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PROJECT PERFORMANCE ASSESSMENT REPORT

SENEGAL

**INTEGRATED MARINE AND
COASTAL RESOURCES MANAGEMENT PROJECT
(CREDIT NO. 3998-SE)**

**SUSTAINABLE MANAGEMENT OF FISH RESOURCES PROJECT
(CREDIT NO. 4545-SE)**

March 27, 2015

IEG Public Sector Evaluation
Independent Evaluation Group

Currency Equivalents (annual averages)

Currency Unit = CFA Franc

2004	US\$1.00	CFAF 525.43
2005	US\$1.00	CFAF 524.36
2006	US\$1.00	CFAF 522.73
2007	US\$1.00	CFAF 480.35
2008	US\$1.00	CFAF 447.49
2009	US\$1.00	CFAF 467.98
2010	US\$1.00	CFAF 495.20
2011	US\$1.00	CFAF 471.68
2012	US\$1.00	CFAF 512.13
2013	US\$1.00	CFAF 502.47

Abbreviations and Acronyms

CLP	Local Fishers' Committee
CLPA	Local Council of Artisanal Fisheries
CPUE	Catch Per Unit Effort
CRODT	Center for Oceanography Research of Dakar-Thiaroye
DPM	Direction for Maritime Fisheries
DNP	Department of National Parks
GEF	Global Environment Facility
GEO	Global Environment Objectives
GIRMAC	Integrated Marine and Coastal Resources Management Project
GDRH	Sustainable Management of Fish Resources Project
ICR	Implementation Completion Report
IDA	International Development Association
IEG	Independent Evaluation Group
IEGPS	IEG Public Sector Evaluation
PAD	Project Appraisal Document
PNI	National Registration Program
PPAR	Project Performance Assessment Report
WWF	World Wildlife Fund
ZPP	Protected Fishing Zone

Fiscal Year

Government: January 1 – December 31

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This report was prepared by April Connelly with input from Cheikh Niang, who assessed the project in June 2014. The report was peer reviewed by Lauren Kelly and panel reviewed by Kris Hallberg. Marie Charles provided administrative support.

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Principal Ratings

Integrated Marine and Coastal Resource Management Project

	ICR*	ICR Review*	PPAR
Outcome	Moderately Satisfactory	Unsatisfactory	Unsatisfactory
Risk to Development Outcome	High	High	High
Bank Performance	Moderately Unsatisfactory	Moderately Unsatisfactory	Moderately Unsatisfactory
Borrower Performance	Moderately Unsatisfactory	Unsatisfactory	Unsatisfactory

* The Implementation Completion Report (ICR) is a self-evaluation by the responsible Bank department. The ICR Review is an intermediate IEGWB product that seeks to independently verify the findings of the ICR.

Sustainable Management of Fish Resources Project

	ICR*	ICR Review*	PPAR
Outcome	Unsatisfactory	Highly Unsatisfactory	Highly Unsatisfactory
Risk to Development Outcome	High	High	High
Bank Performance	Moderately Unsatisfactory	Moderately Unsatisfactory	Moderately Unsatisfactory
Borrower Performance	Unsatisfactory	Unsatisfactory	Unsatisfactory

* The Implementation Completion Report (ICR) is a self-evaluation by the responsible Bank department. The ICR Review is an intermediate IEGWB product that seeks to independently verify the findings of the ICR.

Key Staff Responsible

Integrated Marine and Coastal Resource Management Project

Project	Task Manager/Leader	Division Chief/ Sector Director	Country Director
Appraisal	Yves Provost	Mary Barton-Dock	Madani M. Tall
Completion	John Virdin	Magdolna Lovei	Vera Songwe

Sustainable Management of Fish Resources Project

Project	Task Manager/Leader	Division Chief/ Sector Director	Country Director
Appraisal	John Virdin	Marjory-Anne Bromhead	McDonald P. Benjamin
Completion	John Virdin	Magdolna Lovei	Vera Songwe

IEG Mission: Improving World Bank Group development results through excellence in evaluation.
About this Report

The Independent Evaluation Group assesses the programs and activities of the World Bank for two purposes: first, to ensure the integrity of the Bank's self-evaluation process and to verify that the Bank's work is producing the expected results, and second, to help develop improved directions, policies, and procedures through the dissemination of lessons drawn from experience. As part of this work, IEG annually assesses 20-25 percent of the Bank's lending operations through field work. In selecting operations for assessment, preference is given to those that are innovative, large, or complex; those that are relevant to upcoming studies or country evaluations; those for which Executive Directors or Bank management have requested assessments; and those that are likely to generate important lessons.

To prepare a Project Performance Assessment Report (PPAR), IEG staff examine project files and other documents, visit the borrowing country to discuss the operation with the government, and other in-country stakeholders, and interview Bank staff and other donor agency staff both at headquarters and in local offices as appropriate.

Each PPAR is subject to internal IEG peer review, Panel review, and management approval. Once cleared internally, the PPAR is commented on by the responsible Bank department. The PPAR is also sent to the borrower for review. IEG incorporates both Bank and borrower comments as appropriate, and the borrowers' comments are attached to the document that is sent to the Bank's Board of Executive Directors. After an assessment report has been sent to the Board, it is disclosed to the public.

About the IEG Rating System for Public Sector Evaluations

IEG's use of multiple evaluation methods offers both rigor and a necessary level of flexibility to adapt to lending instrument, project design, or sectoral approach. IEG evaluators all apply the same basic method to arrive at their project ratings. Following is the definition and rating scale used for each evaluation criterion (additional information is available on the IEG website: <http://worldbank.org/ieg>).

Outcome: The extent to which the operation's major relevant objectives were achieved, or are expected to be achieved, efficiently. The rating has three dimensions: relevance, efficacy, and efficiency. *Relevance* includes relevance of objectives and relevance of design. Relevance of objectives is the extent to which the project's objectives are consistent with the country's current development priorities and with current Bank country and sectoral assistance strategies and corporate goals (expressed in Poverty Reduction Strategy Papers, Country Assistance Strategies, Sector Strategy Papers, Operational Policies). Relevance of design is the extent to which the project's design is consistent with the stated objectives. *Efficacy* is the extent to which the project's objectives were achieved, or are expected to be achieved, taking into account their relative importance. *Efficiency* is the extent to which the project achieved, or is expected to achieve, a return higher than the opportunity cost of capital and benefits at least cost compared to alternatives. The efficiency dimension generally is not applied to adjustment operations. *Possible ratings for Outcome:* Highly Satisfactory, Satisfactory, Moderately Satisfactory, Moderately Unsatisfactory, Unsatisfactory, Highly Unsatisfactory.

Risk to Development Outcome: The risk, at the time of evaluation, that development outcomes (or expected outcomes) will not be maintained (or realized). *Possible ratings for Risk to Development Outcome:* High, Significant, Moderate, Negligible to Low, Not Evaluable.

Bank Performance: The extent to which services provided by the Bank ensured quality at entry of the operation and supported effective implementation through appropriate supervision (including ensuring adequate transition arrangements for regular operation of supported activities after loan/credit closing, toward the achievement of development outcomes). The rating has two dimensions: quality at entry and quality of supervision. *Possible ratings for Bank Performance:* Highly Satisfactory, Satisfactory, Moderately Satisfactory, Moderately Unsatisfactory, Unsatisfactory, Highly Unsatisfactory.

Borrower Performance: The extent to which the borrower (including the government and implementing agency or agencies) ensured quality of preparation and implementation, and complied with covenants and agreements, toward the achievement of development outcomes. The rating has two dimensions: government performance and implementing agency (ies) performance. *Possible ratings for Borrower Performance:* Highly Satisfactory, Satisfactory, Moderately Satisfactory, Moderately Unsatisfactory, Unsatisfactory, Highly Unsatisfactory.

Preface

This is the Project Performance Assessment Report (PPAR) for the Integrated Marine and Coastal Resource Management Project and the Sustainable Management of Fish Resources Project in Senegal (IDA-39980, IDA- 45450).

The first operation was approved on November 11, 2004, and closed on May 1, 2012, twenty three months after the original closing date. At closure the project disbursed US\$ 8.81 million of a US\$ 10 million IDA credit and US\$ 3.85 million of a US\$ 5 million GEF grant. The second operation was approved on December 12, 2008 and closed on June 30, 2012, three months after its original closing date. The project disbursed US\$ 0.76 million equivalent of a US\$ 3.5 million IDA credit and US\$ 2.07 million of a US\$ 6.00 million GEF grant.

IEG prepared this report based on an examination of the Project Appraisal Documents, the Implementation Completion and Results Reports, the Legal Agreements, project files and archives, as well as other relevant reports, memoranda and working papers. Discussions were also held with Bank staff in Washington, DC and in the resident mission in Dakar. An IEG field mission visited Senegal in June 2014 to review the results on the ground and to hold discussions with relevant government officials, fishing communities and other sector stakeholders. IEG held meetings with government officials, project staff, and other donors in Dakar. Field visits were made to 8 project sites. All four of the original fisheries co-management pilot sites and two of the eight expanded co-management sites were visited, where the mission met with the Local Fishermen Council, project facilitators, the local DPM agent and other members of the community. Two of the national parks supported by the GIRMAC project were visited. There the mission met with the local community management committee, women's groups and park officials. Field visit site selections were made on the basis of understanding the range of project performance (sites where the project had made greater and lesser progress) and in consideration of travel time. The mission appreciates all support and attention given by the borrowers and all concerned parties in Senegal as well as in Washington, DC.

Following standard IEG procedures, copies of the draft PPAR were shared with relevant Government officials and agencies for their review and comment. No comments were received.

Summary

This Project Performance Assessment Report reviews World Bank support for the sustainable management of fisheries in Senegal over the period of 2004 to 2012, provided by two investment projects: Integrated Marine and Coastal Resources Project (2004-2012) and Sustainable Management of Fish Resources Project (2008-2012). Designed in response to a crisis in the fisheries sector, both projects aimed to enhance the sustainable management of the artisanal fisheries sector.

The Integrated Marine and Coastal Resources Project (GIRMAC) promoted the sustainable management of Senegal's coastal demersal fisheries through two parallel but complementary tracks under the jurisdiction of two separate Ministries: (i) reducing overfishing of valuable coastal fish stocks through the promotion of area based co-management, under the Ministry of Maritime Economy; and (ii) the protection of critical habitats and ecosystems upon which these fisheries depend through the management of biosphere reserves, under the Ministry of Environment. The project was originally designed to apply a coordinated ecosystem approach to the management of the fisheries sector that would bring together stakeholders concerned with fisheries management and stakeholders involved with biodiversity conservation. The coordinated approach proved to be unworkable and ultimately the two agendas were implemented separately. Both agendas were pursued through a combination of local level and national level activities. In both cases the project made greater strides implementing local activities than national activities. Project implementation as a whole was constrained by project management problems, pervasive procurement delays, and slow administrative clearances.

The project's fisheries management activities resulted in the development of new tools to manage the artisanal fisheries sector. The main project achievement was to successfully pilot the use of legally recognized co-management agreements with local communities, allowing them to regulate a designated fishery. The targeted fisheries in all four pilot sites have demonstrated some signs of recovery and based on the pilot experience the government has adopted co-management as an official tool for implementing fisheries sector policy and is replicating the model in additional sites. A National System for registering small fishing vessels was also established, which is a tool to control and reduce fishing efforts over time. An updated Letter of Sector Policy was approved to provide a more conducive environment for implementing artisanal fisheries management measures. Less progress was made in getting a revised Fisheries Code approved and preparing national level fisheries management plans.

The project's ecosystem management activities focused on enhancing the conservation of coastal biodiversity and ecosystems by improving the management of the National Park system. The project provided opportunities for increased collaboration between the National Parks officials and local communities in the management of coastal biodiversity. While such activities resulted in a temporary boost in management capacity, few activities have continued beyond the project's closure. Less progress was made in enhancing capacity for biodiversity conservation management at the central level. A Biodiversity Framework Law was submitted to Parliament, but as of the evaluation assessment mission it had not been approved. Efforts to enhance national capacity for biodiversity monitoring were unsuccessful. A feasibility study was conducted with

recommendation for establishing a trust fund to cover long term management costs, but no follow up measures were taken.

The Sustainable Management of Fisheries Resources Project (GDRH) was designed as a complementary project to the fisheries management activities of the GIRMAC project. The two projects were implemented in parallel during the final three years of GIRMAC's implementation. The GDRH aimed to consolidate and expand the fisheries co-management pilot by replicating the model to new sites, providing additional implementation support to consolidate co-management efforts in the four initial pilot sites and deepen the impact and geographic coverage beyond individual sites by preparing consolidated management plans across multiple co-management sites in a given area. Overall the project was too ambitious given its short implementation timeframe coupled with procurement delays and project management challenges that hampered its implementation progress. Locally implemented project activities made good progress initially but they were subsequently held up by delays in centralized administrative clearances and processing of key consultant contracts. Consequently, much of what the project set out to achieve was not completed by project closure. Several uncompleted activities from both projects were transferred to the West Africa Regional Fisheries Program, an ongoing program with World Bank and GEF funding that aims to enhance the capacity of nine countries along the West African coast to sustainably govern and manage their fisheries.

