritized the equipment purchases. Women raising livestock now have expanded flocks and herds and women participated fully in the Commercial Fair held in Cotonou in November 2017 where all goods and products were sold and in some cases signed contracts for supplying gari, rabbits and honey on a regular basis to Cotonou supermarkets. The acknowledgement of women's knowledge in design and implementation of subprojects has empowered women as has the increase in their income and ability to cover household costs, such as additional food, school fees and health costs. For those in production enterprises, the addition of processing equipment has allowed for quicker and less physically exhausting processing (in accordance with guidelines under the project's IGA manual). Women specifically stated in interviews their pleasure in being able to make purchases and help to support the family without having to ask husbands for fees.

Institutional Strengthening

53. Institutional strengthening, particularly with regard to capacity in such areas as Monitoring and Evaluation and financial management was significant under the project. This was shown clearly from such results as increased speed of disbursements from the original project to the Additional Financing phase and on the improved Monitoring and Evaluation work from the original project to the AF phase. In addition, 193 functional community-based organizations (CBOs) were created under the project – more than 120 more than originally targeted. These CBOs manage contracts, budgets, collect fees, and project manage re-forestation and other activities funded through the project thus creating in increase in strong, civil society institutions and local capacity. Community members themselves confirmed this as they communicated their strong understanding of PFMPs, including contracting and work plans during discussions with the ICR team.

54. In addition, forest agents and other staff involved in the project implementation developed additional technical capacity on a range of forest management skills, particularly those related to: tree planting; start up and maintenance of tree nurseries; conducting forest inventories; and management and drafting of participatory forest management plans. This additional expertise is seen by the forest administration as a significant addition to the potential for ensuring sustainability of project results and contributing to new initiatives.

Mobilizing Private Sector Financing

N/A

Poverty Reduction and Shared Prosperity

IGAs

55. Income generating activities played an important role in changing behavior of local individuals with regard to conducting a range of unregulated activities within the gazetted forests covered by the project, including reduction in cutting wood for fuel as well as shifting individuals from farming to other income generating activities thus reducing the likelihood of entering the forest for agricultural purposes. However, an additional significant result of the IGAs under the project was an increase in income for beneficiaries and their communities, as well. The project worked with local community members and NGOs to select and develop 328 microprojects with over 4,000 direct beneficiaries in the Additional Financing phase of the project. For example, an analysis of 14 beneficiaries in livestock[28] raising during the second wave of IGAs, showed an increase in stock from an average of 16 animals/promoter to 63 animals/promoter with additional income over a 4-8 month period ranging from FCFA 20,000 – 330,000 at an average of approximately FCFA 88,400/promoter.[29]

56. According to participants, local markets have been sufficient to take up sales, but additional sales and contracts were secured, as well at the first annual IGA fair organized by the project in Cotonou in November 2017. The fair allowed for additional access of producers to larger markets and consumers from Cotonou and its environs. The fair attracted over 4,500 visitors; all products were sold, including livestock, agri-food processing products, honey, fresh vegetables and medicinal herbs. Over US$40,000 of sales were made during the three-day event with additional contracts signed for future orders between a number of traders and supermarkets and gari, honey and rabbit producers. Given its success, this initiative is planned to continue on a yearly basis allowing for continued access to larger markets and growth potential. In addition to these direct impacts, the IGAs also led to an increase in income in communities overall given the need for inputs provided by other local producers, such as rabbit cages, feed, fuel, and hives. A further positive 'snowball' effect of the project resulted from individuals who on the basis of seeing these successful enterprises made personal investments in new IGAs.[30]

Capacity building for planting and additional income generation at the local level

57. Over 2,000 individuals were beneficiaries of contracts with the forestry administration for: producing seedlings for plantations; tree planting; plantation maintenance and plantation surveillance. In the additional financing, these contracts constituted 80% of GEF funds. This work constituted significant income generation for both men and women in local communities. In addition, local community members have strengthened capacity in developing and maintain plant nurseries and appropriate methodology for tree planting for a range of species. This creates possibilities for small-scale private sector development, as well as potential for work with future interventions in the forestry sector.

Other Unintended Outcomes and Impacts

58. Although more research would be needed to confirm the hypothesis, given the statements of several IGA participants that without the additional income from the microprojects they would not have been able to pay school fees, it is possible that there has been an increase in school attendance in the project zone among children of parents working with new or expanded enterprises.[31]

III. KEY FACTORS THAT AFFECTED IMPLEMENTATION AND OUTCOME

A. KEY FACTORS DURING PREPARATION

59. Key factors during preparation centered around the financial, technical and regulatory support provided through the Poverty Reduction Support Credit and Poverty Reduction Strategy Paper and the Natural Resources Management Project. These initiatives coupled with the government's own institutional reforms and recognition of the role that the forestry sector had for enhanced environmental and economic health and the reduction of rural poverty[32] provided *inter alia:* lessons learned from pilot activities; revised regulations which allowed for community-based management; and performance-based financing for increased institutional capacity. The government utilized the relatively new performance-based measures under the PRSC (introduced by the World Bank in 2001), creating a Medium-Term Expenditure Framework to reach its objectives of reinforcing the capacity of the forest administration, particularly with regard to capacity in community-based management, with an eventual goal of recruiting 800 new staff. This work prepared the ground for the new project and enhanced its eventual implementation.

- *Realism of objectives and design*: The PDO was realistic, however, the activities of the original project were somewhat overreaching in its scope, including for example, activities on land tenure, which were beyond the scope of the project and its implementing agency. The results framework could also have been simplified and measureable. However, this was identified at mid-term review and became part of the basis for the restructuring of the original project. The Additional Financing phase continued with the revised scope and indicators to achieve the project's objectives. The project was clearly designed with four (and then five) components that stayed relatively constant throughout the full life of the project.

- *Appropriate plan for monitoring*: The project had a somewhat overly ambitious plan for monitoring though it was well designed with regard to utilizing existing structures within the DGFRN for data gathering. The project was able to revise its M&E design and enhance its operation with additional training, guidance and staffing.

[28] Including chickens, rabbits, sheep, goats, poultry (including ducks, turkeys) and pigs.
[29] Lopez Villar, J. 2018. Evaluation Report of IGAs First & Second Generations: Forest and Adjacent Lands Management Project.
[30] About 86 individuals in the PGFTR project zone stated they began initiatives due to the success of other individuals' IGAs.
[31] Lopez Villar, J. 2018. Evaluation Report of IGAs First & Second Generations: Support for Protected Areas Management Project.
[32] Project Information Document, Benin: Forests and Adjacent Lands Management Project, October 2004.

- *Appropriate selection of stakeholders*: The project design took into account engagement with a range of stakeholders in communities adjacent to the forests in the project zone. It encompassed stakeholders at a range of levels including the larger commune and smaller community level, mayors, traditional leaders, women's associations and other sector-specific associations and groups.

- *Adequacy of risk and mitigation measures identification*: Although the project design takes into account the pressures of human activity on the park, an even stronger emphasis on the risks of pressures from human activity would have benefitted results.

- *Readiness for implementation*: The project was in a good state of readiness given the support from the PRSC during the project design and preparation phases.

60. Some difficulties arose at the mid-term review of the FALMP as mentioned above with regard to the complexity of indicators that were developed to some degree out of the Natural Resource Management Project, but overall these initiatives along with government commitment were positive for project preparation.

B. KEY FACTORS DURING IMPLEMENTATION

61. Along with the enabling environment for the project created by the government commitment and financing mentioned above, several factors played a key role with regard to both successful aspects of project implementation and those that led to some challenges or difficulties in achieving objectives. Positive factors stemmed from design elements that combined collaborative approaches with necessary training and capacity building along with identifying systemic problems (e.g., poverty, pressures from agriculture, and demand for fuelwood) and addressing them with innovative approaches. Challenges stemmed primarily from failures within certain institutional systems, sources of funding for operating costs and lack of needed data for certain activities.

(i) Factors subject to government and/or implementing entities control:

- The *government made a clear commitment to developing co-management* in reality and not just on paper and to using participatory methods, consultation and traditional models and knowledge to *inter alia:* undertake the development of Forest Management Plans; design of GRM system; and design, development and implementation of boundary marking initiatives. This required substantial commitment over time and considerable leadership from DFRN (with support from the Bank) to bring on support where necessary and continue with this at times challenging methodology. The results, of this commitment and engagement were significant in helping to yield (i) a high level of knowledge and commitment among community members; (ii) forest management plans which were well tailored to individual needs of a particular forest and its surrounding communities; and (iii) low levels of conflict. This is illustrated, for example, by successful movement of cultivated areas out of gazetted forests without conflict; long-term fruit tree crops remaining within forests to ensure no loss of return from community or individuals' investment; and acceptance of boundary marking locations due to use of elders' knowledge and lengthy consultations and awareness-raising campaigns; and resolution of possible conflicts through traditional methods.

- *Government policies allowed for innovative approaches*, e.g., development and consolidation of local fuelwood markets and testing of new collection methodologies (i.e., color tag system); cooperation with the private sector; investments in local income-generating activities; and school classrooms and buildings.
- *Government utilized existing human resources capacity* within the DFRN to meet project needs that was effective in creating project ownership, but proved to be insufficient to meet all demands, particularly with regard to social and environmental safeguards. While the DG was generally open to bringing in additional expertise, the process took time and created some delays in the ability to properly implement particular activities, e.g., IGAs. In addition, the institutional arrangement for combining the position of forestry department Director (a political appointment) with that of the Project Coordinator proved difficult when changes in the political environment resulted in changes to the DG position. The approach created some risk when political appointees lacked appropriate technical and project management skills. This caused instability at the PIU, as the project had 4 coordinators during the life of the project with concomitant changes in PIU staff who were, as members of the forestry administration, subject to periodic relocation. These staffing issues and Project Coordinator/DG turnover led to difficulties with retaining capacity on implementation procedures leading to delays in implementation.
- *Fiduciary management of project funds was generally strong, however, needed operational budgets to be provided by the government were lacking*. While some in-kind contributions specified in the project budget (e.g. offices and human resources) were provided, the irregular funding provided to CTAFs for items, such as fuel, vehicle repairs, and general operating costs was a detriment to the functioning of field agents and somewhat impacted the effectiveness of project investments.
- The *use of baseline data and a strategic approach to management were lacking at the DFRN* particularly during project design and contributed to a diffusion of project resources over a wide number of forests; other areas that could have performed better were targeted training of CTAF agents on GPS and other surveillance technologies; and stronger surveillance/management of natural forests and plantations.

(ii) Factors subject to World Bank control:

- *The project had only two TTLs over a 12-year period* which enhanced both supervision and implementation allowing for strong cooperation and responsiveness between the PIU and Bank teams.
- *Supervision was generally strong and reporting was adequate, open and honest* allowing for the Bank and the PIU to develop action plans and effectively respond to issues which arose whether in the implementation of safeguards, procurement plans, and M&E.
- *Taking into account guidance during project design, particularly on indicators, may have improved the initial design*. While comments and guidance emerged during preparations and reviews, including from the GEF STAP, not all recommendations were taken into account, perhaps for reasons of timing or information on indicators available at the time of preparation. On reflection, incorporating some of these revisions upfront may have strengthened the results framework which needed some significant re-design at the time of restructuring. In addition, the important role of operating costs for CTAF was not taken into account when looking at funding sources and was a contributing factor to weak management/surveillance on the part of field agents. This is currently

being addressed under new operations and the lesson will be incorporated into new initiatives and the work of the DFRN.

(iii) Factors outside the control of government and/or implementing entities:

- Increased population growth and demand for arable land has continued to place greater and greater pressure on gazetted forests and other projected areas within the country as people reliant on agriculture search for fertile land, increasing deforestation and forest degradation.

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

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

Rating: Modest

M&E Design

62. Initial design of the M&E system was ambitious with hopes for an integrated, well-functioning system for all aspects of monitoring and evaluation, including data gathering at the forest level, (through on-the-ground surveillance); strong baseline data; and a cross-department database network. The indicators initially proposed in the project were designed with respect to both the former projects' work and the new M&E system design. However, the initial design met with difficulties in the first years of project implementation and some challenges have remained throughout the project. Initial baseline data was of uneven quality due to poor execution of some outside contracts for baseline data gathering. The network database system did not become operational due to software design issues as well as insufficient server capacity within the DG.

63. M&E design was simplified and results indicators were modified substantially at restructuring, after the mid-term review found the indicators were too complex, referencing undetermined baselines and insufficiently targeted. The project's PDO could possibly been more ambitious with regard to outcomes, as 'laying the foundation' for the collective integrated ecosystem management system was a bit under ambitious. However, the emphasis on culture change and capacity building needed for effective management to take place was likely behind the wording of the PDO and ultimately the project went beyond laying a foundation' and achieved some significant outcomes particularly with regard to behavior change that highlights the success of their longer, participatory approach. The results indicators, including those changes made at the restructuring would have benefitted from better baseline data and more measurable indicators that would have more clearly reflected the rate of deforestation in the GFs.

M&E Implementation

64. M&E implementation faced several challenges in the early years of the project partly due to issues with the initial system design and partly due to a lack of capacity. In response to the moderately weak implementation, two additional staff were brought in to the M&E team, additional training was provided, and an M&E plan and data collection manual was developed. In 2011, the ministry created a new functional chart allowing for a separate Monitoring and Evaluation Unit and established focal points for M&E at the divisional level. With the establishment of the new unit, utilization of improved

data collection procedures, increase in capacity, and simplified and better-targeted indicators, implementation of the M&E system became satisfactory and remained so throughout the remainder of the project. Support from the *Service Statistique et Synthesese*, was also brought in to ensure quality of data collection and reporting.

65. The M&E team was thus able to perform satisfactorily throughout the remainder of the project and the AF. Positive changes made under the Additional Financing project, including moving M&E supervision directly under the DG, helped to ensure Satisfactory ratings for M&E until the end of the project. Unfortunately, surveillance at the forest level remained challenging. Despite increased staffing and equipment provided by the project, issues have continued with field missions due in part to operating budgets being sourced from the GoB contribution to the project which has not been supplied consistently leading to a lack of fuel and vehicle repairs. In addition, the number of foresters in the field, although improved are still not sufficient for adequate surveillance. This along with a lack of motivation on the part of CTAF agents in the field, due in part to a lack of incentives for the difficult work done on the ground at project sites and to per diems only being paid for missions from headquarters to the field rather than from field centers into the forest, has caused issues with surveillance effectiveness. A range of solutions and approaches is being looked at, but at the moment the lack of surveillance missions into the interior of the forests remains a serious issue hampering overall management of the GFs.

M&E Utilization

66. Gathered data were utilized throughout the project for reporting on project progress and more specifically for tracking implementation of the PFMPs and modifying and adapting project activities, as necessary. Examples include:

- Identifying initial approach to enrichment of natural forests as ineffective allowing for re-design of the enrichment activities by adopting a full plantation approach;
- Identifying need for additional technical assistance for income-generating activities, particularly with regard to livestock health and financial accounting; and
- Identifying issues with reforestation activities implemented under certain PFMPs, allowing forest agents' to quickly address problems;
- Revising the IGA manual to: (i) include local authorities in the selection of beneficiaries and to make the process fully transparent; and (ii) to allow for a procurement method appropriate for the rural zone.

Justification of Overall Rating of Quality of M&E

67. For *project-level* monitoring, the PIU was able to address system difficulties early in the project through: (i) providing additional training to staff; (ii) establishing a specialized unit and focal points; (iii) bringing on additional specialized M&E staff; and (iv) developing an M&E manual which proved to be a key tool for guidance and enhancing performance. This allowed the team to successfully track the indicators needed to assess and monitor project progress and to utilize findings to address issues that arose during implementation. Given the issues with the M&E system and the steps taken to mitigate them, on balance the overall rating for M&E quality is considered Modest.

B. ENVIRONMENTAL, SOCIAL, AND FIDUCIARY COMPLIANCE

Environmental

68. The project received predominantly Satisfactory ratings on environmental performance with some exceptional Moderately Satisfactory (MS) ratings related to environmental assessment for IGAs. The original project was a Category B project and triggered OPs 4.01 on Environmental Assessment, 4.04 on Natural habitats, and 4.36 on Forests. The Additional Financing project continued with this assessment. The Environmental and Social Management Framework (ESMF) and environmental assessments were publicly disclosed, as required, for both the original and AF projects.

69. Safeguards reviews conducted by the Implementation Safeguards Support Team showed that the environmental and social screening form was systematically utilized. Under the AF project it was agreed that thorough environmental screening would be undertaken of the microproject and IGA applications received by the environmental safeguards consultant to the PIU. However, in the May 2015 ISR the ratings for OP 4.01 and OP 4.12 were downgraded to MS due to poor environmental screening of the first batch of income generating activities (IGAs). The PIU conducted the selection without recruiting an environmental and social safeguard specialist as had been recommended in the project documents. While OP 4.12 ratings returned to Satisfactory, a few issues under OP 4.01 continued into 2016, namely: (i) the poor quality of the environmental screening checklists for income generating activities (IGAs); (ii) the non-submission of the screening sheets to the Beninese Environmental Protection Agency (ABE) for review and approval prior to implementing the IGAs; and (iii) non-compliance with environmental monitoring reporting requirements for all IGAs under implementation. These issues were addressed by the PIU through a thorough review of the screening checklists, with subsequent review by the ABE and the Bank, particularly the Sr. Environmental Specialist covering the Country Management Unit (CMU). The mission also shared good examples of environmental monitoring reports with the PIU for guidance. While environmental screening did improve, challenges continued under the microprojects and the MS rating for OP 4.01 continued through the end of the project

Social

70. Ratings for social safeguards were generally Satisfactory/Moderately Satisfactory during project implementation. The project triggered OP 4.12 on Involuntary Resettlement and a Resettlement Plan (and process framework) were prepared under the original project and an ESMF[33] under the additional financing. The project team received safeguards training during the initial project and renewed training for the Additional Financing portion of the project. In addition, particularly as some issues were identified with the application of the Process Framework, the Bank team worked with DFRN management to ensure a safeguards specialist was located in the PIU (and eventually a consultant brought on board, as well) such that safeguards issues could be monitored closely. The Grievance Redress Mechanism (GRM) was designed in line with traditional conflict resolution models that were highly operational at the village level, and this, combined with the time

taken for consultation with communities and the overall participatory approach to project design and implementation, may have contributed to the lack of grievances reported during the life of the project.

71. The project design relied heavily on participatory methods as the ***process*** for developing the Forest Management Plans and work plans, as well as implementing activities. This use of participatory processes was essential in order to create an environment in which co-management and achievement of the PDO could occur and required a high level of skill in dealing with communities and a range of social issues, including crops located within gazetted forests, grazing within forests, and collection of fuelwood and timber. The Forestry Administration was fully committed to the participatory process despite challenges faced in preparing the Forest Management Plans. The work took time, especially during the original project when the preparation of the first five Forest Management Plans took more than 3 years. To address this, it was determined that a consulting firm would be hired to assist with the participatory approach. The hiring of this firm took a number of months, but after contracting, the efficiency and effectiveness of the PFMP was increased substantially and the indicator achieved. The project saw low levels of social conflict and the local communities were fully involved in the decision-making system related to land management in the forest areas. This community-led decision-making is reflected in both the PFMPs and the annual work plans in which locations for reforestation and other activities were determined by communities and confirmed with DFRN, as well as the high level of understanding of plans and commitments by community members[34].

Fiduciary Compliance

Financial Management

72. Financial management ratings throughout the life of the project were consistently rated Satisfactory.[35] Financial reports were submitted in a timely manner and were found to be satisfactory by the Bank. Seven financial audits were completed under the original phase of the project and each was certified without reservation with the auditor's ratings unqualified. The audit report of 2010 was found by the Bank to be in non-compliance with Bank standards due to issues with the terms of reference for the independent auditor, these issues were addressed and the audit report was amended satisfactorily. Other issues were noted throughout the life of the project, e.g., the need to use a network of banks to secure the transfer of funds as part of the financing of activities alternative income generators; (ii) and the correction of deficiencies identified fixed asset management, including systematic underwriting of insurance policies which the PIU FM team successfully resolved. These issues generally arose in the first few years of project implementation and the PIU developed in action plan in 2008/09 which successfully addressed outstanding issues.

[33] Disclosed July 10, 2010 for FALMP and August 1, 2013 for FALMP-AF.
[34] As noted in interviews during ICR missions.
[35] In November 2009, the project received one rating of MS on Financial Management due to delays In reporting and under-utilization of project accounting software. These were addressed and the project returned to a Satisfactory rating by the next supervision.

73. The original (first phase) of the project closed in May 2013 with a final Financial Monitoring Report submitted at that time as well as a final project audit completed in December 2013. Project financial reporting, expenditures, use of funds and accuracy of financial statements and background documentation were all deemed to be in compliance and rated as satisfactory at project closure and financial completion. The project was deemed to have 'closed well' with the PIU financial team having implemented suggestions from supervision missions, complied with reporting requirements and implemented with work plans and procurement plans successfully.

74. The FM arrangements for the additional financing were based on the same arrangements as that of the original project and the multi-projects accounting software was customized to fit the needs of the new project. The project financial, accounting and administrative manual was also revised in order to improve existing specific procedures for Income Generating Activities, and to take into account lessons learnt from the previous experience. Annual audits were conducted under the AF from 2014-2017 with a final audit for financial closure expected in July of 2018. Prior to implementation of the AF, the weak financial management capacity of the beneficiaries of income generating activities was identified as a possible risk. While the PIU did address this risk by ensuring technical assistance was provided under the additional financing, weak accounting practices among individual and group IGAs.[36]

Procurement

75. The initial procurement plans developed by the PIU had some issues, including signing dates out of compliance with Bank standards, changes in amounts of categories, which required revision by the PIU team. Issues were resolved quickly and initial contracting for services in accordance with the first Procurement Plan were commenced within the first month of effectiveness. Procurement during the project generally functioned well with risks to compliance with procurement processes and performance of contract administration generally rated at a low to moderate risk in procurement post reviews. Within the original project consistent issues were identified in the areas of delay of payments and non-publication of awarded contracts which the PIU had trouble resolving.

76. Some procurement issues continued during implementation of the AF with procurement receiving MS ratings consistently due to the low implementation rate of the procurement plan - due in turn to delays in implementing the microprojects component – and to issues with procurement processes. For the most part, however, reviews generally showed that overall procurement processes were conducted in line with Bank policies and procedures.

C. BANK PERFORMANCE

Rating: Satisfactory

Quality at Entry

77. Quality at Entry for the FALMP was mixed. Firstly, the basic strategy of intervening in gazetted forests (particularly in parallel with the Protected Area Management Project) was a highly effective approach. Given

[36] As observed during IGA evaluation missions and by ICR team.

the fact that the majority of forests and other natural cover are located in the GFs and Protected Areas - PAs[37], the project was able to have a significant impact on remaining forests within the country.

78. In addition, the project effectively utilized lessons learned from earlier initiatives to help design project components and PDO. The project focused on what was necessary to change the fundamental basis needed for co-management to take place, which in turn helped to create an enabling environment, not only for the current project, but for future activities, as well.

79. However, the scope of the project intervention area (over 94% of gazetted forest by hectare were included under the project) was overly broad diminishing the potential impact of the project. Despite the project design's emphasis on deforestation and the success the project had compared to the rest of the country, the risk assessment for deforestation was too likely too low and a more targeted approach allowing for greater surveillance over fewer gazetted forests may have had more impact on deforestation rates. This is also reflected in the PDO which potentially could have benefited from this greater focus on deforestation rates. However, the PDO's emphasis on creating a collective integrated ecosystem management system was important over the life of the project in allowing for the culture and behavior change seen in both the DGFRN and the communities adjacent to the GFs.

80. The indicators included in the first phase of the project were overly ambitious and the project preparation either lacked or did not take into account baseline data which could have enhanced the Results Framework both initially and at the current stage of analysis needed to better understand lessons for future operations. The initial restructuring which replaced all intermediate indicators, as well as re-allocating funds and simplifying activities, illustrates that the initial design was somewhat over-complicated and lacking in indicators that could work to monitor and assess a set of achievable results.

81. Implementation arrangements, including fiduciary management were managed under the DGFRN. This worked well expect for the difficulty of turnover of the project coordinator. The DG of DGFRN acted as Project Coordinator, which was positive in relation to government involvement and mainstreaming of the activity within the everyday business of DGFRN, but also created some difficulties given turnover of this post connected with changes in political appointments.

82. However, the strengths of the PDO and overall component design have been shown throughout the implementation phase and effectively carried through post restructuring and in the AF. Lessons learned from the original project were applied to the AF, which allowed for more effective and efficient implementation for this second phase[38]. Counterpart funding from the Government was slated as an in-kind contribution of offices and staff. This aspect of funding was forthcoming, yet government budgets slated to fund operating costs of field agents and CTAFs were not officially considered co-financing and proved to be a serious stumbling block for effective use of project-funded goods, e.g., a lack of fuel or repairs for project-funded vehicles limited the ability of DF field agents to conduct surveillance missions.

[37] "Analyses des tendances de la dynamique forestière au Bénin entre 2007 et 2016," Deffry, I. 2018. Unpublished note on Benin Forestry Sector.
[38] Illustrated *inter alia* by the steady disbursement rate and consistently high ratings during project implementation.

Quality of Supervision

83. Quality of Supervision was generally high throughout the project. Both TTLs as well as FM and Procurement Specialists and Safeguards Specialists identified issues during implementation and worked with the PIU and as necessary at the Ministry level to address issues that were identified on a timely basis. When issues arose early in the project, the team reinforced dialogue with the authorities by increasing the number of supervision missions. The design of supervision mission teams was clear and inclusive including local participants and beneficiaries in missions thus echoing the participatory emphasis of the project design.

84. The mid-term review of the original project identified the shortcomings in the initial project design and the restructuring of the project was completed in a timely manner. The restructured indicators in particular allowed for clearer monitoring and supervision of progress of the project towards achieving the PDO. The PDO was seen as appropriate and necessary for culture and behavior change as well as ensuring strong capacity within institutions to undertake collective integrated ecosystem management. This view remained the same throughout the life of the project. This has created a strong, collaborative environment between communities and forest agents and Benin is seen as a model for this in the region.[39] However, the 'big picture' of countrywide deforestation rates was not fully taken into account during the implementation phase and the design of new projects in the sector are taking this into account. The Bank team consistently worked with the PIU to develop plans and approaches to resolve issues identified during supervision. For example, after poor performance towards the achievement of the PDO-level indicator related to community plantations as well as delays in the design and implementation of the IGAs was identified in 2015, the team developed and monitored an agreed-upon action plan to be implemented by the PIU. The Plan was carefully tracked and modified as necessary over the following 12-18 months and by the November 2016 ISR the indicator showed Satisfactory performance. Coordination between the HQ-based and CMU-based team members was high and the CMU acknowledged the TTL's effective engagement on the ground with authorities and stakeholders.