Ratings

The overall outcome rating of the GIRMAC project is *unsatisfactory*. The project objectives – to assist the communities within the Recipient's territory in achieving sustainable management of the Recipient's coastal and marine resources, including ensuring responsible exploitation of resources combined with protection of ecosystems and ecological processes critical for their replenishment - were and remain highly relevant to country conditions and priorities. But the relevance of design to meeting its objectives was modest. Efficacy was substantial for the first objective but modest for the second. Project efficiency was negligible, owing to significant inefficiencies in project management: implementation disruptions, misuse of resources, and activities that could not be completed by project closure. Risk to development outcome is high. Bank performance is moderately unsatisfactory and Borrower Performance is rated unsatisfactory.

The overall outcome of the GDRH project is rated *highly unsatisfactory*. The project's objective – to empower the communities to reduce fishing pressure on the fish stocks supporting the central coastal fisheries of Senegal – was highly relevant to country conditions and priorities but the relevance of design to achieving these objectives was modest. Achievement of the objective was negligible. Efficiency was also negligible, due to significant project management inefficiencies and the fact that few of the project activities reached a stage to generate the intended benefits. Risk to development outcome is high. Bank performance is rated moderately unsatisfactory and Borrower performance is rated unsatisfactory.

The experience of the two projects yields the following lessons:

- ***Reforming the fisheries sector is a politically sensitive and long term pursuit, best suited to a phased programmatic approach in which sustained support is ensured over a series of operations.*** The timeframe for each stage needs to be set taking into account the capacity of the implementing agencies and the complexity of activities financed. In this case, the Bank has maintained continuity in support across several operations but this was not designed upfront. Consequently, implementation was disrupted in the transfer of activities from one project to the next, as activities were put on hold while restructuring process was carried out.
- ***Operationalizing co-management requires actions at both local and national level, lack of synchronization between the two can disrupt implementation and the motivation of key actors.*** In both cases implementation progress at the local level was bottlenecked by slow clearances at the central level, as well as delays for centrally procured materials and in processing contracts for experts to support critical activities. This slowed momentum and has frustrated local level actors. The lack of synchronization can be particularly disruptive to seasonal activities.
- ***Supporting Alternative Revenue Generating Activities can potentially reduce the poverty-conservation tradeoff by making up for lost income or subsistence opportunities that stem from reduced resource access caused by project activities.*** But realizing this potential requires more rigorous feasibility studies to ensure that the proposed activity has the potential to generate profits that are equal to revenues forgone and that adequate budgets are provided to cover the full investment costs of the alternative activity. A sustainable system to support alternative revenue generating activities beyond the project timeframe is also needed.

Caroline Heider
Director-General
Evaluation

1. Background and Context

1.1 This project performance assessment report reviews World Bank support for the sustainable management of fisheries in Senegal over the period of 2004 to 2012, provided by two investment projects: Integrated Marine and Coastal Resources Project and Sustainable Management of Fish Resources Project. Together with the West Africa Regional Fisheries Program (approved in 2008 and under implementation at the time of the IEG assessment), the projects under review form a package of operations designed to enhance the sustainable management of Senegal's artisanal fisheries sector. This combined support, is in line with and supports the implementation of the Government's sector policy (World Bank 2009).

1.2 Senegal is endowed with some of the richest fishing grounds in the world. The fisheries sector plays an important role in Senegal's economy in terms of its contribution to Gross Domestic Product, foreign exchange, food security and livelihoods. Between 1997 and 2002 the fisheries sector accounted for about 2.3 percent of the country's GDP and 12.5 percent of the primary sector's GDP. Fish products account for 32 percent of the country's exports by volume, and roughly 37 percent of the total export value. Fishing and associated activities (processing, marketing, services and other part-time activities) provide more than 600,000 jobs in Senegal (employing about 17 percent of the active population). The fisheries sector also makes a significant contribution to food security, constituting 70 percent of animal protein consumption in the country (World Bank 2004).

1.3 Despite the economic importance of Senegal's fishery resources, the sector has faced a significant drop in fish stocks caused mainly by over-exploitation. Similar to other uncontrolled fisheries around the world, Senegal's fisheries sector has experienced a 'boom and bust' cycle where rapid development and investment led to strong growth in catches and returns, as well as an increase in the number of fishers and fishing capacity. Growth in the sector continued in an uncontrolled environment beyond what the resource base could sustain, followed by a downturn in catch and growth rates (World Bank 2004). Senegal's fisheries production rose steadily until 1985, when catches began to level off and landings began to decline. The most valuable commercial resources are overfished and there has been an uncontrolled expansion of the number of fishers, boats and gear, as well as land-based fish processing and preservation facilities.

1.4 As a consequence of declining fish stocks, fishing communities are steadily losing their main source of income and livelihoods. Senegal's fisheries sector is divided into the artisanal sub-sector and the industrial sub-sector. The industrial sub-sector is controlled through licensing but the artisanal sub-sector essentially operates in a 'quasi unregulated' open access environment. Over time, the artisanal fleet has become highly competitive to the point of over-shadowing its industrial counterpart. It now accounts for 90% of all catches in Sénégal (Sarr 2012). Although the number of industrial vessels has remained stable, small-scale vessels have continued to proliferate even as fish stocks and catches have declined, due in part to rising world prices and demand for food fish which helped offset declining catch rates, and by vessels going farther and farther up and down the coast of West Africa in search of fish, or constantly replacing overfished higher value species for lower value ones in a race to the bottom (World Bank 2004).

1.5 Historically, to control fishing effort the Government of Senegal has relied on input controls and top-down directives elaborated by the central administration with little or no consultation with stakeholders. Such measures, have been difficult to enforce, especially where enforcement capacities are weak. Since fishers have had little involvement in deciding the measures, this has created a sense of distrust and led them to question the legitimacy of imposed regulations. In addition, poor information on fish stocks and the number of fishing vessels made it difficult to develop management plans for the various stocks (World Bank 2004).

1.6 Pressure on fish stocks also stems from the degradation of coastal ecosystems (World Bank 2004). The preservation of critical habitats, such as breeding and nursery grounds, play a key role in ensuring the sustainability of Senegal's fisheries, by providing biological refuges from which depleted areas can be restocked. At the same time fish resources are also an important element of coastal and marine biodiversity and excessive fishing destabilizes the marine ecosystems, by triggering massive fluctuations in the size of individual stocks. Animals that feed on fish such as sea turtles, dolphins and numerous bird species are also directly affected by the overall decline in stocks. If properly managed, coastal protected areas can: (i) provide nursery grounds for juveniles of fish species, (ii) serve as refuges for vulnerable species, (iii) prevent habitat damage, (iv) promote the development of natural biological communities, and (v) facilitate recovery from catastrophic human and natural disturbances. Although Senegal has established an internationally recognized network of protected areas along its coast, the original rationale for their establishment was to provide the central government with revenue from the collection of fees from tourism as opposed to emphasizing the provision of ecological services. By the early 1990's the Senegal's protected areas model was strained, due to the lack of growth in the tourism market for which the parks were initially created, insufficient budget to cover staff and park maintenance, lower than expected level of international funding and conflicts with the local population (including fisher communities) who were not consulted when many of the parks were created (World Bank 2004).

1.7 The projects under review were prepared at a time when the Bank began to re-engage in the fisheries sector. For years World Bank and other multilateral assistance to the sector was directed towards the development of an industrial fishing capacity, the construction of harbor infrastructure or processing plants. This was followed by a period of disengagement. Preparation of the projects coincided with a significant shift in the World Bank's approach to the fisheries sector, reorienting its support away from a focus on infrastructure and developing productive capacity towards building institutional capacity and integrated fisheries management.

2. Integrated Marine and Coastal Resource Management Project

2.1 The Integrated Marine and Coastal Resource Management Project (GIRMAC) was one of the first projects prepared by the Bank after reorienting its approach to the

fisheries sector. The project was also the first operation to pilot an integrated approach to coastal and marine resources management in Senegal, in an attempt to address the often conflicting priorities of conservation and fisheries exploitation. Senegal's past fisheries' policy focused on catching and exporting more and more fish with little regard for sustainability, while conservation efforts focused on excluding fishermen with little regard for the economic consequences (World Bank 2004). The project's ecosystem approach to fisheries management emphasized the importance of resource management in making Senegal's fisheries sustainable, and the need for protected areas to contribute to the maintenance of fish stocks.

2.2 The project promoted the sustainable management of Senegal's coastal demersal fisheries through two parallel but complementary tracks under the jurisdiction of two separate Ministries: (i) reducing overfishing of valuable coastal fish stocks through the promotion of area based co-management, under the Ministry of Maritime Economy; and (ii) the protection of critical habitats and ecosystems upon which these fisheries depend through the management of biosphere reserves, under the Ministry of Environment. Working through two ministries to address complementary agendas in a single project, the project aimed to maximize its impact by avoiding the more fragmented approach of separate stand-alone fisheries and biodiversity conservation projects.

Objectives, Design, and Relevance

STATEMENT OF OBJECTIVES

2.3 This is a fully blended GEF / IDA financed project that had both a project development objective (PDO) and a global environment objectives (GEO). However, only the PDO is used as the benchmark for assessing the projects outcome rating. This is due to the fact that the project was financed with a blend of IDA and GEF funding as opposed to a standalone GEF operation, in which the Bank acts as implementing agency but does not contribute financing. Moreover, only the PDO is reflected in the IDA credit agreement and GEF grant agreement.

2.4 According to both the IDA credit agreement (pg. 21) and the GEF grant agreement (pg. 20), the project's development objectives were "to assist the communities within the Recipient's territory in achieving sustainable management of the Recipient's coastal and marine resources, including ensuring responsible exploitation of resources combined with protection of ecosystems and ecological processes critical for their replenishment."

2.5 The Project Appraisal Document (pg. 3) states the objective similarly: "The project's development objective is to increase the sustainable management of marine and coastal resources in three pilot areas by communities and the Government. Sustainable management includes responsible exploitation of resources combined with protection of the ecosystems and ecological processes critical for their replenishment." This review uses the project development objective, as stated in the loan agreement as the basis of assessment, as that is the legally binding objective.

2.6 The project development objective remained consistent throughout implementation. However, the project was restructured in November 2008, at which point its key performance indicators were revised. The original and revised key performance indicators as reflected in the restructuring document are shown in table 1.

2.7 When there are substantial changes to the original project objectives or key associated outcome targets approved by the Board, evaluation of project performance is assessed using a split methodology.¹ In this case the split rating methodology has not been applied because this was a pilot project to test a new management system. While revised indicators reduced the scale of the project in terms of the number of project sites, the scale of the project is less important than testing and learning. Four pilot sites were sufficient to test establishing the model and to generate learning for scaling up.

Table 1: Original and Revised Key Performance Indicators

<i>Indicator</i>	<i>Original Target</i>	<i>Revised Target</i>
No. of sites implementing community-based fisheries management sub-projects	12	4
Average fish catch per unit of effort in most project sites	10-30% increase	Indicator dropped
% of respondents in targeted communities that assign a satisfactory rating to measures to alleviate the impact of reduction in fishing capacity	At least 75%	Indicator dropped
Participatory assessment rating of local community involvement in the management of biodiversity in the three pilot areas	No indicator	Satisfactory
Change in index of effective management of biodiversity in three pilot areas	50% increase	50% increase

RELEVANCE OF THE OBJECTIVES

2.8 The objectives of the project were and continue to be highly relevant to country conditions and the development priorities set forth in Senegal's government strategy documents and the World Bank's country partnership strategies. At time of appraisal, the fisheries sector employed 17 percent of the active labor force, 10 percent of the rural population, and generated 30 percent of exports. The sector is also a key source of food security, providing 70 percent of animal protein consumption in the country, and performs a safety net function for farmers in times of drought. Yet the benefits generated by the sector were threatened by declining fish stocks owing to overfishing, resulting from lack of adequate management of the resource and the degradation of ecosystems that serve as key nursery grounds.

2.9 The fisheries sector is identified by Senegal's Accelerated Growth Strategy as one of the five sectors of the national economy with high economic potential and a driver of

¹ Under the split rating methodology the project's outcome rating is assessed against both the original and revised project objective and weighted in proportion to the share of actual loan/credit disbursements made in the periods before and after approval of the revision.

accelerated economic growth. The sector is also identified as one of the key drivers of the “creation of wealth” pillar in the first and second Poverty Reduction Strategy Papers (2003-2005; 2006-2010). The project’s objectives support the need to shift the approach towards the sector from a focus on sector development to the sustainable management of fish resources, as identified in the 2001 Strategy for Sustainable Fisheries and Aquaculture. The objectives also support the Government’s 2008 Letter of Sector Policy which calls for the sustainable management of fish resources through a two-pronged approach of implementing collaborative or co-management for the coastal fisheries, to devolve more of the responsibility for managing these overfished resources to the users, to support them to implement needed reforms, and introducing a system of fishing access rights to fishers as a tool to offset the reduction of fishing capacity and the recovery of the stocks. In addition the conservation and sustainable use of coastal and marine ecosystems are identified as priorities in Senegal’s national biodiversity strategy and action plan.

2.10 The project’s objectives are also relevant to international conventions to which Senegal is a signatory - specifically, the United Nations Convention on the Law of the Sea, the Convention on Biological Diversity, and the first, second and third Conferences of the Parties to the Biodiversity Convention, which stress the importance of in situ conservation of marine and coastal ecosystems.