Justification of Overall Rating of Bank Performance

85. While there were some shortcomings in the initial project design and the assessment of risk with regard to deforestation rates, the overall strength of the PDO and strategic focus and components design as well as a high level of supervision and well-executed restructuring(s), assisted in allowing the project to meet its objectives and outcomes. Therefore, the rating of Bank Performance is Satisfactory.

D. RISK TO DEVELOPMENT OUTCOME

86. There are three major (and inter-related) risks to development outcome: (i) financial sustainability for essential activities, including field operations and reforestation; (ii) high deforestation/degradation rates; and (iii) level of community collaboration and commitment.

[39] Representatives from DGFRN are consistently invited to other countries in the region developing forestry projects to provide guidance on working effectively with communities and participatory methods.

87. *Financial sustainability*: The DFRN, with support from the PRSP initiated a large scale up of staffing for DFRN, in particular with regard to increasing staffing for technical forest management units (CTAFs). Due to lack of budget, this hiring has been frozen since 2013 and this, along with a lack of operational budget (and other capacity and incentive issues), has caused significant problems with surveillance missions in the field. While taxes and fees as well as investments in plantations and revenues from fuelwood markets and other approved forest use have increased under the project, returns on forest investments are by necessity constrained (e.g., length of time for maturity of particular species) and the Forest Management Funds are (a) not sufficient to cover management costs in the near and medium-term; and (b) administered from the National Treasury which can make coordinating the use of funds among forests challenging. A bridging fund, such as a Forest Trust fund (akin to a CTF), may be needed to mitigate this risk until rents are sufficient to cover costs of operation and forest management and fund management is simplified and improved. A Forest Trust Fund, as modeled after the existing CTF, is currently under discussion.

88. *High deforestation/degradation rates*: Despite reforestation and regeneration activities and development of capacity within both communities and DFRN with regard to forest management, rates of deforestation and degradation in Gazetted Forests are extremely high and the forest resource for the country is still at significant risk. The project succeeded in its efforts to "lay down a foundation for a collective integrated ecosystem management system for its forests and adjacent lands," yet numerous difficulties remain that put the GFs at high risk, including: (i) lack of capacity among CTAF agents; (ii) a need to increase focus within the DF on surveillance, reforestation and regeneration activities; and (iii) continued growth of population and pressures from agriculture. Given the increasing demand for land (particularly in the north of the country/cotton belt) and for healthy soils by the highly-agriculture dependent riverine communities, the threat of expansion into gazette forests will continue unless this need is more fully addressed, beyond the FALMP which had a relatively minor activity (US$60,000) on training in improved agricultural practices and provision of seeds. In addition, the present methodology for collecting taxes and fees conducted by community associations may be creating perverse incentives of encouraging illegal activity in gazetted forests to generate additional penalties/fees and thus putting additional pressure on forests. This system will need to be addressed (and simplified) and management capacity among forest agents in the field be increased in order to avoid these pressures in the future.

89. *Level of community collaboration and commitment* – The development of capacity within community-based organizations and a strong collaborative relationship with DFRN have been the basis upon which co-management and investment in forest resources has been possible. In many areas surveillance has improved due to increases in staffing and collaboration, however, given the massive size of forests and difficulties with surveillance by CTAF agents have led in some areas to encroachments within forests. As capacity and supervision by agents in the field improves and more strongly addresses these encroachments, the relationship with communities will need to be carefully monitored with continued investments in the partnership model. Continued investments in training on co-management and contract execution, along with increased investments in income generating activities will be crucial to maintaining commitment of local communities. An increase in understanding of conservation value of forests has been generated among individuals participating in IGAs (as reported in IGA evaluations).

Building upon this understanding will be essential to continued attitude and behavior change which will be key to maintaining current and future investments in the sector.

90. As in any changing political environment, there is also some risk related to changes in government's commitment to the forestry sector and to the co-management approach, but the long-term commitment shown to this point along with the government's continued interest in future forest-sector investments indicates that this risk is low.

V. LESSONS AND RECOMMENDATIONS

91. Overall, it is important to note that the project was implemented over an almost 12-year period which proved to be extremely important in allowing for participatory methods to be used, for community partners and forest agents to increase capacity, for positive effects to be experienced by beneficiaries participating in the first waves of income-generating activities, and for results to be seen from reforestation initiatives and in behavior change within in communities. An implementation period of five years would have been too short to see many of the positive changes made under the project.

92. *Participatory methods, consultative processes and systems based on traditional models (e.g., GRM), take time, but yield high returns with regard to building strong, respectful working relationships between communities and forest agents, more effectively implemented forest management plans, and a strong enabling* environment *for collective integrated ecosystem management.* The project was committed to using participatory methods and made the investments in time and budget necessary to make them possible. For example, the participatory boundary marking process took over a year to implement and the participatory forest management plan development required hiring additional specialists and more years than perceived at the design stage to make it effective. The returns on this process, along with other approaches, which emphasize community knowledge, have helped to yield low rates of conflict and high rates of positive behavior change. **Recommendation**: *Continue to invest in participatory methods and create on-going opportunities for capacity building for CTAF agents, CBOs, and NGOs* to ensure continued engagement of stakeholders and an expanding knowledge base necessary for cutting-edge resource management.

93. *Targeted, rather than broad reaching, interventions are the most effective.* Gazetted forests (and protected areas) where interventions were the most concentrated show the lowest rates of deforestation.[40] This contributes to the difficulty of managing gazetted forest due to resources being over-stretched. In addition, there is a lack of *operational* budgets and a need to more strategic in implementing the PFMPs. Additional, highly trained forest agents in the field are needed with appropriate incentives and resources to conduct adequate surveillance in forests. **Recommendation**: *Target implementation of PFMPs strategically and focus interventions in a few strategic areas* such that the positives impacts are concentrated rather than diffused over a large number of GFs. *Provide forest technical units with sufficient staff, resources, training, tools and incentives* to conduct an appropriate

[40] Deffry, I. 2018, sec 23, p 10.

level of surveillance missions, e.g., using a SMART system – Spatial Monitoring and Reporting Tool – to enhance monitoring capacity and ensure patrols; providing rotating technical support units which can provide on-going training and independent oversight. *Establish performance indicators that measure progress in forest cover (REDD+) and ensure high quality baseline data*.

94. *Income generating activities are a strong tool for increasing access to income, empowering women, and reducing pressure on forests, but technical support is essential for effective implementation*. **Recommendation**: *Increase investment in income generating activities* to continue to improve livelihoods in communities that border gazetted forests and create alternatives to economic activities, which adversely affect the forests. Provide consistent technical support to participants in IGA initiatives, particularly with regard to disease prevention (for agriculture and livestock raising), basic accounting, and marketing.

95. *Current levels of return and the Forest Management Funds and other budgetary allocations do not supply sufficient funds for effective management.* The time needed for return on investments in the forest sector is long (at least 15-20 years) and requires significant investments in management to be realized. **Recommendation**: *Consider the development of a Forest Conservation and Management Fund* with both external and government inputs. A revolving fund could bridge the time gap inherent in returns on in investment in forest resources, reduce uncertainty in government budgetary contributions and augment existing rents, including those from farmers and fuelwood/charcoal producers.

96. *Population pressure and search for healthy soil for agriculture within the GFs is the most significant pressure on the gazetted forests* and will not abate in the future due to continued pressures linked to population growth and lack of alternative employment. Current levels of investment in soil regeneration and intensification techniques have been insufficient to significantly decrease illegal encroachments into the gazetted forests. **Recommendation**: *Invest in both proven and innovative solutions for soil regeneration* both within and adjacent to the gazetted forests. Possibilities include pilot programs in soil regeneration and mushroom (*mycellium*) enrichment programs.

97. *Private sector interventions have shown strong returns* with regard to providing needed fuelwood and timber and economic interventions in the fuelwood market have been an important first step in rationalizing the fuelwood markets. Establishing *large*-scale plantations appears to be effective for rapid forest restoration and increasing timber and fuelwood potential. Also, centralized fuelwood markets have been shown to add significant economic efficiency to the marketing of these products. However, the 'color tag' system and training in efficient charcoal production are not sufficient incentives for compliance. Rules for where and how to gather wood are not clear 'on the ground. **Recommendation**: *Develop partnerships with ONAB and the private sector* for enhancing long term economic returns of GFs. *Expand the successful fuelwood markets* and develop additional strategies for improving compliance on where and how much wood is gathered, as the color tag system is not sufficient. *Develop non-timber forest product trade and eco-tourism* to illustrate alternative economic advantages of the forest resource, with the aim of involving communities' in activities that will further enhance income generation and reinforce their engagement in forest conservation

ANNEX 1. RESULTS FRAMEWORK AND KEY OUTPUTS

A. RESULT INDICATORS (P069896)

Original Project Result framework

PDO **indicators**

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised target	Actual Achieved at Completion (2013)
Number of additional hectares of forest or degraded forest brought under sustainable management (as a result of area covered by PFMPS)	Number	0.00 15-Dec-2009	6000.00 31-Jan-2013		5800
Number of threatened species identified in the baseline study of biodiversity which benefits from conservation measures	Number	5.00 15-Dec-2009	20.00 31-May-2013		30
Number of rural fuel wood markets under the participatory forest management plan guidelines created within the project area	Number	5.00 15-Dec-2009	10 31-May-2013		20

Intermediate indicators

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised target	Actual Achieved at Completion
Number of community members trained in integrated ecosystem management	Number	500.00 15-Dec-2009	1200.00 31-Jan-2013		1971
Number of forestry staff trained in integrated ecosystem management	Number	350.00 15-Dec-2009	700.00 31-Jan-2013		742
Number of forestry staff trained in Management Based on Results	Number	0.00 15-Dec-2009	120.00 31-May-2013		129

Number of CBOs created within the project area	Number	20.00 15-Dec-2009	60.00 31-May-2013		47
Number of selected gazetted forests with functional Technical Management Unit	Number	0.00 15-Dec-2009	6.00 31-May-2013		7
Guidelines for sustainable production of fuel wood developed and implemented	Text	No 15-Dec-2009	Yes 31-May-2013		Yes
Number of farmers trained in improved production systems within the project area	Number	70.00 15-Dec-2009	400.00 31-May-2013		291
Number of charcoal producers trained on improved production techniques	Number	60.00 15-Dec-2009	150.00 31-May-2013		530
Number of project staff trained in project management	Number	3.00 15-Dec-2009	20.00 31-May-2013		20
Number of project bi annual reports based on the M&E system indicators	Number	2.00 15-Dec-2009	10.00 31-May-2013		8

Please note: The following table shows the RF adopted at the approval of the Additional Financing (final) phase of the project. Numbers for the baseline data indicate the amount achieved after the first phase of the project.

A. RESULTS INDICATORS

A.1 PDO Indicators

Objective/Outcome: To lay down the foundation for a collective ecosystem management system in the forests and adjacent lands

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of additional hectares of forest or degraded forest brought under sustainable management	Hectare(Ha)	5800.00 31-May-2013	7700.00 31-May-2016	7700.00 31-Jan-2018	8059.00 31-Jan-2018

Comments (achievements against targets): Target was 105% achieved. The areas brought under sustainable management were also included in a silviculture monitoring plan to improve the sustainability of results. Sustainable management is that which conforms to the requirement of the sustainable management plan of that particular forest. Data collection: Activity Reports of the Forest Management Technical Units.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of forest management plans under effective implementation	Number	5.00 31-May-2013	19.00 31-May-2016	19.00 31-Jan-2018	19.00 31-Jan-2018

Comments (achievements against targets): Target 100% achieved. Forest management plans are being implemented in all targeted forests. Effective implementation means that the majority of forest management activities planned for under the PFMP are being implemented within the forest areas concerned. Data collection: Activity Reports of the Forest Management Technical Units / PGTTR Country Completion Report / METT Evaluation Report

A.2 Intermediate Results Indicators

Component: 1. Institutional support and capacity building

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of community members trained in integrated ecosystem management	Number	1200.00 31-May-2013	1700.00 31-May-2016	1700.00 31-Jan-2018	1823.00 31-Jan-2018

Comments (achievements against targets): Target 107% achieved. Members of community co-management structures and farmers received training on Enhanced Production Systems (SAP), the Conservation Management for Water and Soil (GCES) and GDRN. Data collection: Annual Training Reports. Technical. Related to Integrated Ecosystem Management system outcome.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of forestry staff trained in integrated ecosystem management	Number	700.00 31-May-2013	800.00 31-May-2016	800.00 31-Jan-2018	829.00 31-Jan-2018

Comments (achievements against targets): Target 103% achieved. Forestry personnel were trained in Enhanced Production Systems (SAP), the Conservation Management for Water and Soil (GCES) and GDRN. Data collection: Annual Training Reports. Technical. Related to Integrated Ecosystem Management system outcome.