2.11 The project objectives are aligned with the goal of supporting wealth creation by ensuring sustainable management of fishery resources, under the World Bank’s Country Assistance Strategy at project approval (2003-2005). They are pertinent to the growth and wealth creation pillar in the subsequent Country Assistance Strategy (2007-2010), which specifically promotes sustainable development and management of natural resources, addressing the unregulated access to fisheries by artisanal sector and the destruction of critical spawning and nursery grounds for fish stocks. Finally, they remain relevant to the pillar for accelerating growth and generating employment in the more recent Country Partnership Strategy (2013-2017).

2.12 Relevance of objectives is rated *high*.

DESIGN

2.13 The project was designed to support two complementary agendas under two separate Ministries: reducing overfishing of coastal fish stocks, under the jurisdiction of the Ministry of Maritime Economy; and, supporting coastal protected areas, under the jurisdiction of the Ministry of Environment and Natural Resources.

2.14 As originally designed, the project comprised three components – Management of Sustainable Fisheries, Conservation of Critical Habitats and Species, and Program Management, M&E and Communications. Each of the components had several sub-components, summarized below:

2.15 **Component 1: Management of Sustainable Fisheries** (appraisal estimate US\$6.53 million, actual costs US\$ 5.67 million). This component aimed to increase the

sustainability of fisheries through the use of area-based co-management.² It included the following subcomponents:

- **Sub-Component 1.1: National level activities to enable the implementation of co-management initiatives.** Six activities would be financed:

Evaluation of Policy Options. The project would conduct an in depth evaluation of fisheries sector policy options for Senegal to help orient the decisions expected from the Special Commission. The assessment would take into account past and present policy choices, the prevailing institutional framework and management system, and evaluate the biological, economic and social impacts of these choices. It would also draw on examples from other countries. Project funds would cover targeted technical assistance (TA) to help supervise the team of consultants, and support for consensus building.

Fisheries Management Plans. This includes the design and implementation of management plans for two groups of species, an annual evaluation of the implementation of each plan, and annual adjustments in light of evaluation results. Project funds would cover consultants, and targeted TA to assist in overseeing the preparation, implementation, evaluation and revision of the plans.

Support to the National Consultative Council for Marine Fisheries (CNCMP)³. The project would enhance the capacity of CNCMP to function as the primary negotiation and consensus-building forum among stakeholders for each of the key fisheries management plans, including Local Artisanal Fisheries Councils (CLPA) and Local Fisher Committees (CLP). Project funds would cover operating expenses, specialized studies, TA, and training.

Awareness Building. The project would fund the development of an information, education and communication plan to increase awareness and understanding regarding the principles and benefits of co-management systems promoted by the Project. Awareness campaigns will target: (i) fisher communities in the pilot areas, including the members of Local Fisheries Councils and Local Fisheries Committees, (ii) professional organizations involved in the fisheries sector, and (iii) the general public at the national level. Project funds would cover consultants, and support for conducting the campaigns.

Research on Demersal Fish Stock. The project would develop an incremental program of fisheries research through the CRODT, targeted at defining the life cycles of key demersal species. The research program would integrate results from the local level participatory fish stock evaluation programs that will take place at the 12 co-management sites of the Project, and the Ecosystem Management Plans that will be prepared under component 2. It would

² Area based co-management is a partnership system in which fishermen share with Government both the power to make decisions regarding a geographically localized fish stock, and accountability for those decisions.

³ The CNCMP was established in 1999 by the Director of Maritime Fisheries to support consultations among stakeholders in Senegal's fisheries at the national level, in accordance with the 1998 Fisheries Code.

complement ongoing, routine assessments of specific demersal species. An operational planning framework for research would also be designed to support national level management plans, and local level co-management. Project funds would cover TA, support for incremental research and research equipment.

Registration of Pirogues. The Project would support the development and implementation of a nationwide system of registration of small scale fishing vessels. Registration is needed to monitor artisanal fishing operations as part of national and local management plans. Registration also supports the collection and interpretation of fisheries statistics, improves the quality of research data, and facilitates the creation of area-based rights for fisheries. This activity would support a nationwide process of consultation with fishermen, boat owners and other stakeholders to draft a revised decree that will govern the future registration program, create and implement an information communication campaign targeting artisanal fishermen, supply registration plates and the electronic registration system of the Ministry of Maritime Economy, train local and regional Ministry staff, and set up a system of evaluation and control. Project funds would cover TA, support for consultations and equipment.

- **Sub-component 1.2: Promotion and coordination of local co-management initiatives** in three pilot areas, Senegal River Delta, the Cap-Vert Peninsula, and the Saloum River Delta. This subcomponent would support Government efforts to test local co-management of demersal species in the three designated pilot areas. The following activities would be supported:

Selection of Initial Pilot Sites. The project would support the process of selecting pilot communities based on a criteria of initiatives that are most likely to succeed. The project would also fund baseline studies for each selected pilot site, to identify and minimize the risks that might be associated with the implementation of the proposed co-management initiative.

Identification of Local Co-management Initiatives. Training of facilitators for each pilot site who would to assist communities with the preparation of local co-management subprojects, help communities define realistic management objectives, and submit their final proposals to relevant Local Councils for approval. The project would also fund the construction of “Fishermen’s Houses” that includes office space for the facilitator as well as common space for the fisher community. Project funding would cover training, TA, local construction, equipment, and operating support to facilitators and Local Fisher Committees.

Local Level Monitoring, Control, and Surveillance (MCS). Support for local level MCS measures required to ensure that fishing activities within the geographic footprint of the co-management initiative comply with fisheries regulations. Project funds would cover boats, equipment and operating support to Local Fisher Committees.

Participatory Fish Stock Evaluation Programs. CRODT would be contracted to prepare local fish stock evaluation programs in response to information needs

identified by the facilitators. CRODT scientists would implement these programs but would systematically rely on local fishers for the collection of data, to benefit from their knowledge of local fish resources. CRODT would also develop a methodology to evaluate fish stocks in shallow waters. The program would ensure coordination local research efforts with national level research efforts targeting demersal fish stocks, funded by the Project. Project funds would cover TA, support for Local Fisher Committees, and research equipment adapted to shallow waters.

Support to Local Fisheries Councils. The project would support the development of legal statutes to define parameters for the Local Fisheries Councils, the preparation of annual management plans by the Councils, and fund independent evaluations of the implementation of the annual management plans. Each management would integrate the co-management initiatives submitted by Local Fisher Committees into a coherent management plan for the Council's area. Project funds would cover TA, equipment and operating costs.

Monitoring and Evaluation. Support for the preparation of a system to monitor the performance of co-management initiatives. This would include development of indicators for each pilot site and co-management initiative in partnership with the concerned Local Fisher Committees. The Local Fisher Committees would use the monitoring system to measure annual progress in achieving the objectives of the sub-project. Project funds cover TA and operating costs.

Evaluation of the Performance of Co-management Initiatives. This involves funding for an independent evaluation of the implementation of co-management initiatives at the four initial pilot sites and incorporate the recommendations of the evaluation into the design of co-management initiatives, as a trigger for adding eight additional pilot sites. A second evaluation would be conducted on all 12 pilot sites to identify adjustments that need to be made to the legal, regulatory and institutional framework for fisheries management, to better support co-management initiatives and to incorporate them into the national fisheries management system. Project funds would cover TA and operating costs.

- **Sub-Component 1.3: Institutional strengthening and capacity building** to oversee, support and monitor the implementation of co-management initiatives. The following activities would be supported:

Support to the COMO-Peche, establishing a technical implementation unit in the Ministry of Marine Economy to manage implementation of component 1.

Strengthening Capacity of the Ministry of Marine Economy and CRODT in Designing Participatory Research Programs for Co-management Initiatives. This would involve training staff from MME and CRODT involved in the implementation of Component 1, to accommodate the introduction of co-management and participatory research in their work programs.

Capacity Building in the Design and Implementation of Co-management Initiatives.

The project would fund a program to inform and train representatives of professional organizations about the potential benefits and constraints of co-management experiences in Senegal and abroad. Professional organizations would be targeted to play an effective role in Local Artisanal Fisheries Councils, and in playing a more effective role in CNCPM.

2.16 **Component 2: Conservation of Critical Habitats and Species** (appraisal estimate US\$6.02 million, actual cost US\$ 4.35 million) This component aimed to improve the long-term management of Senegal’s network of coastal protected areas by: (i) developing and implementing management plans for these areas, according to an ecosystem approach, and (ii) restructuring the biodiversity management framework. It included the following subcomponents:

- **Sub-Component 2.1: Managing ecosystems in three pilot areas.** The Project would support the National Man in Biosphere Committee to ensure the establishment or redesign of Biosphere Reserves in the three pilot areas. The project would strengthen the existing Saloum Delta Biosphere Reserve, and help establish two additional Biosphere Reserves. It would also support the establishment of Ecosystem Management Committees with in each site that would oversee the preparation and monitor the implementation of an ecosystem management plan for each of the pilot areas. It would also fund interim measures for each of the three pilot areas, which include expenditures and activities in the annual work plans of protected areas that have remained unfunded, as well as measures to increase the involvement of neighboring populations in the sustainable management of marine and coastal resources, such as ecotourism, participatory biodiversity assessments and local surveillance committees. Project funds would also support implementation of the ecosystem management plans until Project completion.
- **Sub-Component 2.2: Strengthening the Biodiversity Conservation Framework** by preparing a Biodiversity and Protected Area Act, strengthening institutions, and preparing the establishment of a Trust Fund. This sub-component would support Government efforts to update the framework for biological diversity, including a thorough revision of the legal framework, the institutional framework, and the governance mechanism, and the establishment of a mechanism to ensure long-term sustainability. The following activities would be funded:

Preparation of a Biodiversity and Protected Area Act, which sets biodiversity management objectives, incorporates obligations under international conventions and treaties that Senegal has signed, defines the different types of protected areas, their objectives and management principles, adopts co-management as a driving principle and setting co-management guidelines, redefines the mandate of DPN, and defines the mandate of the National Biodiversity Committee and its link to the DPN. Adoption of the Act is expected before the mid-term review.

Strengthening of DPN, by supporting the DPN to reorganize itself according to the new mandate spelled out in the Biodiversity and Protected Area Act. The project would also support the establishment of technical implementing unit within the DPN to oversee the implementation of Component 2. Project funds would cover critical equipment, training and technical assistance, and operating expenses of the PIU.

National Biodiversity Committee and Biodiversity Monitoring. The Project would support the National Biodiversity Committee to monitor and evaluate the state of biodiversity in Senegal, to prepare a State of Biodiversity Report with annual updates, and to disclose the Report and updates to the general public.

Sustainable Financing. The Project would fund a feasibility study and consultations regarding the Establishment of a Trust Fund for Biodiversity Conservation in Senegal.

2.17 **Component 3: Program management, M&E and Communication** (appraisal estimate US\$3.94 million, actual Costs US\$ 3.23 million). This component aimed to ensure optimal implementation of Project activities through the following subcomponents:

- **Sub-Component 3.1: Monitoring and Evaluation.** Project funds would support the PCU in managing aid from donors and partners, ensure efficient implementation and procurement, monitor implementation against indicators, and commission periodic independent evaluations.
- **Sub-Component 3.2: Coordination.** This subcomponent would support the Integrated Marine and Coastal Resources Management Steering Committee and the Advisory Scientific and Technical Committee. It would also support cross-sectoral structures necessary in the pilot intervention areas to ensure coordination among various implementing agencies, including joint sessions between the National Advisory Council on Marine Fisheries and the National Biodiversity Committee.
- **Sub-component 3.3: Communication.** The project would fund the design and implementation of a communication plan to ensure the flow of necessary information to and from stakeholders on project activities.
- **Sub-component 3.4: Sub-regional Coordination.** The project would support a partnerships at sub-regional level between the PCU and institutions or structures of other countries involved in activities similar as those being implemented under the Project.

IMPLEMENTATION ARRANGEMENTS

2.18 The project was originally designed with a multi-tiered implementation structure. A project coordination unit (PCU) was established under the administrative oversight of the Ministry of Environment and Nature Protection. The PCU was responsible for overall

project coordination and for implementation of the project management activities in Component 3. Technical management of the project's sector specific activities were decentralized to two separate implementing agencies. The sustainable fisheries management component was implemented through a dedicated implementation unit established within the Department of Maritime Fisheries (the COMO-Peche). The conservation of critical habitats and species component was implemented by an implementation unit established within the Department of National Parks (the COMO-ecosystem).

2.19 A multi-sectoral Program Steering Committee⁴ co-chaired by the Ministry of Environment and Nature Protection and the Ministry of Maritime Economy was established to ensure inter-sectoral coordination and ensure consistency of project activities with the Letter of Sector Policy. It was responsible for the review and approval of annual work programs, monitoring implementation of work programs, reviewing annual progress in achieving specific outcomes, and providing the implementing units with suggestions for improvements.

2.20 The Government has also established an advisory Technical and Scientific Committee to support the Steering Committee by bringing together relevant program stakeholders, including representatives from the private sector.