Component: 2. Community-based management of forest resources

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of gazetted forests with functional technical management units	Number	5.00 31-May-2013	12.00 31-May-2016	12.00 31-Jan-2018	16.00 31-Jan-2018

Comments (achievements against targets): Target 133% achieved. The 19 gazetted forests targeted under the project are organized into 16 forest complexes each with a technical forest management unit such that all targeted forests now have a functional unit. Functional indicates that 1) a formal technical management unit has been created 2) the unit is equipped with minimal materials necessary to allow for effective surveillance and other work 3) the unit implements activities per the forest management plan and produces periodic reports for submission to the DGFRN. Data collection: Annual activity report. Technical. Related to Collective Ecosystem Management system outcome.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of functional	Number	40.00	70.00	70.00	193.00

community-based organizations created within the project area		31-May-2013	31-May-2016	31-Jan-2018	31-Jan-2018

Comments (achievements against targets): Target 275% achieved. As well as co-management structures, groups and cooperatives were established as part of the development of IGAs. Data collection: Feasibility reports of the CBOs. Technical/Social. Related to Collective Ecosystem Management system outcome.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of agricultural producers trained in improved agricultural techniques	Number	400.00 31-May-2013	600.00 31-May-2016	600.00 31-Jan-2018	735.00 31-Jan-2018

Comments (achievements against targets): Target achieved 122%. The training of farmers took place in the framework of the implementation of the agreements signed with CARDER. Data collection: Annual Training Report. Technical. Related to Integrated Ecosystem Management system outcome.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of foresters in technical units for forest management (CTAFs) trained in improved agricultural techniques	Number	0.00 31-May-2013	100.00 31-May-2016	100.00 31-Jan-2018	112.00 31-Jan-2018

Comments (achievements against targets): Target 112% achieved. The training of forest officers took place within the framework of the implementation of the agreements signed with CARDER. The trained staff included officers responsible for the implementation of participatory forest management plans and from CTAFs. Data collection: Establishment Orders for CTAFs and Annual Training Report. Technical. Related to Integrated Ecosystem Management

system outcome.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of threatened species identified in the baseline study on biodiversity that benefit from specific conservation measures.	Number	30.00 31-May-2013	35.00 31-May-2016	35.00 31-Jan-2018	35.00 31-Jan-2018

Comments (achievements against targets): Target 116% achieved. Threatened species conservation measures are now being implemented for these 35 plant species. Data collection: Monitoring reports on conservation measures. Technical. Related to Integrated Ecosystem Management system outcome.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Surface areas of forests reserves reforested	Hectare(Ha)	1000.00 31-May-2013	1900.00 31-May-2016	1900.00 31-Jan-2018	3189.00 31-Jan-2018

Comments (achievements against targets): Target 168% achieved. A range of forest tree species have been used in reforestation initiatives within the 19 GFs. Data collection: Annual Activities Report. Technical. Related to Integrated Ecosystem Management system outcome.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Surface areas enriched in gazetted forests	Hectare(Ha)	500.00 31-May-2013	600.00 31-May-2016	600.00 31-Jan-2018	713.00 31-Jan-2018

Comments (achievements against targets): Target 118% achieved. The target was reached in 2014 and exceeded in 2015. "Enrichment" is the process by which degraded areas are replanted with species particularly adapted to the ecology of that specific forest. This restoration method has the advantage of "closing" the existing empty spaces within a forest. Data collection: Annual Activities Report. Technical. Related to Integrated Ecosystem Management system outcome.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of income-generating microprojects created (of which, % of women beneficiaries)	Number	32.00 31-May-2013	130.00 31-May-2016	130.00 31-Jan-2018	328.00 31-Jan-2018

Comments (achievements against targets): Target 252% achieved. Initial Target for % of women was 50% of 130 IGAs. The project achieved 60% women for 328 IGAs. 60% represents the portion of female members funded relative to the total membership of groups that benefitted from micro-project financing. Data collection: Project Completion Report/ Progress Reports. Social. Related to Integrated Ecosystem Management system outcome.

Component: 3. Sustainable fuel wood production and marketing

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of rural wood markets created in project intervention areas and operated based on guidelines in forest-management plans	Number	20.00 31-May-2013	30.00 31-May-2016	30.00 31-Jan-2018	25.00 31-Jan-2018

Comments (achievements against targets): Target 83% achieved. 3 new rural fuelwood markets are being developed around the forest massifs of Ouémé-Boukou. The term "created" means established by the forestry administration (DGFRN). The term "Operational based on guidelines in forest-management plans" indicates that the established markets are provided for under the management plans concerned which 1) annually provides for the quotas and land

parcels to be exploited to supply said markets and areas where new plantations of fuel wood would be established; and 2) includes plans for collection of taxes on products for financing of reforestation activities. Data collection: Monitoring Reports. Economic. Related to Integrated Ecosystem Management system outcome.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Surface areas of community fuel-wood plantations established in lands adjacent to forests	Hectare(Ha)	0.00 31-May-2013	150.00 31-May-2016	150.00 31-Jan-2018	165.00 31-Jan-2018

Comments (achievements against targets): Target 110% achieved. Data collection: Monitoring Reports. Technical. Related to Integrated Ecosystem Management system outcome.

Component: 4. Endowment of the CTF

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Initial capital of the FSOA disbursed	Amount(USD)	0.00 31-May-2013	930000.00 31-May-2016	930000.00 31-Jan-2018	930000.00 21-Jun-2018

Comments (achievements against targets): Target 100% achieved. This endowment to the CTF was cited by the Foundation for West African Savannahs (Fondation des Savanes Ouest-Africaines - FSOA) as instrumental in supporting the establishment and capitalization of the trust fund. Data collection: Annual Activities Report/2016 Financial Monitoring Report. Economic. Related to Integrated Ecosystem Management system outcome.

Component: 5. Project Management

Indicator Name	Unit of	Baseline	Original Target	Formally Revised	Actual Achieved at

	Measure			Target	Completion
Technical and financial management progress reports prepared and submitted on schedule	Yes/No	N 31-May-2013	Y 31-May-2016	Y 31-Jan-2018	Y 31-Jan-2018

Comments (achievements against targets): Target achieved. Data collection: Annual Activities Report.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
ESMF and process framework implemented in a satisfactory manner	Yes/No	N 31-May-2013	Y 31-May-2016	Y 31-Jan-2018	Y 31-Jan-2018

Comments (achievements against targets): Target achieved. All safeguards activities carried out, including environmental and social management plans for the IGAs. Data collection: Environmental and Social Monitoring Reports.

Annex 1a: Revisions and Additions to Results Framework at Restructuring and Additional Financing[41]

PDO, PDO indicators and Intermediate indicators	Changes at Restructuring or at Additional Financing (AF)	Rationale for Change
PDO: to assist the recipient in its efforts to lay down the foundation for a collective integrated ecosystem management system of its forests and adjacent lands		
PDO indicators:		
PDO Level Results Indicators		
Indicator One: 70% of gazetted forests with a participatory forest management plan under implementation by year 5	Dropped as a PDO level indicator.	Revised and moved to intermediate indicators
Revised Indicator One: number of additional hectares of forest or degraded forest brought under sustainable management (as a result of area covered by PFMPs)	Newly added at Restructuring and Continued at AF	Added to be measurable with increase in raw number
Indicator Two: 70% of reduction in the number of unauthorized fires deliberately started for hunting or agriculture in the Project area by year 5	Dropped at original project restructuring	Due to difficulty in measuring – lack of baseline data
Revised Indicator Two: number of threatened species identified in the baseline study of biodiversity which benefits from conservation measures	Added during restructuring of original project and not continued under AF	Revised to be measurable with increase in raw number.

[41] The complete Annex 1 Results Framework covers the progress of the Forests and Adjacent Lands Management Project: Additional Financing project approved in 2013 while Annex 1a covers revisions and additions to the Original Project's Results Framework (2006).

PDO, PDO indicators and Intermediate indicators	Changes at Restructuring or at Additional Financing (AF)	Rationale for Change
Additional Financing Indicator Two (a): Number of forest management plans under effective implementation	Newly added under AF	Added at additional financing to track effective implementation of PFMPs
Indicator Three: 20% of increase of household incomes for community members receiving micro-Project grants by year 5.	Revised at original project restructuring and dropped as a PDO indicator.	Revised and moved to intermediate indicators
Revised Indicator Three: number of rural fuel wood markets under the Participatory Forest management Plan guidelines created within the project area.	Added during restructuring of original project and not continued under AF.	Revised to be measurable with increase in raw number.
Indicator Four: 25% of threatened species covered by a conservation zone with the Project area by end of Project	Revised	Revised to raw number increase (see above). Percentage difficult to track due to lack of quality baseline data
Indicator Five: 70% of all key biodiversity spots - identified within the Project zone - are protected with a legal recognition by EOP	Dropped	Percentage difficult to track due to lack of quality baseline data
Indicator Six: 1000 ha increase in forest cover in the Project area as measured by the number of hectare reforested by year 5 and resulting in an equivalent increase of above ground carbon sequestration capacity	Revised	Revised and moved to intermediate indicators
Indicator Seven: 30% of increase in efficiency of conversion of wood to charcoal by EOP	Dropped	Difficult to track due to lack of baseline data. Covered under fuelwood markets indicator.

PDO, PDO indicators and Intermediate indicators	Changes at Restructuring or at Additional Financing (AF)	Rationale for Change
Component 1: Institutional Support and Capacity Building		
Intermediate Result indicator One: 70% of staff and CBO representatives trained in integrated ecosystem management	Revised	Revised to raw number indicator
Revised Intermediate Results Indicator One: Number of community members trained in integrated ecosystem management	Newly added at restructuring and continued at AF	Indicator based on raw number
Intermediate Result indicator Two: 70% of staff and CBO representatives are trained to conduct control missions	Revised at restructuring	Revised to raw number indicator
Revised Intermediate Results Indicator Two: Number of forestry staff trained in integrated ecosystem management	Newly added at restructuring and continued at AF	Indicator based on raw number
Intermediate Result Indicator Three: 80% of Project bi-annual reports based on M&E system indicators	Revised at restructuring	Revised to raw number indicator
Revised Intermediate Result Indicator Three: Number of forestry staff trained in Management Based on Results	Added at original project restructuring and dropped at the AF	Indicator based on raw number

PDO, PDO indicators and Intermediate indicators	Changes at Restructuring or at Additional Financing (AF)	Rationale for Change
Additional Financing Result Indicator Three (a): Technical studies on historical and future possible causes of deforestation available	Newly added under AF	Providing additional data on reforestation
Additional Financing Result Indicator Four (a): Methodology studies for the elaboration of baseline scenarios and development of MRV available	Newly added under AF	Additions to Monitoring system
Component 2: Community-based management of Forest Resources		
Intermediate Result indicator One: At least 10 viable CBOs per site created by EOP	Revised at restructuring	Revised to total project area
Revised Intermediate Result Indicator One: Number of CBOs created within the project area	Added at restructuring	At AF 60 additional CBOs added to target within the total project area
Additional Financing Result Indicator One (a): Number of functional CBOs created within the project area	Revised under AF	Addition of 'functional' to emphasize ability of CBO to participate effectively in collective integrated ecosystem management

PDO, PDO indicators and Intermediate indicators	Changes at Restructuring or at Additional Financing (AF)	Rationale for Change
Intermediate Result indicator Two: At least 5 viable micro- enterprises per site created by EOP	Revised at original project restructuring	Revised to include beneficiary numbers vs. project to include group projects
Revised Intermediate Result Indicator Two: Direct beneficiaries of livelihood projects, % of which is female	Newly added at restructuring	Added to include target to include gender component
Additional Financing Intermediate Result Indicator Two (a): Number of agricultural producers trained in improved agricultural techniques	New under AF	Included to track progress on activities related to reduced pressure on parks through improving ag efficiency related to integrated ecosystem management.
Intermediate Result Indicator Three: 80% of Project sites have a functional Forest Management Fund by EOP.	Revised at original project restructuring	Revised to raw number indicator
Revised Intermediate Result Indicator Three: Number selected gazetted forests with functional Technical Management Units	Added at restructuring	Raw number indictor.

PDO, PDO indicators and Intermediate indicators	Changes at Restructuring or at Additional Financing (AF)	Rationale for Change
Additional Financing Intermediate Result Indicator Three (a): Number of foresters in technical units for forest management (CTAFs) trained in improved agricultural techniques	Newly added under AF	Included to track progress on activities related to reduced pressure on parks through improving ag efficiency related to integrated ecosystem management
Intermediate Result Indicator Four: 70% of reduction in new incidents of encroachment of gazetted forests	Dropped	Difficulty in tracking. Lack of baseline data.
Additional Financing Results Indicator Four (a): Number of gazetted forests with functional technical management units	Newly added under AF.	Added to track technical forest management capacity.
Intermediate Result Indicator Five: 60% of reduction in conflicts between forest users, farmers and herders by EOP	Dropped	Difficulty in tracking. Lack of baseline data.
Additional Financing Results Indicator Five (a): Number of threatened species identified in the baseline Activity study on biodiversity that benefit from specific conservation measures.	Newly added under AF	Tracking biodiversity conservation measures

PDO, PDO indicators and Intermediate indicators	Changes at Restructuring or at Additional Financing (AF)	Rationale for Change
Intermediate Result Indicator Six: 5 % of Improvement in soil productivity by EOP	Dropped	Difficulty in tracking increase in soil productivity
Additional Financing Intermediate Result Indicator Six (a): Surface areas of forest reserve reforests	Newly added under AF	Added to track reforestation measures
Intermediate Result Indicator Seven: 60% of adjacent lands have negotiated and registered individual properties by EOP	Dropped	Linked to land tenure activities dropped due to being beyond the scope of the present project
Additional Financing Intermediate Results Indicator Seven (a): Surface areas enriched in gazetted forests	Newly added under AF	Added to track enrichment of natural areas within GFs
Additional Financing Intermediate Results Indicator Eight: Number of income-generating activities created (of which % of beneficiaries women)	Revised under AF	Tracking IGAs (including gender)
Component 3: Sustainable Fuel Wood Production and Marketing		

PDO, PDO indicators and Intermediate indicators	Changes at Restructuring or at Additional Financing (AF)	Rationale for Change
Intermediate Result Indicator One: Fifty viable rural fuel wood markets offering sustainably produced around gazetted forests	Dropped at original project restructuring and s more generic indicator (see below 1a) added at AF	See indicator 1a. Reinstated under AF and incorporating inclusion of guidelines
Revised Intermediate Result Indicator One: Guidelines for sustainable production of fuel wood developed and implemented	Newly added at original project restructuring	Needed for effective implementation of fuelwood market activities
Additional Financing Intermediate Results Indicator One (a): Number of rural wood markets created in project intervention areas and operated based on guidelines in forest-management plans	New under AF.	Tracking progress on establishing managed rural fuelwood markets
Intermediate Result Indicator Two: Twenty five additional sustainable income earning activities for households by EOP	Dropped	Covered under IGA indicator
Revised Intermediate Result Indicator Two: Number of farmers trained in improved production systems within the project area	Newly added under original project restructuring	Linked to integrated ecosystem management outcomes.
Additional Financing Intermediate Results Indicator Two (a): Surface areas of community fuel-wood plantations established in lands adjacent to forests	Newly added under AF	Added to track progress in plantations to enhance access to managed, sustainable fuelwood as part of integrated ecosystem management

PDO, PDO indicators and Intermediate indicators	Changes at Restructuring or at Additional Financing (AF)	Rationale for Change
Intermediate Result Indicator Three: Guidelines for sustainable fuel wood production have been developed	Revised at restructuring	Revised to include implementation of guidelines (see IR indicator One).
Revised Intermediate Result indicator Three: Number of charcoal producers trained on improved production techniques	Newly added at original project restructuring	Raw number indicator.
Intermediate Result Indicator Four: 50% of charcoal producers have adopted new production techniques.	Dropped	Activity revised at restructuring
Intermediate Result Indicator Five: 200 ha of plantations are eligible to CDM by the EOP	Dropped	Activity dropped.
Component 4: Project Management (Component 5 under AF)		
Revised Intermediate Result indicator One: Number of project staff trained in project management techniques	Newly added at original project restructuring	Added to measure PM effectiveness
Additional Financing Intermediate Results Indicator One (a): Technical and financial management progress Report reports prepared and submitted on schedule	Added under AF	Added to measure PM effectiveness/efficiency

PDO, PDO indicators and Intermediate indicators	Changes at Restructuring or at Additional Financing (AF)	Rationale for Change
Revised Intermediate Result Indicator Two: Number of Project bi-annual reports based on M&E system indicators	Newly added at original project restructuring	Added to measure PM efficiency
Additional Financing Intermediate Results Indicator Two (a): ESMF and process framework implemented in a satisfactory manner	Added under AF	Added to measure Safeguards and implementation effectiveness
Component 4 (added under AF): FSOA		
Additional Financing Intermediate Results Indicator One: Initial capital disbursed	Added under AF.	Added to measure planned disbursement to conservation trust fund

B. KEY OUTPUTS BY COMPONENT

As the project was implemented over a nearly 12-year period, the project has dozens of outputs. Key outputs are included here. Please see Annex 6 for a more complete list of outputs.

Objective/Outcome 1: To assist the Recipient in its efforts to lay down the foundation for a collective integrated ecosystem management system of its forests and adjacent lands.	
Outcome Indicators	1. Number of additional hectares of forest or degraded forest brought under sustainable management as a result of areas covered by Participatory Forest Management Plans (PFMPs) 2. Number of threatened species identified in the baseline study of biodiversity which benefits from conservation measures 3. Number of rural fuelwood markets under the PFMP guidelines within project area
Intermediate Results Indicators	1. Number of community members trained in integrated ecosystem management 2. Number of forestry staff trained in integrated ecosystem management 3. Number of staff trained in management based results 4. Development of Participatory Forest Management Plans 5. Number of threatened species benefiting from conservation measures. 6. Guidelines for sustainable production of fuelwood developed and implemented 7.Charcoal producers trained on improved production techniques
Objective/Outcome 1: To assist the Recipient in its efforts to lay down the foundation for a collective integrated ecosystem management system of its forests and adjacent lands. (AF)	

Outcome Indicators	1. Number of additional hectares of forest or degraded forest brought under sustainable management 2. Number of forest management plans under effective implementation
Intermediate Results Indicators	1. Area enriched within the GFs 2. Area reforested within the GFs 3. Number of functionalTechnical Forest Management Units operating within the 19 GFs 4. Number of CBOs created and operational in the Project zone 5. Number of community representatives trained in integrated ecosystem management 6. Number of forestry personnel trained in integrated ecosystement management 7. Number of functional rural fuelwood markets created in the Project zone
Key Outputs by Component (linked to the achievement of the Objective/Outcome 1)	OI - *5,800 additional hectares brought under sustainable management (Orig. target – 1600)* 1. 1,971 community members trained in integrated ecosystem management (Orig. target – 1,200) (Component 1) 2.742 forestry staff trained in integrated ecosystem management (Orig. target – 700) (Component 1) 3. 129 forestry staff trained in results-based management (Orig. target – 120) (Component 1) 4. 16 PFMPs developed (Component 2) 5. 30 species benefiting from conservation measures (Orig. target – 20) (Component 2) 6. Guidelines developed and implemented (Component 3) 7. 530 charcoal producers trained (Target: - 150) (Baseline 60) (Component 3)

	OI - 8,059 ha of degraded forests in 19 forest ecosystems restored (Original target: 7,700 ha) **OI** - 19 Forest Management Plans under effective implementation 1.713 ha enriched within the GFs (Target: 600) (Baseline 500) (Component 2) 2. 3,189 ha reforested within the GFs (Target: 1900) (Baseline 1000) 3. 16 Technical Forest Management Units covering 19 GFs (Target: 12) (Component 2) 4. 193 CBOs created and operational (Target: 70) (Component 2) 5. 1,823 community representatives trained in integrated ecosystem management (Target: 1,700) (Component 1) 6. 829 forestry personnel trained in integrated ecosystem management (Target: 800) (Component 1) 7. 25 functional Rural fuelwood markets created (Target: 30) (Component 3)

ANNEX 2. BANK LENDING AND IMPLEMENTATION SUPPORT/SUPERVISION

A. TASK TEAM MEMBERS

Name	Role
Preparation	
Salimata D. Follea	Task Team Leader
Paola Agostini	Senior Economist
Lucienne M'Baipor	Senior Social Development Specialist
Issa Maman-Sani	Senior Environmental Specialist
Africa Eshogba Olojoba	Senior Environmental Specialist
Solange Alliali	Senior Counsel
Aissata Diallo	Senior Finance Officer
Alain Hinkati	Financial Management Specialist
Mathias Gogohounga	Procurement Specialist
Sylvetre Bea	Consultant, Financial and Economic Analysis
Lucson Pierre-Charles	Operational and Administratif support
Leissan Augustine Akpo	ET Temporary
Supervision/ICR	
Salimata D. Follea	Task Team Leader(s)
Mathias Gogohounga	Procurement Specialist(s)
Alain Hinkati	Financial Management Specialist
Paivi Koskinen-Lewis	Social Safeguards Specialist
Leissan Augustine Akpo	Team Member
Abdoulaye Gadiere	Environmental Safeguards Specialist
Idriss Deffry	Natural Resource Management Specialist
Marie Bernadette Darang	Team Member
Ellen Tynan	ICR 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	4.977	41,273.93
Total	**4.98**	**41,273.93**
Supervision/ICR		
FY14	11.175	55,702.18
FY15	6.863	47,902.37
FY16	1.640	56,272.60
FY17	4.472	125,385.78
FY18	7.450	100,070.64
Total	**31.60**	**385,333.57**

ANNEX 3. PROJECT COST BY COMPONENT[42]

Components	Amount at Approval (US$M)	Actual at Project Closing (US$M)	Percentage of Approval (US$M)
1. Institutional Support and Capacity Building	1.46	1.59	108%
2. Community-Based Management of Forest Resources	4.45	4.26	96%
3. Sustainable Fuel Wood Production and Marketing	.17	.21	123%
4. Endowment of the Foundation	.93	.93	100%
5. Project Management	.55	.56	101%
Total	**07.56**	**07.55**	**99.86%**

[42] Changes due to currency fluctuations. Includes the AF only since system data was not available for the parent project (P069896) which closed with 100% disbursed of the GEF funds.

ANNEX 4. EFFICIENCY ANALYSIS

Economic and financial analyses at the design stage were carried out for the additional financing, based on the analysis of existing data on costs and benefits of activities financed under the original project, and assumptions made for other activities envisaged under the additional financing. Economic analysis examined economic viability of the project at the national level, trying to define quantifiable direct and indirect benefits of the additional financing, with the consideration of the annual contribution from the Government estimated as US$3 million over the project period. Some benefits, such as those related to certain non-timber forest products (hunting, biodiversity/ecological, and watershed protection) were not quantified.

Returns for local communes and for the central forest administration in terms of increased fiscal receipts from implementation of forest-management plans under the additional financing were assessed, and an analysis of the sensitivity of the project's economic soundness to various policy options (support for income-generating activities versus reforestation and enrichment) was conducted.

The analysis confirms the project's overall economic and financial viability as measured by the IRR at 14%, ERR as 17%, with a positive NPV estimated at US$11.754 million. For lack of data, financial analyses were conducted for just 3 of 32 income generating microprojects funded under the initial project. Over a period of 20 years at a 10% discount rate, the financial analysis of the three analyzed activities yields a positive NPV and a financial return rate varying between 11% and 24%, depending on the type of activity.

Assumptions were made for the expected increases in fiscal receipts for local communes and the central forest administration (10% and 15%, respectively), which demonstrated project's economic attractiveness.

Financial and economic analysis of productive investments under the additional financing focused on Income Generating Activities (mainly apiculture, cassava transformation and rabbit breeding), and fuel wood markets. The analysis noted that the project economic viability would be further proved if other types of benefits were accounted for. In addition, results indicated that reforestation and enrichment activities have a positive but limited measurable impact on the project economic viability.

Economic benefits generated by the project.

The project generated a diverse portfolio of economic benefits including direct measurable benefits from the income-generating subprojects (activities, or IGAs), regulated and functioning wood fuel markets and indirect, intangible benefits. Measurable benefits coming from the IGAs and revenues from the sales of the wood fuel and as well as taxes generated directly from the markets sales. Indirect benefits of the projects are improvement in the public administration, benefits to the biodiversity, forests ecosystems, condition of the forests as a result of the forest management plans developed for by the project, covering area of 8059 ha under additional financing, reduced pressure on the forests as a result of alternative income proposed to the beneficiaries in the forest adjacent areas, carbon sequestration and slower deforestation rate in the areas covered by the FALMP measured as 2.8% compared to the rate of 3.8% in the areas outside of the project influence.[43] Additionally other benefits

[43] "Analyses des tendances de la dynamique forestière au Bénin entre 2007 et 2016," Deffry, I. 2018. Unpublished note on Benin Forestry Sector.

include fees generated as a penalty for unregulated activity within forests[44] and contribution of the project to the Conservation Trust Fund established under the other WB project implemented simultaneously – Protected Areas Management, which managed to generate significant contribution from other sources and generated interest income of US$ 800,000.

Given the challenges in measuring monetary value of the benefits to the whole range of the benefits generated by the project, only specific benefits were included in the ex-post economic assessment. For this project the ex-post economic analysis was based on the assessment of the benefits arising from IGAs and wood fuel markets individually due to the high revenues generated by the latter.

The main objective of the income generating activities was to provide alternative sources of income to riparian communities of classified forests with a view to improving their living conditions and reducing human pressure on wild fauna and flora. During project implementation, four sets of the income generating activities were implemented. The PIU facilitated independent evaluations of the first three batches, individually. For the economic analysis second and third phases of the IGA were considered.

Income-generating activities implemented under the project were selected and financed in one pilot stage" under the original project: 32 and 4 additional stages during the Additional Financing, as shown in the table below. Independent evaluations were conducted for each batch of the IGA, covering mainly social aspects, interview with participants, assessment of the environmental impact, sustainability, and presenting partial economic assessment of the sample of IGA.

- Table 4.1. Groups, number and amount of subprojects funded, FALMP-AF

-		
IGA Generation	**Quantity**	**Total cost (FCFA)**
1st generation IGA	165	245,675,691
2nd generation IGA	67	116,667,008
3rd IGA	58	400,084,771
4th generation IGA	11	29,000,000
Total	294	791,427,470

[45]

Table 4.2: First and second sets of IGAs total and sampled, FALMP-AF

Types of Activities	First set of sub-projects, Total IGAs		First set of sub-projects, IGAs evaluated		Second set of sub-projects, Total IGAs		Second set of sub-projects, IGAs evaluated	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Agricultural processing	15	9.1	12	15.3	7	10.4	5	18.5
Animal husbandry (poultry, pigs, sheep, goats)	87	52.7	37	47.4	37	55.2	13	48.1
Unconventional breeding (rabbit breeding, etc)	7	4.2	4	5.1	6	8.9	3	11.1
Gardening	14	8.4	4	5.1	1	1.4	0	0
Apiculture	32	19.3	18	23.0	11	16.4	4	14.8
Non-wood forest products	3	1.8	2	2.5				

[44] Total amount of penalties is not available, therefore excluded from the calculation.