RELEVANCE OF DESIGN

2.21 The project included both World Bank and GEF financing. It was designed to address two distinct but complementary agendas of the Government of Senegal in the coastal areas of the country: (i) overfishing of valuable coastal fish stocks; and (ii) protection of globally important ecosystems and biodiversity. It included a clear statement of objectives that reflected this dual intent: "to assist the communities within the Recipient's territory in achieving sustainable management of the Recipient's coastal and marine resources, including ensuring responsible exploitation of resources combined with protection of ecosystems and ecological processes critical for their replenishment." The project represented a change in approach with respect to the traditional implementation of projects led by the Federal Government in both the fisheries and environment ministries, which were top down in nature with limited involvement of local communities.

⁴ The Steering Committee comprised 17 members representing relevant government ministries/agencies, professional associations and civil society organizations: Minister of State, Minister of Maritime Economy, Minister of Environment and Nature Protection, Minister of Armed Forces, Minister of Urbanisme et de Uménagement du Territoire, Minister of Tourism and Air Transportation, Ministry of Energy and Mines, Department of Economic and Financial Cooperation (DCEF), Ministry of Economy and Finance, the Department of Debt and Investments (DDI), Ministry of Economy and Finance, the Department of Collectivités locales, Ministre des Collectivités Locales et de la Décentralisation, the Conseil Supérieur des Ressources Naturelles (CONSERE), the Agences Régionales de Développement (ARD), ENDA-Dialogue Politique, professional organizations of artisanal fishermen, professional organizations of industrial fishermen (GAIPES), the World Wildlife Fund (WWF), the International Union for the Conservation of Nature (IUCN), Wetlands International.

2.22 The first objective, ensuring responsible exploitation of resources, was addressed by the project's first component, implemented by the Division of Maritime Fisheries. The main path for pursuing this objective was to develop and pilot a new model of co-management, whereby communities enter into a legally binding agreement with the government that allows them to regulate a designated fishery. This was expected to result in more responsible exploitation of the resource in the pilot sites because the communities would implement measures aimed at reducing overfishing and would be more likely to comply with regulations they had developed themselves. In addition they would have legal backing and support from the government with monitoring and enforcement. The project also supported revisions to the policy framework that would improve the enabling environment for co-management measures. Additional activities were funded that would enhance the government's fisheries management capacity including the preparation of management plans on a national scale, a research program on demersal fish stock and a nationwide registration system for small fishing vessels, as a tool to control and reduce fishing efforts over time. While these activities would enhance the Ministry's capacity to manage the artisanal fisheries sector, they were not critical for meeting the objective on a pilot scale, and somewhat overloaded the project.

2.23 The second objective, protection of ecosystems and ecological processes critical for the replenishment of coastal and marine resources, was addressed through a second component to be implemented by the Department of National Parks. This set of activities aimed to strengthen the capacity of government to protect sensitive coastal environments, that serve as important nursery grounds for the fisheries in the same three pilot areas, by funding a network of parks and protected areas to be managed with greater participation of local communities. The theory of change explaining how the individual activities would lead to achievement of the project objective was not as clearly articulated.

2.24 While the project activities were related to its objectives, there were several shortcomings in design. The project's design was too complex and ambitious for its timeframe and the capacity of the agencies involved. The implementation completion report notes that the Bank underestimated the time and resources required for the project to accomplish its objective and its design "included activities which required operating budgets and resources that the implementing agencies did not have and which the project's limited resources could not provide" (World Bank, 2011). It's also notes that the Bank underestimated the time to induce behavior change in ministries, and the political economy challenges of shifting the Ministry of Environment from a top down to participatory approach.

2.25 The timeframe and targets for some activities was also unrealistic. For example, the project appraisal document set the following target for implementation of the co-management pilots: Local fisheries management sub-projects implemented in four pilot sites within 18 months of Project startup, and implemented in an additional eight pilot sites within the following 18 months. This timeframe runs counter to the experience of many World Bank community based development projects, which typically spend the first 18 months to two years with little disbursed as communities are organized. The targeted timeframe for implementation of the 8 additional sites does not appear to take into account the project M&E plan that calls for an independent evaluation of the first four pilots prior to before scaling up to other communities.

2.26 In addition, the selection of instrument should have taken into account the long term nature of the two agendas being pursued and the need for a longer term programmatic approach.⁵ An Adaptable Program Loan would have better suited to designing the longer term support upfront.

2.27 Relevance of design is rated *modest*.

Implementation

Changes to the Timing and Scope of Activities

2.28 The project was approved on November 11, 2004 and became effective on April 15, 2005. The original closing date of June 1, 2010 was extended twice by a total of 23 months. The first extension, approved in May of 2010 in conjunction with the project's restructuring, added 18 months to the original closing date. The revised closing date of December 1, 2011 was subsequently extended until May 1st, 2012, to allow the project to complete the two national fisheries management plans that were delayed because the lead technical specialist contracted for the work fell ill and had to be replaced.

2.29 The original project development objective was retained throughout implementation but there were three amendments to the loan agreement impacting the projects implementation arrangements, the global environment objective, and scope. The first was a third tier restructuring approved by the country director on May 19, 2008, that modified the project's implementation arrangements. The project coordination unit was closed (the details of which are discussed in para. 2.34) and project management responsibilities and the remaining funds from the PCU's operation were reallocated to each of the technical Ministries' implementation units for project management of their respective components.

2.30 The second revision, a first-order project restructuring approved by the Board in October 2008, modified the Global Environment Objective (GEO), revised the results framework, and modified the scope of activities. The Global Environment Objective (GEO), was originally phrased as, "*to secure the conservation and management of Senegal's marine and coastal ecosystems, which are globally significant and vital to the sustained livelihoods of coastal communities.*" During implementation it was realized that the GEO was not attainable within the projects timeframe. The revised GEO was: "*to strengthen the conservation and management of Senegal's marine and coastal ecosystems, which are globally significant and vital to the sustained livelihoods of coastal communities*". The project scope was changed by reducing number of co-management pilot sites from 12 to four. The eight others were transferred to the Sustainable Management of Fisheries Resources Project under preparation at the time. The five fisheries management plans originally planned were reduced to two due to the shortage of experts and time caused by delays in project start-up. The following activities

⁵ The ICR notes that the project addressed a number of complex issues (e.g. changing behaviors of communities and government agencies, collaboration across sectors, revisions to legal and institutional frameworks) in a relatively short time. The project approaches were also of a long term nature. The ecosystems approach requires a long-term commitment over 10-15 years in a phased approach, particularly as it relates to biodiversity conservation. Likewise, reforming fisheries sector governance is a long term pursuit.

were dropped: (a) the review of policy options was replaced with support to revisions to the Fisheries Code, finalization of the Letter of Sector Policy and its related Action Plan; (b) a study on coastal demersal species; and (c) the Information, Education, and Communication activities were dropped from Component 3 as a result of the dissolution of the PCU. The projects results framework was also revised.

2.31 The third amendment, approved November 2011, reflected the final six month extension of the closing date.

Planned versus Actual Disbursements

2.32 Total costs estimated at appraisal were US\$16.49 million. At completion actual costs were US\$ 13.26 million, 20 percent below the appraisal estimate. This was largely due to implementation delays which resulted in some activities that could not be completed by the end of the project. Costs by component are shown in table 3.

2.33 The project was expected to be financed through an IDA credit of US\$ 10 million US dollar equivalent, a GEF grant of US\$5 million USD equivalent and Government contribution of US\$1.49. At closure US\$8.8 million of the IDA credit and US\$3.7 of the GEF grant disbursed. US\$1.46 of the IDA credit and USD 1.38 of the GEF grant were cancelled. The government contribution was US\$ 0.69, approximately 54 percent below the planned contribution.⁶

<i>Components</i>	<i>Appraisal Estimate (USD millions)</i>	<i>Actual/Latest Estimate (USD millions)</i>	<i>Percentage of Appraisal</i>
Project Component 1: Management of Sustainable Fisheries	6.53	5.67	87
Project Component 2: Conservation of Critical Habitats and Species	6.02	4.35	72
Project Component 3: Program management, M&E and Communication	3.94	3.24	82
Total project costs	16.49	13.26	80

Source: World Bank 2004, 2012

⁶ It is not entirely clear why the government's contribution was so much lower than what it had committed to at project appraisal. Staff in the implementing agency informed IEG that there were delays in some disbursements and the government budgeting system did not allow for retroactive financing to cover the years when disbursement did not happen.

Table 3: Project Financing by Source (in USD million equivalent)			
<i>Source of Funds</i>	<i>Appraisal Estimate (USD millions)</i>	<i>Actual/Latest Estimate (USD millions)</i>	<i>Percentage of Appraisal</i>
IDA	10.0	8.81	88
Global Environment Facility (GEF)	5.00	3.76	77
Government of Senegal	1.49	0.69	35
Total:	16.49	13.26	79

Source: World Bank 2004, 2012

Implementation Experience

2.34 *The project's original institutional arrangements proved to be unworkable and significantly hampered implementation during the first half of the project.* The decision to have one overall project coordination unit was taken in part from an operational perspective, to have only one coordination unit responsible for the project's fiduciary aspects. In addition it was believed that establishing an independent project coordination unit would facilitate overall integration of the two parallel technical agendas that were being implemented through separate implementation agencies. But the fact that the project coordination unit was an independent unit staffed by consultants under the auspices of the Ministry of Environment and Natural Resources, led to a lack of ownership on the part of the Ministry of Maritime Economy who was charged with implementing the fisheries management component. Supervision reports indicate that implementation was impacted by conflicts between the Ministry of Environment and Natural Resources and the Ministry of Maritime Economy over technical issues and the PCU's poor project administration performance, including its non-compliance with World Bank procedures and execution of ineligible expenditures. The well paid PCU also absorbed much of the project's resources. As a result prior to project restructuring disbursements for project management component were ahead of schedule but behind for the technical components. The Bank team identified the need to adjust the institutional arrangements within six months of project start-up was but the idea was initially opposed by the Ministry of Environment and Natural Resources. Discussion of the issue is reported to have dominated project supervision until consensus was reached during the mid-term review in January 2008 when the decision was made to dissolve the PCU and transfer project management functions to the two technical implementation units.

2.35 Following the dissolution of the PCU, project ownership by the line ministries initially improved. However, implementation of the fisheries management component stalled again in August 2011 when the project coordinator stopped communicating with the Bank team over the Bank's refusal to give a no objection to contracts for PCU staff that had ineligible clauses. Supervision reports indicate that at that point most of the funds for the fisheries activities had already disbursed. The impact of this situations was greater for the Sustainable Fisheries Management Project that was managed by the same implementation unit.

2.36 *Implementation at the Central Level was also impacted by high turnover of staff both in the PCU and at the ministerial level, impacting government ownership and commitment.* The Implementation Completion and Results Report noted that in the course of project implementation there were three Project Coordinators, five Procurement Specialists, three Ministers of Environment and two different Ministers of Fisheries and Maritime Economy. With each turnover in Ministers the Bank team had to re-engage with a new counterpart and agreements made with the preceding minister were not always supported by the subsequent one.

2.37 *Procurement was a persistent problem, resulting in slow disbursement, project inefficiencies, and delays in the implementation of activities, some of which were not completed by project closure.* Examples include delays in contracting consultants under fisheries component, and prolonged process of preparing management plans or community activities in component 2. (Details are discussed in para. 2.47)

2.38 *Implementation progress at the local level proceeded at a faster pace than at the central level but was hampered by delays in centralized procurement and administrative clearances.* The process of endorsing co-management agreements took much longer than anticipated. There was a gap of two years from the time communities finalized their sub-project proposal until the co-management agreements were signed. Procurement, financial and administrative procedures also disrupted implementation of many community sub-project activities (this affected both fisheries and ecosystem conservation activities).⁷ In addition to causing implementation delays, the wait demotivated many of the local participants.

ENVIRONMENTAL AND SOCIAL SAFEGUARDS POLICIES

2.39 The project was classified as “Category B” under the Bank’s environmental and social safeguard policies and triggered following safeguards policies: environmental assessment, natural habitats and involuntary resettlement. A full environmental and social assessment was carried out during preparation, including an Environmental Management Plan and Resettlement and Process Framework. Two potential safeguard concerns were identified during preparation: access restrictions resulting from fisheries management measures; and, the impact on local populations from the reestablishment of seasonal floods in certain parts of the Senegal River Delta which were under consideration as an ecological restoration measures.

2.40 The project provided provisions to fund a process to identify and provide compensation to fisherman whose livelihood might be adversely impacted by co-management restrictions. An agreement was signed with the Senegal Social Investment

⁷ The Implementation Completion and Results Report notes pilot sites were identified before project effectiveness and the recruitment, training, and posting of facilitators at the pilot sites were carried out soon after effectiveness. This ensured against a loss in momentum of project launch activities and that the main stakeholders, the targeted fishing communities and their associations, would stay engaged after the facilitators promoted the co-management initiatives. Preparation of fisheries sub-projects for the four pilot sites began one year after implementation. While all sites had finalized their sub-projects by February 2006, the legal agreements on co-management were not signed until August 2008. Procurement requirements, administrative and financial procedures, slowed down further the implementation of activities between 2008 and 2010.

Fund to establish a Fisheries Reconversion Fund earmarked to aid local fishermen affected by fishing restrictions to obtain new skills and find alternative employment. A social development indicator was also included as one of the project's Key Performance Indicators in order to monitor social development outcomes: "Measures to alleviate the impact of a reduction in fishing capacity rated satisfactory by at least 75 percent of targeted communities – to be measured by an independent participatory evaluation of targeted communities." In the event that a decision were taken to go forward with the flood rehabilitation, project support would be contingent on the prior preparation of an EA and EMP satisfactory to the Bank and Government compliance with the Project's Resettlement Framework.