[45] 2018. Juan López Villar. Rapport d'evaluation de l'impacte des agrs de premiere generation (PGFTR-FA).

Types of Activities	First set of sub-projects, Total IGAs		First set of sub-projects, IGAs evaluated		Second set of sub-projects, Total IGAs		Second set of sub-projects, IGAs evaluated	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Aquaculture	3	1.8	1	1.2	3	4.4	1	3.7
Other (plants nursery, etc.)	4	2.4	0	0.0	2	2.9	1	3.7
Total	165	100.0	78	100.0	67	100.0	27	100.0
Microprojects coverage by Survey				**47.27**				40,2

Source: 2018. Juan López Villar. Rapport d'evaluation de l'impacte des agrs de premiere generation (PGFTR-FA).

The main difficulty with conducting a more complete economic analysis is due to a lack of data. Data on revenue, operational costs and profits for individual IGAs was not collected systematically. Discrete data about total revenues or net profits was collected based on interviews conducted for the evaluation. Since specific data was not measured, each IGA covered by the assessment was assigned to the group of net income from very low to very high level. (Table 4.3).

Table 4.3. Type of impact of the IGAs net income in improving the standard of living of the promoter

Type of impact	**Net income generated by IGA**
1- Very low	No income from IGA
2- Low	0-110000 FCFA /year
3- average	110000-210000 FCFA/year
4- high	210000-400000 FCFA/year
5- very high	> 400000 FCFA /year

Source: 2018. Juan López Villar. Rapport d'evaluation de l'impacte des agrs de premiere generation (PGFTR-FA).

On average, net income generated by most of the IGAs of second set varies from low to average (between approximately US$192 – 385/yr (110,000 – 210,000 FCFA/year), while income of the third IGA generation in average shows slight increase to high average level. There are outliers recorded in different groups of IGA, mostly by the beneficiaries with previous experience, e.g. apiculture (net profit generated above CFA 1 million/year); small livestock (CFA 0.7 million/year); and non-conventional breeding (more than CFA 0.4 million/year).

Cost-benefit analysis was applied to conduct the economic efficiency assessment of this project. Sensitivity test is applied for the main parameters. To test the robustness of the results, analysis was conducted for low, high and weighted average levels of net income reported by the evaluation. A 20-year period is assumed in assessing the economic feasibility of the project. While project costs are incurred only during 5-year period implementation, benefits are assumed to be generated beyond the lifetime of the project. However, no incremental changes in benefits were assumed beyond the project implementation period, although the multicriteria analysis conducted by the evaluation of IGAs

demonstrate income improvement, enhancement of the technical skills of the beneficiaries, sustainability of the activities, and existing market demand for the produce.

A sample of simulations were run to assess economic feasibility of the project, including incremental benefit/cost ratio and the IRR, applying a current discount rate 5%[46], 8% and 12% using net income ranges for different types of IGA by extrapolating results of the IGAs covered by the evaluation report to the rest of IGAs of the second and third sets. The results of this analysis are summarized in Table 4.4.

Table 4.4. Sensitivity analysis, IGAs second and third set FALMP-AF, 20 years

	Discount rate 5%		Discount rate 8%		Discount rate 12%	
Types of income, Income generating activities	B/C ratio	IRR	B/C ratio	IRR	B/C ratio	IRR
Income level low of average US$192/yr (110,000 CFA/year)	0.97	n/a	0.83	n/a	n/a	n/a
Income level high of average US$385/yr (210,000CFA/year)	1.85	12.31	1.58	7.97	1.33	1.73
Income level weighted average, based on survey results	1.06	5%	0.91	n/a	n/a	n/a

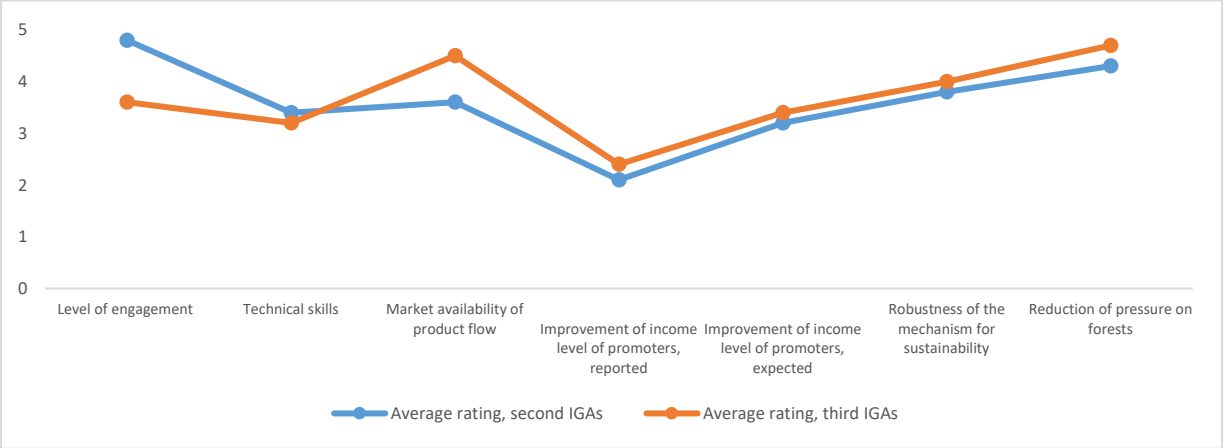
Overall, the results demonstrate positive economic impact by the project for medium (conservative estimate) income level (US$385/yr (210,000 FCFA/year)), with the benefit/cost ratio above 1 and IRR 8-12%.

It is reasonable to assume that income levels will remain average or increase, especially for cassava production and small livestock, based on the results of the multi-criteria analysis conducted by the IGAs evaluation. To facilitate the assessment of the impact of IGAs on income, social conditions of beneficiaries, and impact on use of forests, it was considered necessary to assess the performance of IGAs using set of criteria. These criteria were chosen to analyze the strength of IGA in the present time, and to project their functionality in the future and the successes that can be expected in the short term (within two to three years).

Each IGA was assessed based on five criteria, namely: level of commitment of the proponent; technical control/skills; market demand, improvement of the standard of living of the beneficiaries (current and expected); robustness of the mechanism established for sustainability; and reduced pressure on forests. A five-level grid is applied to determine the performance of the IGAs, between very low and very high: (1: Very low; 2: Low; 3: Medium; 4: High; 5: Very High). Results of this assessment are demonstrated in the Figure 4.1.

Figure 4.1. Results of the multi-criteria analysis of the evaluated IGAs

[46] World Bank data, current discount rate

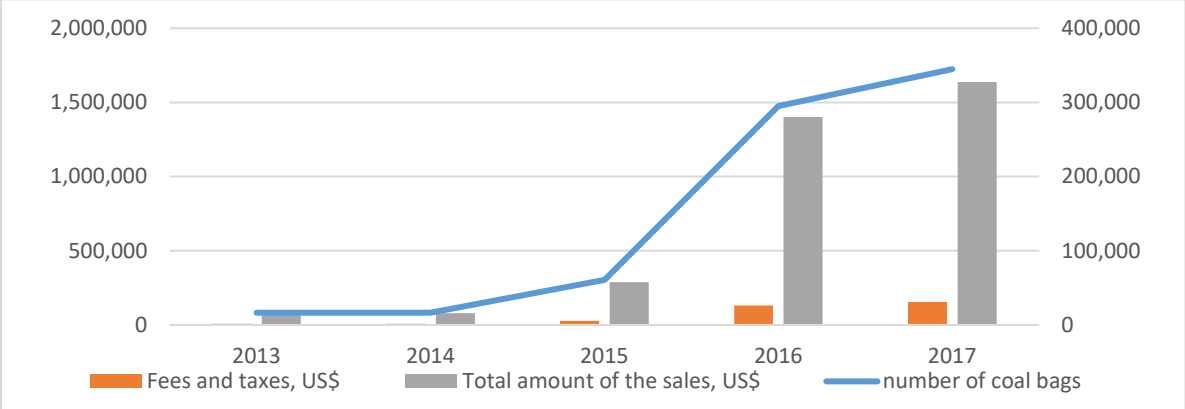


Results of multi-criteria analysis demonstrate improvement in most of the criteria for third set of IGAs, including increase in average income, increased demand on the market, improved sustainability and reduction of the pressure on forests reported by the interviewers. Moreover, participation in IGA provided supplemental income for many beneficiaries, in addition to the existing activities that was not considered in the economic analysis.

Wood fuel markets

This component aimed to reduce forest degradation caused by the unsustainable exploitation for firewood and charcoal production in gazette and ecologically sensitive forests adjacent lands. The main objectives were to 1) promote community managed economically, socially and environmentally sustainable fuelwood production enterprises, and 2) to promote popular participation in household energy activities, rational use of household energy resources, and improved end-use of household fuels. As it was reported by the PIU, 30 wood fuel markets were established and functioning under the project. Data on total revenue demonstrate stable growth of the sales, and taxes flow generated by the markets.

Figure 4.2. FALMP AF: Revenue, taxes, sales Wood Fuel Markets



Analysis considered all markets established under both original and additional financing, and cost associated with this component. Despite assumptions made at the design stage, it demonstrated financial viability during third year of project implementation with positive overall NPV and higher than 18 benefit-cost ratio. However, some key elements of the data are missing (operational and processing costs) which does not allow for the reasonable assessment. Over 160 ha of the community-based plantations for fuel wood were established under this component; benefits associated with the

reduced pressure to the forests and ecosystems generated as a result of this activities were not quantified, therefore were not included in the analysis.

Literature review shows that cost savings do occur from establishing regulated wood-fuel markets and managed woodlands. For example, Chomitz and Griffiths in their study of wood-fuel market in N'Djamena, Chad found that costs will increase in the medium term as woodfuel transporters are constrained by village production limits, however, sustained higher productivity in managed areas retards the push into the forest frontier. Faster regrowth and more effective charcoaling techniques produce cost savings. Whether this is sufficient to justify the program depends upon the costs of setting up the program. With secure control of the woodlands, villages will earn the producer surplus previously earned by urban transporters. Another finding was that the spatial distribution of biomass is greatly affected by the project. [47]

According to the World Bank ESMAP report, a sustainably designed and operated sector could significantly reduce GHG emissions and help launch low carbon-growth strategies[48]. Case studies in Sierra Leone and Burkina Faso[49] concluded also that because fuelwood will continue to be for some time an important component in the energy mix and a vital source of energy for the poor, it is important to combine approaches aiming at increasing biomass offer, decreasing biomass demand and diversifying energy sources. Moreover, planning of wood for energy will benefit from the management of the forested areas, reforestation, and rationalized wood collection.

Conclusion

The ex-post economic efficiency analysis confirms viability of selected project interventions, even for the modest levels on income and various discount rates.

The qualitative analysis is limited to values attributed to project directly. The improved forestry management, regulated wood fuel markets and limited direct access to the forests under protection, as well alternative income for the beneficiaries in the adjacent to forests areas will create benefits to overall ecosystem, GHG sequestration and avoiding deforestation. There are economic benefits arising from the improved public service delivery resulting from capacity building interventions. Furthermore, contribution of the project to the Conservation Trust Fund increased sustainability of the results of other WB project implemented simultaneously – Benin Protected Areas Management project. Compared to other GEF projects were conservation trust funds were established, this project achieved greater efficiency by contributing relatively small amount (US$1.0 million) and raising over Euro 24 million. For example, according to the GEF Evaluation of Experience with Conservation Trust Funds[50] financing provided by GEF for the establishment of CTFs varied from US$300,000 to US$16.5 million. Based on the results reported in the ISRs, on discussion with project staff, evaluation reports provided by PIU, and research provided by the project team during preparation of the next operation in Benin, the project strongly demonstrated the efficient use of the project resources:

[47] *Environmental and Resource Economics* 19**:** 285–304, 2001. An Economic Analysis and Simulation of Woodfuel Management in the Sahel Kenneth M. Chomitz and Charles Griffiths.
[48] 2011. World Bank. Wood-based biomass energy development for Sub-Saharan Africa—Issues and approaches. Africa Renewable Energy Access Program (AFREA), ESMAP.
[49] 2016. Javier Arevalo, Yohama Puentes and Sari Pitkänen. Assessment of Solid Woodfuel Situation in Sierra Leone and Burkina Faso. BIODEV WP 1.4. University of Eastern Finland.
[50] 1998. GEF Evaluation of Experience with Conservation Trust Funds. GEF/C.12/Inf.6. Washington D.C.(file:///C:/Users/wb231078/OneDrive%20-%20WBG/Desktop/GCCIA_2015/ICR/Benin%20ICR/Forest/GEF.C.12.Inf_.6_5.pdf).

- Area of the forest or degraded forest brought under sustainable management, for which PFMPs were developed (5800 ha compared to targeted 1600 ha under original project, and 8059 ha vs originally targeted 7700 ha in additional financing)
- 30 fuel wood markets were established under the project
- Lower deforestation rate in the areas covered by the project, compared to the other gazetted forests
- Number of community members trained and forestry staff received training in integrated ecosystem management exceeded original targets (1823 and 829 accordingly)
- 193 functional community-based organizations created within the project area, or 175% of the originally targeted number
- Number of agricultural producers and forestry specialists trained in improved agricultural techniques both exceeded target
- Significant areas of forests reserves reforested, covering 3189 ha, compared to target 1900 ha
- Income-generating activities implemented under the project were selected and financed in 4 batches: 32 under the original project, and independent evaluations were conducted for each batch of the IGA, covering mainly social aspects, interview with participants, assessment of the environmental impact, sustainability, and presenting partial economic assessment of the sample of IGA.
- Both original project and additional financing were implemented in time, and within the budget.