2.41 The following safeguards issues arose in the course of project implementation:

2.42 **Environmental Safeguards.** In one of the National Park sites a bridge was constructed, with project funding but without the Bank's approval, to allow vehicles to access to Park Headquarters. The bridge's design was flawed, however, in that it lacked a pipe to allow water to circulate between tides, inadvertently leading to the demise of juvenile fish that were trapped in shallow water during low tide. Supervision reports indicate that once the issue was detected the Bank team immediately called for the modification of the structure to restore water flow and culverts were installed, rectifying the problem.

2.43 **Social Safeguards.** The fisheries reconversion fund under the Senegal Social Investment Fund did not materialize as planned. Following the project's appraisal the Social Investment Fund was merged into a new operation and the fisheries reconversion fund window no longer fit into the priorities of the new operation. Hence the fund was not established, even though an MOU had been signed with the project. As an alternative, during the mid-term review the Bank and Government agreed to incorporate the Reconversion Fund into the project with financing from the anticipated cost savings from the dissolution of the PCU. The fund was ultimately established under the Sustainable Management of Fisheries Resources Project, which was approved in 2008 and implemented as a complement to the GIRMAC project. It covered social issues in both projects.

2.44 Alternative revenue generating activities were implemented in two sites to compensate women for forgone revenue due to co-management restrictions that prohibited the processing juvenile shrimp.⁸ No other social safeguard issues were reported in the project supervision reports and none were reported to the IEG mission. The Implementation Completion and Results Report indicates that beneficiary assessments that were to be implemented at MTR and at the end of project to measure the KPI on social outcomes were not carried out, thus compliance with safeguards not fully satisfactory.⁹ IEG interviewed the safeguard specialist who worked on the project to understand the significance of this omission. The mission was informed that the project

⁸ This issue occurred in Benty and Foundiougne. In Benty the women were provided with seed capital to allow them to commercialize other types of seafood and market them in Dakar. In Foundiougne a household goods and cooking utensils store for a group of about 36 women.

⁹ The Implementation Completion and Results Report rated safeguards compliance as moderately satisfactory.

was in compliance with the safeguards policies in terms of having carried out the agreed upon safeguards activities but because the beneficiary assessments were not carried out the project did not produce the required safeguards documents, thus it did not fully comply with the guidelines for *documentation of social safeguards*. He provided the IEG mission with the following statement “In spite of the lack of documentation it is the assessment of the safeguards specialist that in terms of *carrying out social safeguards activities* the project achievements were satisfactory.”

FINANCIAL MANAGEMENT AND PROCUREMENT

2.45 Financial management of the project was unsatisfactory throughout implementation. At the projects start, when financial management was under the responsibility of a single project coordination unit, quarterly financial reports were submitted on time and were reported to have been of satisfactory quality. However, a financial management review found the PCU’s overall financial management performance to be unsatisfactory due to non-compliance with WB procedures and ineligible expenditures. The project coordination unit was closed, a financial audit was carried out, and the Government prepared an action plan to address pending issues. Financial management was then transferred to the line agencies implementing the technical components. The financial management system for both technical agencies was adequate in that project accounts were current, Financial Monitoring Reports were received on time and were of satisfactory quality, and there was an acceptable rate of budget expenditure. However, the overall financial management performance of each agency was unsatisfactory for the reasons outlined below.

2.46 The implementation unit for Sustainable Fisheries Management activities did not sufficiently monitor the financial activities at the Local Fishermen’s Committee level, which was one the most important activities of the Project. The implementation unit incurred ineligible expenditures. There was incomplete documentation for payments from IDA funds and delays in implementing the recommendations made by the external auditor to provide sufficient justification of expenditures incurred by technical experts during field supervision missions. A Procedures Manual was not adopted and there were doubts about the authenticity of workshop expenditures. The implementation unit for Ecosystem Management incurred ineligible expenditures for works which were unfinished or non-existent at project closure. It also lacked supporting documentation relating to the disposal of two vehicles. By the end of the project the Bank requested the reimbursement for a total of 189 million CFA francs of ineligible expenses from all agencies combined.

2.47 Procurement was slow throughout the project’s implementation due to weak capacity in the implementation units and the cumbersome demands of following dual procurement processes. At the time that the project was implemented Senegal was one of the countries in which the Bank was piloting the use of Country Systems. As a result the implementing agencies were required to comply with both Bank and National procurement systems. Project files indicate that procurement specialists changed five times, contributing to protracted processing of key contracts which resulted in some activities not being completed by the end of project. IEG interviews with implementing agency staff also indicate that some procurement staff were not sufficiently qualified.

There were also shortcomings in quality control of the materials procured for civil works in the co-management sites. The Implementation Completion and Results Report indicates that two of the four fishermen council meeting houses that the project constructed were already in need of repair by the time of the ICR mission because of poor quality of materials and workmanship. The IEG mission was informed that in one of the ecosystem management sites the project started construction of a restaurant, as an alternative revenue generating measure, but didn't complete it due to the poor quality of materials procured that were not suited to local environmental conditions.

Achievement of the Objectives

2.48 The project development objective comprises two parts, assessed below as two separate sub-objectives.

Sub-objective 1 – Assist the communities within the Recipient's territory in achieving sustainable management of coastal and marine resources by ensuring responsible exploitation of resources

2.49 This sub objective was pursued through a combination local level activities to pilot co-management initiatives with local communities and national level activities aimed at providing a conducive enabling environment and tools for the government to manage the artisanal fisheries sector through co-management. The outputs and outcomes associated with each is presented below.

Outputs of Local Level Activities

2.50 The main tool for achieving this objective was to pilot a co-management model, whereby the government would empower targeted communities to develop and implement legally-recognized management measures to reduce overfishing. By project closure, co-management agreements were signed and co-management activities had been implemented in 4 sites, fully meeting the revised performance target. The target was formally revised downward from original target of 12, following the mid-term review, because the process proved to be more time consuming than realized at preparation¹⁰, in part because this was the first time the process had been carried out.

2.51 By project closure the co-management measures had been carried out in full in three of the four project sites, and all but one measure had been completed in the fourth site. The specific management measures implemented in each site are detailed in Table 4. At the fourth site, Ouakam, the immersion of an artificial reef was still under preparation at project closure because activities at this site had a later starter than in the other sites.¹¹

¹⁰ The 12 pilot sites were to be implemented in stages. The original timeframe was to conduct pilots in four sites within 18 months of Project startup, and implemented in an additional eight pilot sites within the following 18 months. The communities in the first 4 pilots completed co-management proposals within the first year but it took too years before approval was granted.

¹¹ This site is located on the outskirts of the capital city, Dakar, and involved a more extensive consultation process with neighboring communities than the other sites.

The IEG mission was informed that the artificial reef was subsequently damaged by the submersion of an underwater cable by the national telephone company, SONATEL.¹²

Table 4: Initiatives under Implementation at the Co-management Pilot Sites	
<i>Co-Management Site and Target Species</i>	<i>Subproject activities</i>
Ouakam Target species: Coastal demersal fish (grouper/thiof, green lobster, and the cigale de mer lobster)	Cleaning of sea bed
	Creation of no-fishing zone
	Creation of controlled fishing zones with approved fishing gear and methods
	Establish artificial reef
Ngaparou Target species: Green lobster and other coastal demersal species linked to the lobster	Put in place measures for the management of the green lobster (sanctioning the use of unsustainable fishing gear and fishing methods)
	Alternate closures to fishing in coastal zones
	Placement of artificial reefs and other devices to attract fish
Foundiougne Target species: Coastal White shrimp	Replacement of illegal fishnets to reduce juvenile shrimp catch
	Impose biological rest period to protect immature shrimp and improve weak market prices related to small size
Bétenty Target species: Coastal White shrimp	Replace illegal, small-size fishnets with approved fishnets of legal size (24 mm) to protect immature shrimp and improve weak market prices related to small size
	Impose biological rest periods for coastal shrimp fishing in the area to replenish resources for large size shrimp and improve the quality of shrimp landings

2.52 The project also provided communities with accompanying measures to support implementation of their co-management measures. This included support for surveillance, monitoring, participation in research, and awareness-raising. Each community was provided with a surveillance boat to conduct monitoring, control and surveillance activities. The Implementation Completion and Results Report indicates that communities participated actively in monitoring, control and surveillance activities (MCS) and managed them with regular patrols by CLP members. MCS activities were initially carried out with Project funds. Overtime the CLP's own funds were used. IEG interviews confirmed this finding. The local fisheries administration representative at each site also supports the communities with enforcement. However, MCS is an area that requires further strengthening. (See risk to development outcome, para. 2.96, for a discussion of MCS limitations).

2.53 Efforts to support co-management efforts with a participatory monitoring and research partnership between national agencies and local communities yielded mixed results. The project signed a contract with the Center for Oceanography Research of

¹² The West Africa Regional Fisheries Project continues to support this site and is working with the CLP to immerse a new artificial reef.

Dakar (CRODT) to carry out participatory research with pilot communities. This initiative was intended to provide communities with support to finalize the co-management initiatives and enhance their capacity to monitor the impact of co-management efforts. Activities included a study of baseline estimates for artificial reefs and the placement of restricted zones, research on how to add value to products with weak commercial value, and participatory/community data collection of catches. According to the Implementation Completion and Results Report this activity succeeded in raising awareness of local communities on research needs and introducing its members to basic data collection and monitoring. A CRODT researcher has been placed permanently on site at Ouakam to carry out further work with the fishing community, because in the course of carrying out one study, CRODT discovered that Ouakam was a major fishing site. However, the research activities were not carried out consistently and the communities perceived that the agencies retained a top down approach. In some cases there were disagreements between the community and CRODT agents over when to implement the biological rest period.

2.54 As of the IEG assessment mission the co-management agreements remained under implementation in all four sites. The West Africa Regional Fisheries Program continues to strengthen the implementation capacity of the CLPs in each site.

Outputs of National Level Activities

2.55 The project made less progress implementing activities at the National level. Some activities planned at appraisal were removed from the project during implementation and their funds allocated to other project activities.¹³ Variable progress was made in completing the remaining activities.

2.56 Revisions were to key sector policies and regulations were drafted but not all were approved by project closure. A revised letter of sector policy was completed and approved in 2008. Revisions to the 1998 Fisheries Code were also completed but their approval was pending at project closure. As of the IEG assessment mission the revised Code had been approved at the Ministry level but the process of obtaining parliament approval had not been completed. The revisions to the Fisheries Code introduce innovations related to the right of access to the resource and ecosystem management.¹⁴

¹³ This included preparation of an incremental program of fisheries research targeting the life cycles of key demersal species, expected to be conducted by CRODT. This activity was part of the Project's institutional capacity-building efforts, but could not be carried out due to the lengthy contract preparation and lack of available personnel CRODT capable of providing the needed services. This activity was transferred to the ongoing West Africa Regional Fisheries Program. Management studies planned at appraisal to evaluate fisheries sector policy options were removed from project activities during implementation because they were overtaken by national policy discussions ongoing at the time that dealt with similar concerns. The Special Commission which was established by the Government to determine the nature of any major reforms proposed by changes in fisheries sector policies did not function. Its statute was not renewed after 2006 because the Government changed its mind regarding the usefulness of its mandate.

¹⁴ The IEG mission was informed that the key differences between the old code and the revised code with respect to artisanal fisheries are the following:

- The co-management system is introduced as a tool to manage artisanal fisheries. Co-management was implemented as "experimental sites" under GIRMAC. Whereas under the new law it is recognized as an official approach or a public tool to manage fisheries.

2.57 National Registration System for Small Fishing Vessels (PNI). The PNI program was started prior to the project, with funding by other donors. Its goals was to provide a functional nationwide registration system for small fishing vessels, as a tool to control and reduce fishing efforts over time.¹⁵ The program experienced a number of problems with implementation initially and by 2010 most of the other donors had stopped funding it. The WB began contributing its own resources to finance the PNI program in 2010 after funding from other donors ended.¹⁶

2.58 At the start of the program official statistics estimated that the size of the artisanal fleet was approximately 12,000 vessels. The estimate was based on census data from 1986, the latest available census data at the time. The target set for the PNI was to register 10,000 artisanal fishing boats (pirogues). By the end of the project, 18,900 fishing boats were registered electronically (and registration numbers were distributed to owners) and 16,207 of these boats had been marked with the registration number. An online database for the registration program was also established (www.bdpni.gouv.sn). Implementation of the program, however, was also affected by the management problems at the COMO-Fisheries in July 2011 when all project activities stopped. As a result, no field work or follow-up was carried out just as the program was about to move into its data consolidation phase. Support for the program has continued under the West Africa Regional Fisheries Program (WARFP). The WARFP expects to complete the registration and marking of boats and transfer the process from the project coordination unit to the Ministry's administrative services.

2.59 Several implementation issues remain that the West Africa Fisheries Program is attempting to address. Project staff noted that many of the boats that were registered no longer have numbers on the boat. Interviews indicated that boat owners are not diligent in remarking their boats with the registration number when they are repainted as part of annual maintenance. There has also been a lack of enforcement on the part of local DPM agents in controlling the construction of new boats. The IEG mission was informed that legally authorization of the local DPM is required before constructing a new boat but it is not universally applied. Efforts are ongoing under the WARFP to improve enforcement on the part of the local DPM agents. The project is also exploring the possibility of switching from painting registration numbers to issuing license plates.

• Fisheries Management Plans are recognized as an official public policy tool that government is using. Under the 1998 Code management plans were included as a definition. Under the revised code they have been elevated to a designated management tool.

• Fishing Rights Concessions have been introduced as a new tool to control access rights. The old code only gave fishing rights to government and licenses were granted to individuals. The new code provides for the right to issue fishing permits and designate concessions. The CLPs will have a certain quantity of permits, and have the right to regulate gear, set catch limits and fishing seasons.

• Protected Fishing Zones have been introduced for fishing management objectives. The Ministry can artificial reefs to restore stocks.

¹⁵ Prior to establishing the PNI, all industrial vessels in Senegal were locally registered and licensed, but artisanal vessels were not.

¹⁶ The Implementation Completion and Results Report indicates that from 2005-2010 contributions from a Swiss Trust Fund were managed by the World Bank. In 2010 the World Bank began contributing financing from all three of its fisheries projects (GIRMAC, GDRH, WARFP). Interviews with implementing agency staff indicate that actual implementation of PNI activities were only carried out under the GDRH project, not the GIRMAC project.

2.60 The key outcome of the PNI program to date is that it has raised awareness in the Ministry that the size of the artisanal fleet is much higher than realized. In registering close to twice the estimated number of boats, the PNI has demonstrated that the original estimates significantly underestimated the size of the small scale fishing fleet. As a result of the programs progress, the official statistic on the size of the artisanal fleet has been revised from 12,000 to 19,000. The mission was informed that other projects are using the PNI information to meet EU traceability requirements for exports and that some processing facilities have begun to ask for registry information. DMP staff noted that the PNI database is a useful tool to enhance their sea patrolling capacity.¹⁷ In addition project staff informed the IEG mission that having an accurate count of the number small scale vessels in operation is useful in for preparing ZPPs, designating access rights, and limiting fishing efforts going forward. According to the project appraisal document, the project's success would also require that the Government is capable of monitoring the movements of industrial vessels into the areas reserved for artisanal fisheries. Accordingly an agreement was reached during negotiations that all industrial vessels would be equipped with satellite-based, vessel monitoring system and that the Ministry of Maritime Economy would be capable of monitoring the movements of industrial vessels, by the time of the mid-term review of the Project. However, neither the mid-term review nor the implementation completion and results report mention whether this capacity was built as expected.

2.61 The project's goal of preparing national management plans for two key fisheries that are approved by the National Consultative Council for Maritime Fisheries was not met. Preparation of the two plans was started but was not completed. The targeted species were selected within the first few months of implementation but the procurement process significantly delayed contracting the consulting firm and there were multiple setbacks in implementation of the contract. It took about 3.5 years from the time the Expressions of Interests were advertised (January 26, 2005) to Bank approval and contract award (June 9, 2008), whereas the usual procurement processing time for this type of contract takes about 6-7 months. Preparation for the management plans began a year later. During the preparation of the plans, the consulting firms team of fisheries experts changed three times. Finding qualified replacements in a highly specialized technical fields, such as socio-economics modeling of tropical fisheries, was difficult and required the approval of the Government and of the Bank, further delaying the process by eight months. In August 2010, the consulting firm proposed a new timetable for activities which extended past the Project closing date of December 1, 2011. At that point one of the fisheries experts fell ill and by the time the replacement arrived, it was too late to complete the assignment. The Bank extended the closing date to May 1, 2012 to allow for the completion of the fisheries management plans. However, on March 20, 2012, the firm to officially notify the Bank that it was suspending all remaining activities and cancelling the contract, citing insufficient time to complete the work before the Project closing date due to after delays in approving the amendment to the contract by the Government's Central Procurement Department. According to the Implementation Completion and Results Report, although the plans were not completed a substantial amount of preparation work had been carried out under the project which was expected to be completed under the West Africa

¹⁷ Staff noted that when a registered boat is spotted fishing in a protected area but is not caught the database is used to track down the owner.

Regional Fisheries Program. As of the IEG assessment mission, a new consulting firm had been contracted but its work was behind schedule.¹⁸ Staff in the ministry credit the project with introducing the concept of national management plans to Senegal.

2.62 Efforts to create a negotiation and consensus-building forum among stakeholders in the preparation of co-management fisheries management plans had mixed results. Two government advisory councils were expected to play a role in this process. The National Council for Consultation on Fisheries (NCCF) had been established through the 1998 Fisheries Law to provide a framework for consultation at the national level on fisheries. Under the project it provided effective support to the fisheries management proposals of the CLPs. Local Artisanal Fisheries Councils (CLPA) were established by the government to be part of the framework structure for fisheries consultation at the local level. They were expected to play a role in the approval of CLP subprojects. However, they were being established nationally at the same time as the Project was being prepared. Some of the CLPAs were unable to play an effective role in the project because they were either not yet functional, did not have the right representation, or did not cover the same jurisdictions as those of the targeted fishing communities.

OUTCOMES

2.63 The project's main outcome related to this objective was to successfully pilot a model to assist communities in the preparation and implementation of co-management agreements in partnership with the government. By the end of the project, positive impacts on the targeted fisheries were observed in each of the four sites where the management model was piloted.

2.64 The original target set by the project to assess changes in the targeted fish stocks as a result of co-management measures was an increase of 10 to 30 percent in the Catch per Unit Effort (CPUE). The CPUE is an indirect measure of the abundance of a target species. The project team included data on the CPUE for each site in the implementation completion and results report, even though this indicator had been dropped as an official key performance indicator during the 2008 restructuring. The Implementation Completion and Results Report includes additional outcome data collected at the pilot sites through 2011 on the quantity of catches, size of individuals, and the average price per unit. The IEG mission obtained additional data for some indicators for 2012 and 2013 from three of the four sites.

2.65 A complication in assessing the data stems from difficulty pinpointing when implementation of the various measures began, as well as the fact that the various management activities were not implemented at once. The formal agreements were signed in March 2008, although some communities reported having worked on measures prior to that date. IEG interviews indicate that most measures had been implemented by

¹⁸ The IEG mission was informed that although about 70 percent of the work in preparing the management plans had been completed under the GIRMAC project, a new consultant began work from scratch in February 2014. The first firm modeled the fisheries with data from 1970s to 2008. The new consultant insisted on doing a new assessment in part because of the 5 years gap in the data but also because they would only agree to be held accountable for the quality of their own work.

2009. Taking this into account outcomes from 2009 forward, are more likely to reflect effects of the co-management measures.

2.66 Data from each site are discussed separately below. Each site has data on the abundance of the targeted species (measured by volume of catches, CPUE) and/or the size of individuals (measured by weight or the number of individuals per catch). The implementation completion and results report also reports on the average price per unit of the targeted species in each site but it is not clear how much price is driven by better management of the targeted species versus other factors, so this information was not factored into IEGs assessment of outcome. It is presented below for information only.

- In Ngaparou, prior to the implementation of co-management measures the quantity of catches for green lobster ranged from 770 - 1,575 kg. Following the start of the co-management measures catches increased to 1,645kg in 2009, 2,835kg in 2010, and 4,095 in 2011. The CPUE of green lobster ranged from 83 - 140 kg per vessel, increasing to 142 kg per vessel in 2009, 160 kg per vessel in 2010, and 300 g. per vessel in 2011. The CLP provided IEG with additional information on the average weight of lobster which increased overtime from 295 g. in 2005 to 420 g. in 2010 to 900 g. in 2013. In addition, multiple stakeholder groups (CLP, local DPM, implementing agency staff, other donors) gave anecdotal reports that species that had not been seen in the area for 30 years, returned to the area shortly after the communities' implementation of the co-management measures. They interpret this as an indication that the conditions in the co-management area have improved, though it is not possible to definitively attribute this to the co-management efforts.
- In Ouakam, prior to the implementation of co-management, the catches of grouper ranged from 10,100 - 13,960 kg. (in 2007 and 2008), increasing to 22,200 kg in 2009, 17,200 in 2010 and 23,300 kg in 2011. The CPUE of grouper ranged from 75 – 105 kg per vessel (in 2007 and 2008), increasing to 156 kg/vessel in 2009, 123 kg/vessel in 2010, and 166 kg/vessel in 2011. Catches of green lobster ranged from 1,300 – 1,500 kg. (in 2007 and 2008), increasing to 1,850 kg. in 2009, 5,050 kg in 2010, and 4,800 kg. in 2011. The CPUE of green lobster ranged from 10-11 kg per vessel (in 2007 and 2008), increasing to 13 kg/vessel in 2009, 36 kg/vessel in 2010, and 34 kg/vessel in 2011.
- In Bétenty. The quantity of catches did not improve over the project timeframe, but the size of individuals increased suggest that the stock is improving. Prior to the implementation of co-management measures, the shrimp count per kg ranged from 226 – 175 (2005-2008), decreasing to 144 shrimp/kg. in 2009, 138 shrimp/kg in 2010 and 141 shrimp/kg. in 2011. The IEG mission was provided with additional information on the percent of small shrimp per catch, which ranged from 48 – 42 percent (2005-2008), decreasing to 24 percent in 2009, 18 percent in 2010, 23 percent in 2011, 22 percent in 2012, and 21 percent in 2013.
- In Foundiougne, both the quantity of catches and the size of individuals improved following the implementation of the co-management measures. Quantity of catches ranged from 343,370 – 287,190 kg., prior to the implementation of co-management. Increasing to 362,835 kg in 2009, 274,232 kg in 2010, 431,625 kg in 2011, 309,390

kg. in 2012 and 550, kg. in 2013. The number of shrimp per kg. ranged from 178- 96 (2007-2008), decreasing to 92 shrimp/kg. in 2009, 88 shrimp per kg/ in 2010, and 115 shrimp/kg. in 2011.

NGAPAROU

<i>Species</i>	<i>Indicator</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>
Green lobster	Quantity of catches (kg)	770	700	1,575	1,561	1,645	2,835	4,095
Green lobster	Average Price/unit (FCFA/Kg)	4,900	6,000	6,270	6,850	5,727	5,700	6,725
Green lobster	Total harvest per vessel (kg/small vessel)	103	140	83	90	142	160	300

(Source: Implementation and Completion Report)

Additional information provided to IEG from Ngaparou

Species	Indicator	2005	2006	2007	2008	2009	2010	2011	2012	2013
Green lobster	Average weight	295					420			900

OUAKAM

<i>Species</i>	<i>Indicator</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>
Grouper (<i>Epinephelus aenus</i>)	Quantity of catches (kg)	NA	NA	10,100	13,960	22,200	17,200	23,300
Green Lobster	Quantity of catches (kg)	NA	NA	1,300	1,500	1,850	5,050	4,800
Grouper (<i>Epinephelus aenus</i>)	Total Harvest per vessel (kg/small scale vessel)	NA	NA	75	105	156	123	166
Green Lobster	Total Harvest per vessel (kg/small scale vessel)	NA	NA	10	11	13	36	34
Grouper (<i>Epinephelus aenus</i>)	Average Price/unit (FCFA/Kg)	NA	NA	3,670	3,980	3,380	3,620	4,500
Green Lobster	Average Price/unit (FCFA/Kg)	NA	NA	8,500	8,340	5,000	5,000	5,500

(Source: Implementation and Completion Report)

BETENTY

<i>Species</i>	<i>Indicator</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>	<i>2012</i>	<i>2013</i>
Coastal Shrimp	Quantity of catches (kg)	365,700	336,200	340,700	328,900	296,900	237,200	229,400	272,800	295,700
Coastal Shrimp	Average Price/unit (FCFA/Kg)	400	550	600	600	700	900	800	NA	NA
Coastal Shrimp	Shrimp count/Kg	226	179	184	175	144	138	141	NA	NA
Coastal Shrimp	Total harvest per vessel (kg/small scale vessel)	5,626	5,698	5,495	6,206	5,209	4,651	3,888	NA	NA

(Sources: 2005-2011 Implementation Completion Report; 2012-2013 CLP)

Additional information provided to IEG from Betenty

<i>Species</i>	<i>Indicator</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>	<i>2012</i>	<i>2013</i>
Coastal Shrimp	CPUE (kg/Hour)	2.50	2.55	2.67	2.80	2.90	3.13	2.78	2.69	2.81
Coastal Shrimp	Percentage of small shrimp	48.30	45.20	41.70	42.00	23.70	18.10	22.40	21.65	21.17

FOUNDIOUGNE

<i>Species</i>	<i>Indicator</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>	<i>2012</i>	<i>2013</i>
Coastal Shrimp	Quantity of catches (kg)	NA	NA	343,370	287,190	362,835	274,232	431,625	309,390	550,000
Coastal Shrimp	Av. Price/unit at landing FCFA/kg	NA	NA	600	600	550	500	750	700	660
Coastal Shrimp	Number Shrimp / kg	NA	NA	178	96	92	88	115	NA	NA
Coastal Shrimp	Total harvest per vessel (kg/small scale vessel)	NA	NA	2,704	2,393	2,555	1,714	1,429	NA	NA

(Sources: 2005-2011 Implementation Completion Report; 2012-2013 CLP)

2.67 Two issues were considered in assessing the plausibility that the co-management measures are responsible for the observed the outcomes: the time between treatment and the expected result, and a consideration of other factors that could have influenced the outcome. On the first issue, fisheries management specialists interviewed indicated that the life span of the targeted species is short enough that the implemented measures could have had an impact quickly after implementation of the management measures. The second issue is more difficult. Fish stocks are impacted by a number of factors and it is difficult to control for them. Although control data is not available to determine the extent that the positive outcomes are the result of co-management measures versus other factors (such as environmental conditions), technical experts consulted by IEG noted it is reasonable to assume that at least some of the change in the condition of the stock is due to the management measures.