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

The borrower confirms receipt and review of the Bank's ICR report and found that the report has appropriately captured the main results and impacts of the project. The ICR is found acceptable and cleared by the government. Following is the borrower's project completion/achievement report.

****

BENIN : PROJET N°P069896

DON GEF P131051 TF 57165 -BEN & DON IDA P132431

RAPPORT D'ACHEVEMENT DU PROGRAMME
Executive Summary

JANVIER 2018

Rachad M. ALIMI, consultant principal et KOUTON Meryas, consultant associé
avec l'appui de :
Col Sévérin NSIA, Directeur Général des Eaux Forêts et Chasse, Coordonnateur PGFTR ; Cne Sylvain AKINDELE, Cne Emmanuel GBEDJI, Lt Bertrand AYIHOUENOU, Sch Delphin BAKPETE

Sigles et Abréviations

AaGR	:	Activités alternatives de Génération de Revenus
ABE	:	Agence Béninoise pour l'Environnement
AID / IDA	:	Association Internationale pour le Développement / International Development Association
BAD	:	Banque Africaine de Développement
BM	:	Banque Mondiale
CCUA	:	Comité de coordination des unités d'aménagement
CGUA	:	Comité de Gestion de l'Unité d'Aménagement
CIF	:	Chef d'Inspection Forestière
CTAF	:	Cellule technique d'aménagement forestier
CVA	:	Conducteur de véhicule administratif
CVGF	:	Comité villageois de gestion de forêt
CENAGREF	:	Centre national de gestion des réserves de faune
CENATEL	:	Centre national de télédétection et de la surveillance du couvert forestier
CERF	:	Centre d'Etudes, de recherche et de formation forestières
CITES	:	Convention sur le commerce internationale des espèces de faune et de flore menacées d'extinction
DGEFC	:	Direction Générale des Eaux, Forêts et Chasse
DGFRN	:	Direction Générale des Forêts et des Ressources Naturelles
FA	:	Financement Additionnel
FC	:	Forêt classée
FCFA	:	Francs de la Communauté Financière Africaine
FEM /GEF	:	Fonds pour l'Environnement Mondial / Global Environment Facility
FSOA	:	Fondation des Savanes Ouest Africaines
GCES	:	Gestion et conservation des eaux et des sols
GdB	:	Gouvernement du Bénin
GPS	:	Global Positioning System
Ha	:	hectare
HJ	:	Homme - jour
HM	:	Homme-Mois
IF	:	Inspection Forestière
JIDB	:	Journée internationale de la diversité forêts biologique
JIF	:	Journée internationale des forêts
JME	:	Journée mondiale de l'environnement / l'eau
JMLDS	:	Journée mondiale lutte contre la désertification et la sécheresse
JNA	:	Journée Nationale de l'Arbre
MAEP	:	Ministère de l'agriculture, de l'élevage et de la pêche

MCVDD	:	Ministère du cadre de vie et du développement durable
MRB	:	Marché rural de bois
ODP	:	Objectif de développement du projet / programme
OGE	:	Objectif Global de l'Environnement
ONAB	:	*Office National du Bois*
ONG	:	*Organisation non gouvernementale*
OS	:	Objectif spécifique
PAGAP	:	Projet d'Appui à la Gestion des Aires Protégées
PAGEFCOM	:	Programme d'appui à la gestion des forêts communales
PAMF	:	Projet d'aménagement des massifs forestiers d'Agoua, des Monts Kouffé et de Wari-Maro
PAPF	:	Plan d'aménagement participatif de forêt
PBF 2	:	Projet de bois de feu, phase 2
PCGPN	:	Programme de Conservation et de Gestion des Parcs Nationaux
PFNL	:	Produit Forestier Non Ligneux
PGFTR	:	Programme de Gestion des Forêts et Terroirs Riverains
PGFTR-FA	:	Programme de Gestion des Forêts et Terroirs Riverains, phase de financement additionnel
PGRN	:	Projet de Gestion des Ressources Naturelles
PRI	:	Programme de reboisement intensif
PSAO	:	Programme Sahel et Afrique de l'Ouest
PSE	:	Planification Suivi Evaluation
PTBA	:	Plan de travail budgétisé annuel
SAP	:	Systèmes améliorés de production
TAOP	:	Technicien d'Appui aux Organisations Paysannes
UA	:	Unité d'aménagement
UGP	:	Unité de gestion du projet / programme
USD	:	Dollar des Etats Unis d'Amérique
%	:	Pourcent
10MAA	:	Programme 10 millions d'âmes, 10 millions d'arbres

Résumé exécutif

Le programme de gestion des forêts et terroirs riverains (PGFTR) a été conçu par le Bénin avec l'appui de la Banque Mondiale pour *assister le Bénin dans ses efforts de mise en place des conditions cadres et opérationnelles pour la gestion intégrée des écosystèmes dans les forêts classées et les terroirs riverains, et ainsi influencer stratégiquement les tendances en matière de gestion des écosystèmes sur le moyen et long terme dans les forêts concernées.*

Le PGFTR a été mis en œuvre pendant 15 ans, de 2003 à 2017, en 2 phases continues d'exécution. La première phase du programme a démarré en 2003 et pris fin en 2012 ; et la seconde phase, dite de financement additionnel a duré de 2013 au 31 janvier 2018. La mise en œuvre du projet a été assurée par la Direction Générale des Eaux – Forêts et Chasse (DGEFC, ex Direction Générale des Forêts et Ressources Naturelles – DGFRN -) ; au départ sous la tutelle du Ministère chargé de l'Agriculture, de l'élevage et de la Pêche (MAEP), et à partir de 2006, repositionnée sous tutelle du Ministère en charge de l'Environnement, actuellement dénommée Ministère du Cadre de Vie et du Développement Durable (MCVDD). Par le biais de conventions de partenariats, des ONG et des Services de vulgarisation agricole ainsi que des organisations communautaires de terroirs riverains, les communes riveraines et structures de cogestion forestière ont aussi participé activement à la mise en œuvre du programme.

L'objectif de développement du PGFTR (ODP) est de « promouvoir une gestion socialement, techniquement et économiquement durable des forêts et des terroirs riverains, par les communautés, dans un cadre institutionnel renforcé. »

Ses objectifs spécifiques initiaux sont : (i) améliorer la gestion des sols; (ii) augmenter la capacité de séquestration de carbone ; (iii) prévenir la perte de biodiversité ; et (iv) promouvoir des activités alternatives génératrices de revenus pour les communautés.

La zone d'intervention du PGFTR pour les activités d'aménagement forestier, couvre 6 départements sur 12, comprenant l'Atacora, la Donga, le Borgou, l'Alibori, le Zou, les Collines et le Plateau.

Les principaux bénéficiaires du projet sont : l'Administration Forestière et notamment la Direction Générale des Eaux Forêts et Chasse (DGEFC), ex Direction Générale des Forêts et Ressources Naturelles (DGFRN) et ses services déconcentrés (CIF, Cantonnements et CTAF) ; les structures de gestion des parcs nationaux, les communes et les communautés locales riveraines des forêts classées couvertes par le programme.

Le coût total des 2 phases de gestion du PGFTR, évalué à 49,55 millions USD, est cofinancé par IDA (52,93%), le GEF (24,83%), le GdB (21,48%). Les contributions des communautés bénéficiaires sont estimées à 0,75%. Le coût de la phase de financement additionnel est de 16,56 millions USD, dont 2 millions de crédit IDA, 5,56 millions de don GEF et 9 millions de contributions prévues au compte du Gouvernement du Bénin. Les ressources extérieures acquises pour la phase additionnelle représentent 20,88% du montant total des ressources extérieures mobilisées pour les 2 phases du PGFTR.

Le PGFTR-FA est articulé autour de quatre composantes opérationnelles : composante A : appui institutionnel et renforcement des capacités des acteurs ; composante B : aménagement participatif des

forêts ; composante C : gestion durable du bois-énergie ; et composante D : dotation de la fondation des savanes ouest africaines (FSOA). Une 5ème composante concerne la gestion du programme.

L'efficacité de gestion du projet a été affectée par une diversité d'instabilités, aussi bien au plan institutionnel qu'au plan des responsables de la coordination et au niveau des équipes de terrain.

Globalement, la mise en œuvre des composantes du PGFTR-FA est satisfaisante. Les réalisations physiques, appréciables au plan quantitatif, ont atteint (et dans certains cas dépassé) les objectifs ciblés, notamment en matière :

- d'aménagements forestiers (19 plans d'aménagement participatifs de forêts classées élaborés et mis en application ; 8 059 ha de superficies additionnelles de forêt dégradée mis sous gestion durable ; 3 189 ha de plantations pures ; 713 ha de plantations d'enrichissement ; matérialisation des limites des forêts classées sous aménagement) ;
- d'appui institutionnel et de renforcement des capacités (recrutement de 560 agents des eaux forêts et chasses toutes catégories confondues sur 800 prévus, et formation de personnel forestier, mise en place et formation des structures de cogestion forestières ; dotation d'équipements et construction d'infrastructures dont notamment les base-vie des CTAF et postes forestiers avancés, mise en place de 16 CTAF) ;
- d'appui aux populations riveraines (financement de 294 micro-projets d'activités alternatives génératrices de revenus financés dont 60% des bénéficiaires sont des femmes ; 735 agriculteurs riverains formés aux techniques du système amélioré de production agricole (SAP)) ;
- de gestion durable de bois – énergie (installation de 25 marchés ruraux de bois ; appui à l'installation de 165 ha de petites plantations privées de bois – énergie) ;
- de dotation du capital de fondation des savanes ouest africaines (FSOA) à hauteur de 1 million USD.

Toutefois, le PGFTR a eu des faiblesses dans la mise en œuvre du processus de vulgarisation du SAP, dans le fonctionnement efficace du système de planification, suivi-évaluation et aussi dans le recrutement non achevé du personnel forestier et de la non maîtrise de la gestion des carrières du personnel recruté ; la faible dotation des CTAF de ressources pour leur fonctionnement efficace.

Certains acquis du PGFTR devront être consolidés et étendus afin d'impacter positivement la protection de la biodiversité dans le sous-secteur forestier. Il s'agit de la gestion des plantations forestières avec des traitements sylvicoles appropriés ; la poursuite de la co-maîtrise d'œuvre des plantations dans les forêts classées avec les structures locales de cogestion ; l'appui au fonctionnement des CTAF ; la réorganisation du suivi-évaluation des activités et de l'observation de l'évolution des forêts ; la matérialisation des limites des forêts classées en vue de la sécurisation du domaine foncier forestier et de la prévention de conflits sociaux ; le développement / renforcement des capacités des structures de gestion des MRB et des structures de cogestion forestière.

L'organisation et le fonctionnement de la coordination de PGFTR, complètement intégrés à l'organisation de la DGEFC, ont facilité la mobilisation et le renforcement de capacités du personnel forestiers, mais ont été affectés par les instabilités récurrentes du personnel à tous les niveaux d'exécution du programme. Il

en est résulté une performance insuffisante du suivi-évaluation des résultats et effets du projet, de la gestion financière et de passation de marché. Le respect de la mise en œuvre des recommandations des missions d'audit, de supervision et d'assistance conseils technique de la Banque à la coordination au cours de l'exécution de la phase de financement additionnel, a contribué à l'amélioration de la performance de la DGEFC, ce qui a permis d'enregistrer les résultats positifs ci–dessus. Le taux d'exécution financière des ressources extérieures de la phase additionnelle, au 31/01/2018 est 97,03%, avec une consommation quasi-totale des ressources du crédit IDA.

Les engagements financiers du Gouvernement du Bénin n'ont pas été honorés. Il n'y a pas d'information disponible sur le niveau d'exécution financière des contributions nationales. Les autres obligations administratives d'accompagnement à la gestion du programme ont été respectées par les structures du Gouvernement. Dans l'ensemble, les performances du Gouvernement sont donc mitigées.

La Banque Mondiale a assuré régulièrement les missions de supervision et de suivi, d'appui méthodologique et opérationnel à la mise en œuvre du PGFTR-FA. La performance de la Banque est perçue globalement positive par l'ensemble des parties prenantes du Bénin dont notamment le ministère en charge des forêts, la DGEFC, les populations et les mairies riveraines des forêts classées appuyées.

La performance globale du PGFTR est **satisfaisante (S)**. Le PGFTR « *a atteint la plupart de ses principaux objectifs en matière de développement du secteur forestier et en matière d'environnement et a produit des bienfaits satisfaisants pour l'environnement mondial, avec seulement quelques faiblesses mineures* » dont notamment :

(i) la réalisation à 70% du renforcement en personnel forestier, et le déficit de signaux rassurants de l'internationalisation et de l'extension des acquis ; et

(ii) la difficulté à mettre en service le système de communication radio interne de l'administration forestière ainsi que le système informatisé de suivi – évaluation, tous acquis avec l'appui du projet.