2.68 In summary, in spite of the project management shortcomings at central level, the project made considerable progress implementing co-management measures at the local level. While not all planned activities were completed, the project succeeded in piloting a co-management system between government and communities. By project closure the communities had implemented most of the activities specified in the agreements. There is some (albeit limited) data that shows positive effects on the targeted fish stocks, in terms of catch volume and size of individuals, since communities started implementing their co-management measures, though there is insufficient information to determine the extent to which this is due to co-management initiatives versus other factors. Although the pilot communities all had some sort of tradition of managing natural resources prior to the project, they were legally prohibited from imposing restrictions or regulations. Under the 1998 fisheries code the sea is considered “national heritage” and belong to the

Senegalese People as a whole (Sarr 2012) and the State is its custodian.¹⁹ Past efforts of private citizen to impose regulations were viewed by the courts as illegal. By establishing legally backed agreements, that are signed by the Ministry the project has empowered communities with regulation rights that they did not have before. This is the first step in a longer term process of designating access rights. This model is now in the process of being institutionalized. The IEG mission was informed that based on the project experience, the government has recognized co-management as an official tool for implementing its fisheries policy. The model is being further strengthened and replicated in additional sites, with continued support of the West Africa Regional Fisheries Project. Based on the above, IEG concludes that the communities in the pilot sites are managing the exploitation of resources in a more responsible manner than prior to entering into the co-management agreement.

2.69 Achievement of this objective is rated *substantial*.

Sub-objective 2 – Assist the communities within the Recipient’s territory in achieving sustainable management of coastal and marine resources by ensuring protection of ecosystems and ecological processes critical for their replenishment

2.70 This objective was pursued by enhancing the Department of National Park’s capacity to carry out ecosystem management through the network of national parks with greater participation of local communities. The project funded two sets of activities: (i) ecosystem management activities to be carried out within and around select parks with local communities; and, (ii) national level activities aimed at strengthening the DNPs capacity for biodiversity management. The outputs of both sets of activities are discussed below followed by a combined assessment of resulting outcomes.

Outputs

Activities implemented at park sites:

2.71 The project focused on strengthening management of 10 national parks or community reserves under the DNP’s management in three coastal areas.

2.72 Biosphere Reserves. The project aimed to support the establishment of three UNESCO Biosphere Reserves, one in each pilot area. The purpose of supporting Biosphere Reserves was to consolidate existing protected areas, serve as anchor sites for ecosystem management activities and contribute to the preparation of ecosystem management plans. By project closure Biosphere Reserves designation had been completed in two of three pilot areas.²⁰ Although the project did not succeed in

¹⁹ “the right to fish in waters under Senegalese jurisdiction belongs to the State which may grant this right to physical or moral persons of Senegalese or foreign nationality. The management of fish resources is the prerogative of the State. For this purpose, the State defines a policy to protect and conserve these resources, and to ensure their sustainable use in order to preserve the marine ecosystem.”

²⁰ In the third site, the Cap-Vert Peninsula, the processes for submitting the necessary documentation to UNESCO for the Biosphere Reserve program took longer than expected due to the numerous stakeholders involved. Establishment of the Cap-Vert Biosphere Reserve was removed the project at the MTR when it became apparent that it was not feasible to complete before the end of the Project. The Implementation Completion and Results Report noted that the DNP planned to submit the application for the Cap-Vert Peninsula in April of 2013, the MAB Biosphere Reserve program

establishing the third Biosphere Reserve, it supported the management of the individual parks that were to be incorporate in that Reserve.

2.73 **Ecosystem Management Planning.** The project attempted to put in place a new mechanism to carry out ecosystem-based co-management in each pilot area, through the establishment of Ecosystem Management Committees (EMC), but was not successful. EMCs were intended to foster co-management from the multiple protected areas in each Biosphere and their respective stakeholders. The EMC was to oversee the preparation ecosystem management plans that would consolidate individual management plans of the various national parks within each biosphere reserve. Three EMCs were established but they were dropped from the project at the mid-term review. The Implementation Completion and Results Report indicates that EMCs had difficulty managing at the regional scale because they were established under the DNP and it did not have legal jurisdiction outside the park's boundaries. None of the EMCs that were created were operational beyond the project's closure.

2.74 **Local ecosystem management plans.** Following the MTR ecosystem management responsibilities were transferred from the EMC to local project sites, without regional committee oversight. By project closure, local ecosystem management plans were prepared for eight out of the ten parks receiving project support, covering the period 2009-2014. Most of the management plans were already under preparation before the Project intervened but the project facilitated their completion. IEG interviews indicate that implementation of the management plan activities was constrained by insufficient financing. The DNP indicated that some of the activities that were not completed will be transferred to a new set of plans under preparation. Coordination of the local management plans into the larger UNESCO Biosphere Reserve model was not done as had been originally envisioned due to the dissolution of the EMCs.

2.75 **Strengthening community engagement in park management.** The project funded two sets of activities with local communities aimed at building ownership of local populations in protected area management initiatives: the national Ecoguards program and Local Management Committees. The Ecoguards program was established by the government before the project intervened but was not very active. Project financing reinvigorated the program, allowing Ecoguard activities to be carried out on a regular basis. Ecoguards are volunteers who provide park maintenance and surveillance activities ranging from park surveillance and biological monitoring, to tour guide and ecolodge operations, to restoration activities. Through the Project, many of the Ecoguard groups at the pilot sites obtained legal status which provides them with access to bank accounts and loans, and the ability to receive payments for services. During the project there was an increase in the number of paid tasks that the DNP was able to offer to the Ecoguards. The IEG mission was informed that since project closure participation in the Ecoguards has dropped because the DNP does not have the operating budget to conduct these activities on a regular basis.

only accepts applications for new reserves in April of each year. The IEG mission was informed that this did not happen.

2.76 Local management committees were established or strengthened in each park. The project supported the committees with training in how to conduct meetings, paid for transportation, and maintaining a meeting space, and providing food for meetings. Equipment was also provided to aid in monitoring and park surveillance (binoculars and GPS units). Communities reported to the IEG that project funds facilitated in mobilizing people for meetings, and enabled more frequent supervision. While the equipment is still in use they noted that they are unable to conduct supervision patrols as often because they have limited means to cover the costs of gas. The IEG mission was also informed that the project financed alternative revenue generating subprojects for the local management committees in each park, this was not reported in the Implementation Completion and Results Report. IEG interviews indicate that subproject performance was mixed. In one site visited by the mission, the project funded tourist cabanas and a store that sells propane. The local management committee reported anecdotally that both activities are profitable and were still in operation. In a second site three subprojects were financed with mixed results. A small scale agriculture project failed after the first year. Construction of a restaurant was started but not completed due to procurement issues. Materials were purchased for a handicraft shop that was reported to be profitable and continues to operate. The mission was unable to obtain data on the percent of management committee operating expenses covered by subproject profits, or the number of parks in which subproject activities remain profitable.

2.77 The capacity for local management of biodiversity conservation and protected areas was also supported through the rehabilitation of infrastructure, construction of work stations and office space for park rangers, observation towers and parks operation equipment. But the Implementation Completion and Results Report indicates that this activity was impacted by financial mismanagement in the PIU. In four of the Project sites construction of buildings were either incomplete or never started by the end of the project. In addition, in one site a concrete pier, an observation tower, and a DNP patrol boat financed by the project were destroyed owing to the escalation of a conflict between the DNP and a neighboring fishing community.

National Activities

2.78 The project supported revisions to the National Biodiversity framework to help narrow the gap between the government's de facto policy of co-management and biodiversity conservation in protected areas and the top down approach emphasized in actual legislation.²¹ A Biodiversity Conservation Framework Law was drafted and

²¹ According to the project appraisal document, while the Government has promoted the establishment of community-based protected areas and aimed to increase the protected area. Actual legislation works against this goal. Current legislation emphasizes top down methods and increasing tourism. It makes no mention of biodiversity or the possible involvement of stakeholders in its co-management. Moreover, although the Department of National Parks is designated as the national biodiversity focal point in the context of Senegal's ratification of the UN Biodiversity Convention, its mandate was never adjusted to include biodiversity or co-management. The Biodiversity and Protected Area Act, was to set national biodiversity management objectives and incorporate obligations under international conventions and treaties that Senegal has signed. It would also define different types of protected areas, their objectives and management principles, adopt co-management as a driving principle and set co-management guidelines. It would also redefine the mandate of DPN, and define the mandate of the National Biodiversity Committee and its link to the DPN.

submitted to the Government for approval prior to the project's closure but as of the IEG assessment mission, in June 2014, its approval by parliament was still pending.²²

2.79 The project supported the establishment of a National Biodiversity Committee (NBC) to help Senegal meet its commitments to the Convention on Biodiversity and prepare annual State of Biodiversity Reports. The NBC was established in 2006 but by 2010 it stopped meeting and was not sustained beyond the projects closure. The Implementation Completion and Results Report indicates that it suffered from poor management and the Committee consisted of too many stakeholders to function efficiently. In addition, while the DNP served as the permanent secretary for the NBC, the committee was headed by the Agriculture and Environment advisor to the prime minister who was too busy to lead and had limited incentives to promote biodiversity conservation. The annual State of Biodiversity reports were not provided on an annual basis as planned because the DNP did not have sufficient staff or capacity in its monitoring unit.²³ Update reports were produced in 2005, 2007, and 2010. A fourth report was expected to be completed by the end of 2012, but was not done.

2.80 National Action Plans for two iconic fauna were completed as planned. A national action plan for African manatees was completed in 2008 and a national action plan for marine turtles was completed for 2012. National action plans serve as internal strategy documents within DNP to coordinated conservation efforts and monitoring of the species.

2.81 A feasibility study on the establishment of a trust fund for biodiversity conservation in Senegal was completed in April of 2007, providing suggestions and outlining next steps. But no action was taken to follow up on the studies recommendations.²⁴ By project closure a trust fund for biodiversity conservation had not been established. As of the IEG assessment mission there had been no further action on this front.

Outcomes

2.82 The key performance indicators selected for the project development objective did not explicitly asses the ecosystem management part of the objective. A single indicator was used to measure the project's global environment objective: effective management of biodiversity in the three pilot areas increased by at least 50 percent by end of project. The World Bank/WWF Protected Areas Management Effectiveness Tool was used as a proxy for measuring this indicator at appraisal. In 2009 it was replaced with the Rapid Assessment and Prioritization of Protected Area Management methodology (RAPPAM),

²² Part of the delay is attributed to the fact that a new parliament took power in July 2012. The IEG mission was informed that there is a backlog of proposed legislation awaiting approval.

²³ According to the Implementation Completion and Results Report, the DNP unit charged with monitoring was not sufficiently resourced to carry out the yearly reporting. The unit had a staff of three to cover the entire country, and from 2010 until 2012, two of the three staff members were not permanently located in Senegal. Only 25 percent of their time was dedicated to the Project and updating the State of Biodiversity reports.

²⁴ The study suggested that Senegal establish a foundation to manage a trust fund, following similar approaches of other African francophone countries.

a similar tool that gives more information for habitat and species evaluation than the tool used in 2006.²⁵

2.83 The Implementation Completion and Results Report states that the mean management effectiveness score for all project sites increased from 46 percent in 2006 to 61 percent in 2011. Falling short of the targeted increase of at least 50 percent, a final score of 69 percent would be needed to reach a 50 percent change. The Implementation Completion and Results Report also presented a table that shows disaggregated scores for the eight parks for which local management plans were prepared. It is reproduced as table 5 below. The total score for each park is presented as percentages. Individual scores are also presented, as raw numbers, for five of 15 total questions: Q9 Staffing; Q12 Funding; Q13 Management planning; Q15 Research, monitoring, and planning. There is no explanation of why these five questions were singled out.

²⁵ The project reports that this tool is designed to measure management effectiveness over time, in line with project capacity-building objectives. The methodology uses a rapid, site level assessment based on a score-card questionnaire which includes the six elements of management effectiveness identified in the international Union for Conservation of Nature / World Commission on Protected Framework: context, planning, inputs, process, outputs and outcomes. Planning includes protected area objectives, legal security, and protected area site design (questions 6–8). Inputs include staff, communication, infrastructure, and finances (questions 9–12). Processes include management planning, management practices, and research, monitoring, and evaluation (questions 13–15). It enables park managers and donors to identify needs, constraints and priority actions. The tool is used as a cost-effective proxy to determining impact.