Les impacts socio-économiques et environnementaux engendrés par les réalisations du PGFTR et notamment ceux de la phase de financement additionnel sont considérables et essentiellement positifs, parmi lesquels, on peut citer :

- La réduction de la pauvreté ou l'amélioration des revenus à travers (i) la création d'emplois dans le secteur forestier béninois dans l'administration forestière (560 agents dont 83 femmes et 1 000 HM de TAOP), et le tâcheronnat pour les jeunes ruraux riverains (7 544 HM équivalents temps plein) ; le financement de 294 micro-projets d'activités alternatives génératrices de revenus pour un montant de 744 196 000 fcfa ; la perception et la répartition de redevances forestières issues des aménagements dans les forêts classées, ainsi que celles issues de l'animation de 25 marchés ruraux de bois.
- La prévention des conflits d'occupation du domaine forestier classé ;
- La promotion de la gestion intégrée et de l'aménagement durable des ressources naturelles
- L'amélioration de la capacité de séquestration de carbone et de la diversité biologique

- La protection de sol et amélioration du bilan hydraulique, et
- L'amélioration de la résilience du Bénin aux effets des changements climatiques

Comme impact négatif, il y a l'accroissement des pressions anthropiques sur le couvert forestier dans les terroirs riverains, qui peut devenir une menace pour la pérennisation des acquis, si des systèmes appropriés d'exploitation des ressources hors forêts classées, dont notamment les terres et les sols, ne sont pas promus.

La durabilité des réalisations du projet est acquise du fait qu'il a appuyé: (i) la mise en place d'une capacité institutionnelle basée sur la gestion du projet par le personnel forestier national, la participation active des populations, des ONG, des services techniques publics d'appui et du secteur privé à la réalisation des activités ; (ii) la dotation de 96% de surface des forêts classées du Bénin, de plans d'aménagement participatif, assortie de la mise en place de cellules techniques d'aménagement forestier (CTAF) et des structures locales de cogestion ; (iii) la mise en œuvre d'un dispositif de mobilisation et de répartition de redevances forestières ; (iv) la mise en œuvre d'un mécanisme de financement de la promotion des projets communautaires et des micro - projets privés d'activités alternatives génératrices de revenus.

Enfin, pour pérenniser les acquis du PGFTR, il faut :

- Entreprendre des initiatives à l'endroit du Gouvernement à l'effet d'établir des voies plus efficace de mobilisation et de gestion des ressources financières publiques, y compris l'activation des divers fonds forestiers institués, mais non fonctionnels ;
- Etablir et mettre en œuvre diligemment un plan de recrutement du personnel forestier, en clarifiant les catégories, les profils de formation recherchés et tenir compte du genre ;
- Améliorer la coordination des CTAF, et veiller à leur dotation en moyens de travail y compris la mise en place d'un système de gestion axée sur les performances des personnels ;
- Veiller à une gestion saine et transparente des redevances forestières perçues afin de garantir le bon fonctionnement continu des structures de cogestion, le financement de micro-projets au profit des communautés riveraines ;
- Réaliser les traitements sylvicoles aux jeunes plantations et former les forestiers et les jeunes riverains aux techniques appropriées ;
- Assurer, par le GdB, le financement des travaux d'entretien, et l'extension des plantations forestières réalisées ;
- Veiller à la prise en compte des mesures de protection des forêts dans les autres projets sectoriels intervenant dans le voisinage des forêts pour préserver ou renforcer les acquis du PGFTR ;
- Promouvoir, de concert avec le service agricole, les organisations socio-profressionnelles agricoles, les communes, les organisations non gouvernementales et les opérateurs privés la gestion durable des terres.

ANNEX 6. SUPPORTING DOCUMENTS

Complete list of Outputs by Component and Result

Achievements related to Result 1: Component 1

N¨/	Achievements	Rate of Physical Execution (%)
1	**Infrastructures**	
1.1	Construction of 05 CTAF buildings CTAF in the gazetted forests of (i) Dogo-Kétou, (ii) Ouénou-Bénou, (iii) Trois Rivières, (iv) Ouémé-Boukou, and (v) Dan	100%
1.2	Construction and equipping of 13 forester posts : Afon, Bakou, Ségbana, Sirarou, Bori, Effè-Outè, Adakplamè, Dogo, Djidja, Kérou, Sèto, Gnémasson, Kalalé	
1.3	Construction et equipping DGEFC offices DGEFC (second stage building pre-existing)	
1.4	Construction et equipping of conference room	
1.5	Construction of 1 troop barracks and 1 arms store 1	
1.6	Construction of forestry seed laboratory at the DGEFC	
1.7	Repair and equipping of 05 CTAF buildings in the gazetted forests of: (i) Sota-Goungoun-Goroubi, (ii) Ouémé-Supérieur-N'dali, (iii) Wari Maro - Monts Kouffè, (iv) Agoua, and (v) Tchaorou-Toui-Kilibo,	100%
1.8	Repair of 04 buildings Forestry Inspections (*Inspections Forestieres*) in Parakou, Natitingou, Porto-Novo et Abomey	
1.9	Repair of 03 bâtiments in the cantonnements of Abomey, Djougou, and Bassila	
1.10	Closure cantonnement / inspection Dassa-Zoumè implemented/completed	
1.11	Repair of 02 Forestry Inspection Chiefs (CIF) residences (Parakou et Lokossa)	
1.12	Repair of PGFTR headquarters, offices of DGEFC et document center of the DGEFC	
1.13	Drilling of 2 out of 5 planned wells at forest outstations (Dunkassa, Agouna). Drilling at forest posts Kalalé, Setto, et Savè remain.	40%
1.14	Repair de 24 km access roads (Ewè-Dogo : 12km et Toui-PK : 12km)	100%
2	**Equipement**	
2.1	Radio communication system installed in 2009, non-functional	25%
2.2	Acquisition of 16 pick ups (of which six under GEF), 5 station wagons (of which 2 under GEF), et 150 motos (of which 70 under GEF) for use by field personnel	100%
2.3	Acquisition of 75 GPS, 100 Clinomètre, 100 forest compasses, 100 marteaux forestiers)	
2.4	Acquisition of operating equipment and 14 generators	
3	**Strengthening of forestry administration personnel**	
3.1	Recruitment and training of 560 forestry agents of 800 planned	70%
3.2	Acquisition of military packages for 600 forestry agents	100%

N¨/	Achievements	Rate of Physical Execution (%)
3.3	Recruitment of 01 secretary, 01 communications specialist, 01 guard, 06 CVA, 15 TAOP, 01 socio-economic specialist.	100%
3.4	Training of 500 forest agents of 300 planned on participatory methods/approach	167%
3.5	Training of 817 agents foresters of 800 planned in integrated ecosystem management	102%
4	**Strengthening of capacity for adjacent communities**	
4.1	Training of 1,823 community members of 1,700 planned, in integrated ecosystem management	107%
5	**Information – Education – Communication (IEC)**	
5.1	Signing and implementation with 12 local radio contracts in 2011, 2012 and 2014	100%
5.2	Development and airing of a television documentary/video on project achievements	100%
5.3	Development and airing of a television documentary/video on 30 years of celebrating National Arbor/Tree Day.	
5.4	Development and airing of a documentary on reforestation efforts in Benin.	
5.5	Translation and popularization of forestry texts in 9 national languages	100%

Achievements related to Result 2 : Component 1

N¨/	Achievements	Taux d'exécution physique (%)
1	Achievement of socio-economic impact study of IGAs financed under the Additional Financing	100%
2	Achievement of the socio-economic reference study for IGA participants for the first and second generation of microprojects	100%
3	Realization of the study on the viability of community-based organizations, bordering on 19 classified forests	100%
4	Development of a strategy for the conservation of threatened species in the PGFTR intervention zone	100%
5	Development of strategies for specific actions for the conservation of priority species threatened with extinction	100%
6	Realization of the environmental and social impact assessment of the 19 Participatory Forest Management Plans, and obtaining a certificate of environmental compliance accompanied by an Environmental and Social Management Plan	100%
7	Rotation of DGEFC staff to facilitate the implementation of the environmental screening of IGAs	100%

8	Training of CTAF Officers and PGFTR Coordinating Unit Members on World Bank Environmental and Social Safeguards	
9	Training on environmental and social safeguards for technical support personnel for field operations	
10	Environmental screening for all microprojects/IGAs	100%
11	Environmental evaluation for all IGAs subject to financing	
12	Environmental and social audit of 32 microprojects/IGAs	
13	Development and dissemination of environmental monitoring / monitoring files with promoters	
14	Computerized monitoring and evaluation system installation of the PGFTR in 2009 (non functional)	25%
15	Development of a monitoring and evaluation manual for the PGFTR	100%
16	Development of a plan for the operationalization and monitoring of PGFTR indicators	
17	Training of Forest Inspector M & E officers in the use of the M & E manual	100%
18	Elaboration of quarterly reports	100%
19	Elaboration of annual project performance reports	

Achievements related to Result 1 : Component 2

N¨/	Achievements	Rate of physical execution (%)
1	Result 1: Implementation of tools for sustainable management of natural resources	
1.1	Acquisition and interpretation of satellite images of orthophotoplans	100%
1.2	Reference study of the biological diversity of the 19 classified forests carried out	100%
1.3	Elaboration and validation of 16 PFMPs	100%
1.4	Updating of the PFMPs for Wari-Maro, Agoua, Monts Kouffés	
1.5	Establishment of structures for co-management of PFMPs	100%
1.6	Signature of co-management contracts with the co-management structures of the classified forests	
1.7	Installation of 16 of 12 CTAFs planned in the 19 classified forests of the project	133%
1.8	Materialization of the boundaries of 19 classified forests in participatory planning	100%
1.9	Realization of 18 km of perimeter plantations at Dan	
1.10	Elaboration of a simple plan for the reforestation perimeter of Kilir	100%
1.11	Realization of ethnobotanical study of Djidja territory	100%
1.12	Realization of the Ouémé-Okpara confluence inventory	

N¨/	Achievements	Rate of physical execution (%)
1.13	Realization of the study on the sociology of the traditional hunting of the Djidja territory	
1.14	Development of land management plans of Confluent Ouémé-Okpara and Djidja	
1.15	Elaboration pf the Rural Land use Plan for Dogo-Kétou, Bakou et Kpéssou	100%

Achievements related to Result 2 : Component 2

N¨/	Achievements	Rate of physical execution (%)
2	Result 2 : Financing and monitoring of Alternative Income Generating Activities (IGAs)	
2.1	Development of IGA operations manual	100%
2.2	Development of IGA data base	
2.3	Realization of financial and economic technical analysis of the IGAs microprojects of the Additional Financing	100%
2.4	Funding of 328 micro-projects selected out of 169 planned for 4,051 beneficiaries including 2,424 women (60% women)	200% (60%)
2.5	Development of brochure on the IGAs	100%
2.6	Development of a guide for the identification and treatment of the main pathologies identified at the IGAs related to livestock raising	
2.7	Realization of targeted support to IGAs participants involved in livestock raising	100%
2.8	Training of 735 farmers of 600 planned in improved production methodologies and management and conservation of water and soil by Agricultural Technical Services in 2009-2013, 2014-2015	123%
2.9	Training of 112 forestry agents of 100 planned improved production methodologies and management and conservation of water and soil	112%

Achievements related to Result 3 : Component 2

N¨/	Réalisations	Taux d'exécution physique (%)
3	Result 3: Enrichment / reforestation of degraded forest areas	
3.1	Restoration of 8,059 ha of degraded areas on 7,700 ha within the 19 forest areas under development	105%
3.2	Plantation in full of 3,189 ha in the forests classified on 1,900 envisaged	168%
3.3	Enrichment of 713 ha of forests of 600 ha planned	119%

Achievements related to Result 4 : Component 2

N¨/	Achievements	Rate of Physical Execution (%)
4	Result 4: Conservation of endangered species of flora and fauna	
4.1	Realization of a database of monitoring of the biodiversity for the project	100%
4.2	Realization of inventory and ethnobotanical atlas of the garden of medicinal plants of Djidja	100%
4.3	Monitoring of species covered under CITES	100%
4.4	Identification of Elephant Circuits in the Goungoun and Sota Forests	100%
4.5	Awareness raising on elephant circuits for adjacent communities	
4.6	Installation of identification signage for elephant circuits	
4.7	Events for International Forest Day, International Forest biodiversity day, World Water/Environment Day, World Day for the Fight Against Desertification	100%
4.8	Realization of an ecological, evaluation and environmental monitoring database	100%
4.9	Organization of information and awareness sessions on the ignition of early fires	100%
4.10	Fire prevention activities, including controlled burning	100%
4.11	Evaluation of co-management approach in gazetted forests under participatory management	100%
4.12	Evaluation of areas burned in early and late fires/burns	100%

Achievements of results : Component 3

N¨/	Résultats obtenus	Taux d'exécution physique (%)
1	Establishment of 25 out of 30 planned rural timber markets around forests classified under management	83%
2	Development of a facilitation and evaluation manual for rural wood markets	100%
3	Training of 500 charcoal makers of 200 planned with the use of the casamance kiln to improve carbonization	250%
4	Installation of 165 ha of private plantations for energy wood/fuelwood of 150 planned around the gazetted forests	110%
5	Realization of audit of the rural wood markets	100%

Photos:

Seedlings planted in biodegradable bags as part of nursery activity.

Forest Technical Management Unit (CTAF) funded by the project.

Reforested areas planted and maintained as per the PFMPs under contract with community-based organizations.

A microproject entrepreneur receiving a certificate from the TTL at the Commercial Fair for IGAs organized under the project.

Honey producer supported under alternative income generation activities.

Arichide (peanut) processors at the Commercial Fair.

Rural charcoal market.

Forest agents ready for patrol.

Processing gari with new equipment purchased under the project in support of alternative income generation.

New well supporting IGA participants' needs as well as those of people from surrounding communities.

Center designed by the women's gari processing group and constructed with funds under the alternative income generation activities.