The Rapid Assessment and Prioritization of Protected Areas Management (RAPPAM) methodology is based on the WCPA/Protected Areas Management Effectiveness (WCPA PAME) Framework. It was developed by the WWF and is designed to identify management strengths and weaknesses, analyze the scope, severity, prevalence and distribution of threats and pressures; identify areas of high ecological and social importance and vulnerability; indicate areas of urgency and conservation priority; and help develop appropriate policy interventions and follow-up actions to improve protected areas management. It is similar to the WWF/World Bank tool above but provides additional information on habitat and species evaluation. The methodology is implemented through interactive workshops with policy makers, PA managers, and relevant stakeholders.

Table 5: Select indicator results from the Rapid Assessment and Prioritization of Protected Areas Management Tracking Tool for Protected Area Sites

Area/Reserve Name	Q9 (2006)	Q9 (2011)	Q12 (2006)	Q12 (2011)	Q13 (2006)	Q13 (2011)	Q15 (2006)	Q15 (2011)	Total (2006)	Total (2011)
le Parc National des Oiseaux du Djoudj (PNOD)	6	11	15	17	13	17	9	17	56%	75%
le Parc National de la Langue de Barbarie (PNLB)	3	11	15	15	8	15	1	6	42%	63%
la Réserve Spéciale de Faune de Gueumbeul (RSFG)	3	11	11	11	8	14	5	5	43%	60%
le Parc National des Iles de la Madeleine (PNIM)	6	11	7	9	10	23	10	13	41%	58%
la Réserve Naturelle de Popenguine (RNP)	7	11	11	11	8	17	13	15	54%	64%
la Réserve Naturelle d'Intérêt Communautaire de Somone (RNICS)	3	11	7	11	8	21	9	11	38%	61%
Réserve Communautaire de Palmarin (RCP)	9	13	9	11	6	13	3	3	42%	57%
le Parc National du Delta du Saloum (PNDS)	11	13	15	11	9	10	7	7	52%	55%

The table reports results of five of the assessment's fifteen total questions. The maximum score for each question was 25. (Source: WB 2012)

2.84 The Management Effectiveness rating is insufficient for demonstrating achievement of the ecosystem part of the project objective for several reasons. First, it is unclear to what extent the projects activities are responsible for the change in the scores. The Implementation Completion and Results Report does not explicitly identify which project activities would be expected to impact the areas measured by the tracking tool. The project supported the completion of local management plans for these parks to be implemented over the 2009-2014 timeframe, but both IEG interviews and the Implementation Completion and Results Report indicate that there were insufficient funds to fully implement the activities in the plan.²⁶ In addition, it is not possible to assess if the increases in ratings have been sustained beyond the project because the assessment has not been repeated since the project's closure.

2.85 Second, the project does not define what is considered to be an acceptable threshold for management of the parks to be considered effective. Many of the individual questions were scored at the low end of possible range of points in 2011 (10 or below) and improvements were not uniformly observed across all areas. Five parks had

²⁶ The Implementation Completion and Results Report (pg.65) notes that "the difference of rate between the achievements and the targets is due to the lack of financial resources to implement the activities identified in the established management plans for these protected areas."

areas for which there was no change in score and two had areas where the score decreased over time.

2.86 More important, the IEG mission did not find any evidence that the project brought about any permanent changes in the DNP's capacity to manage its parks. Anecdotal reports suggest that the project funds provided a temporary boost in the DNPs and local communities' capacity to manage the parks but few activities have been sustained beyond the project's closure. Interviews with Implementing Agency staff indicate that the project did not bring any new tools to the DNP, rather it facilitated implementation of tools that were already available but for which the DNP lacked funds to implement. They noted that DNP had conducted similar activities in the past with the support of other donors. However, a key difference was that the GIRMAC carried out activities on a larger scale and focused on the entire ecosystem. Since project funds are no longer available the tools promoted under the project are no longer being implemented to the same extent. Implementing agency staff noted, "We still have tools that GIRMAC introduced but don't have the money to use them." Local Management Committees reported that since the project's closure they lack funds to carry out surveillance on a regular basis. In addition national level activities were not completed that were critical for enhancing the enabling environment and the DNPs long term capacity for biodiversity management. The Biodiversity Framework Law which aimed to bring legislation in line with the DNPs de facto shift in objective from maximizing tourism revenue for the State to biodiversity conservation via co-management, has not been approved. Strengthening the DNPs capacity for biodiversity monitoring was not achieved and a trust fund to contribute to long term funding needs was not created.

2.87 Achievement of this objective is rated *modest*.

Efficiency

2.88 There are two elements of the efficiency assessment: (1) traditional measures of efficiency (such as net present value, economic rate of return, cost effectiveness, unit rate norms, service standards, least cost analysis and comparisons, and financial rate of return); and, (2) aspects of design and implementation that either contributed to or reduced efficiency.

2.89 The analysis of efficiency by the project team was based on a descriptive cost-benefit analysis. At appraisal an ERR/IRR was not calculated instead the project appraisal document presented a description of the likely costs and benefits as its economic analysis. Three potential economic benefits were identified: (i) increase in fisheries rents some years after the project implementation as a consequence of stock recovery and reduced fishing effort, (ii) increased recreational/ecotourism rent, and (iii) better preservation of marine and bird biodiversity. A proxy for the benefits of biodiversity conservation in the three Biosphere Reserves arising from the project was the likely additional payments made from the international community to the Senegalese network of protected areas. The PAD was candid in noting that weaknesses in available data limited the ability to make ex-ante estimates of benefits. Further effort would be needed during project implementation to collect data and monitor the impact of the project on the short term opportunity cost for local population, the biophysical

relationship between better protection of nursery ground and stock recovery and the amount of rent generated by well regulated fisheries. Despite data limitations, it was assumed that the likely benefits generated by the project would outweigh the costs of the project as well as the opportunity costs of implementing co-management measures, the foregone revenue necessary to reduce fishing effort. The opportunity cost to fishers was considered to be low because total yield and production had been in decline and was expected to continue to decline in the absence of intervention.

2.90 At project closure, the project team repeated the cost benefit approach used at appraisal and concluded that the economic benefits generated by the project exceeded its costs, but there are a number of weaknesses in their assumptions and calculations. The costs of implementing the project were US\$13.25 million (80 percent of the appraisal cost estimate). No data was available on opportunity costs related to fisheries management but this was assumed to be low since rent from fishery had dissipated as a result of the overexploited status of the resource. Fisheries benefits were demonstrated in each of the four pilot sites in terms of increases in catch per unit effort and the size of individuals. Ecotourism benefits were based on the additional number of visitors over time and the economic rent captured from the additional visitors. The project calculated that approximately 44,172 additional Eco tourists visited the parks and reserves receiving project support, generating US\$ 96,532 in additional revenue during the project implementation period (2006-2010). IEG questions the plausibility that project activities were responsible for the increase in tourist visits. The selection of a tourist destination can be influenced by a host of different factors, such as changes in the consumer's disposable income, increased awareness of the site, ease of access, or the relative appeal of alternative options (which can be affected as much by negative factors alternatives as positive factors of the destination selected). Counting the entire additional tourist revenue as a project generated benefit is tenuous without evidence to show that the increase in tourist visits is the result of the project having improved conditions at the site.

2.91 Benefits were also assumed to have accrued from better preservation of marine and bird biodiversity. This assumption as based on the increase in the score for the rate of effectiveness of management in all three targeted zones and the increased score for the rate of participatory involvement of local communities in the management of biodiversity. However, as noted in the discussion of the achievement of objectives, it is unclear to what extent project activities are responsible for the increase in the management effectiveness score, and it is likely that the management effectiveness has dropped since project closure as there are insufficient funds to continue implementing many activities. The proxy for this benefit identified in the project appraisal document was the likely additional payments made from the international community to the Senegalese network of protected areas. No evidence is provided in the implementation completion and results report to indicate that additional payments from the international community have materialized. Finally, the cost assessment does not take into account recurrent costs. The project appraisal document noted that both co-management and biosphere reserves would incur recurrent costs. The recurrent costs for area based co-management was expected to be met by higher fisheries incomes expected to accrue once stocks recovered. Recurrent costs of Biosphere Reserves could potentially be met by setting up a trust fund, but it was noted that in the absence of a sizeable endowment it would not be sufficient to cover all recurrent costs. It was suggested that greater attention

would need to be paid to capturing tourism rents to offset the remaining costs. Neither of the suggested measures to meet the recurrent cost of Biosphere Reserves have been implemented. A trust fund was not established and there is no evidence that any efforts were made to enhance the capture of tourism rents.

2.92 A second dimension of the assessment of project efficiency is an analysis of project management efficiencies. The project incurred a host of inefficiencies in this area. The project's original institutional arrangements generated a higher cost than anticipated without the intended coordination benefits. The project coordination unit absorbed much of the project's resources in the first half of project implementation and, as noted in para 2.34, prior to the mid-term review disbursements for project management component while disbursements for the technical components was behind schedule, and results on the ground were minimal. PCU expenditures went over budget and consisted mostly of workshops and staff allowances. Some project activities were also more costly than anticipated, though this was a consequence of poor budget estimates as opposed to true cost overruns. Dual procurement procedures and centralized administrative clearances caused significant implementation disruptions, culminating in two years being added to the project closure date. Contracting delays resulted in some activities not being complete by closure. Some activities were started and then dropped. In addition, ineligible expenses were incurred by the PCU and both implementing agencies that had to be returned to the Bank, representing a waste of project resources.

2.93 Overall efficiency is assessed as *negligible*.

Ratings

OUTCOME

2.94 The project outcome is rated unsatisfactory.²⁷ This is based on high relevance of objectives; modest relevance of design; substantial achievement of the objective to ensure sustainable exploitation of coastal and marine resources, the modest achievement of the objective to ensure protection of ecosystems and ecological processes critical for the replenishment of marine resources and negligible efficiency.

RISK TO DEVELOPMENT OUTCOME

2.95 There are several risks to project gains.

2.96 With respect to fisheries management, the surveillance and enforcement capacity in the co-management pilots needs to be strengthened. The mission found that there is sufficient capacity to enforce co-management regulations within the pilot communities but greater capacity is needed to address compliance by outsiders. Co-management communities do not have the right to enforce or sanction offenders. When violations of co-management regulations occur communities can inform the offender of the violation but only the local DPM agent has the authority to issue sanctions. The DPM is

²⁷ According to the OPCS/IEG harmonized rating criteria, a project is rated unsatisfactory when there are a major shortcomings in any one of the following three categories: relevance, achievement of objectives, or efficiency.

understaffed, however. In most sites there is only one agent. Some of the community surveillance committees and local DPM staff reported to the IEG mission that they are often outrun by fishers from outside of their community who have boats with higher powered engines. There have been cases when confrontations with illegal fishers has become violent and CLP members have been injured. The Implementation Completion and Results Report notes that law enforcement and prosecution of offenders by the DPM is weak and inconsistently applied across the country. This is an area that needs more attention going forward.

2.97 More attention is also needed to find ways to meet the operating expenses of implementing co-management. Alternative revenue generating activities are covering some costs but communities reported to the IEG mission that the revenue is insufficient to cover all the costs. Under the ongoing West Africa Regional Fisheries Program there are plans to carry out study to get a more accurate assessment of operational costs required. Once that is achieved the project will also need to ensure that implementation of revenue generating activities receives sufficient attention.

2.98 Finally, for the model to become truly sustainable, there is a need to address the fundamental constraint of open access to the resources. Going forward the legal and institutional framework will need to provide local users and associations not just the authority to manage and regulate the targeted fisheries but also to limit access. Without control of access to the fishing grounds, the success achieved through improved management, improved fisheries and higher catches, will only attract more fishers from neighboring waters and overall exploitation will increase. Communities expressed concern over this in a number of pilot sites. Creating and allocating the right to manage targeted fisheries under this project was a first step. Allocation of access rights is the next step for progress to be maintained. The revised Fisheries Code will provide legal backing for this to happen but is still pending approval of parliament. In the long run a wider regional approach is needed for sustainable impact. The ongoing West Africa Regional Fisheries Program is supporting.

2.99 The gains from the ecosystem management activities have not been sustained beyond the project's closure, due to insufficient funding.

2.100 The risk to development outcome is rated *high*.

BANK PERFORMANCE

QUALITY AT ENTRY

2.101 The project was prepared by a team of experienced staff with both environment and fisheries sector expertise and its technical design was sound. Design was underpinned by analytical work and drew lessons from best practices examples in the sector and similar Bank-funded operations involving community-based management of fisheries resources. Project preparation carried out with active government engagement and broad based consultation with fishing communities, NGOs and other donors. But a stronger institutional analysis at preparation was needed to ensure ownership and commitment at the highest levels of Government. The Implementation Completion and

Results Report notes that the Bank underestimated the cooperation needed from the Ministries to establish functional institutional arrangements.

2.102 There was mixed performance in the identification of risks. Most key risks to community level fisheries activities were identified and adequately mitigated. But the risk that collaboration with the Social Investment fund would not materialize was overlooked. Other key risks were not identified, such as the risk of ministerial interference in project activities, poor management of PCU, and ineffective coordination between ministries. The Implementation Completion and Results Report notes that the project team initially considered two PCUs but this was opposed by procurement unit within the World Bank.

2.103 Project design was overambitious given the project's timeframe, the complexity of the issues addressed, and the capacity of the implementing. The Implementation Completion and Results Report notes that the Bank underestimated the time to induce behavior change in ministries, the political economy challenges of shifting the Ministry of Environment from top down to participatory, and the time and resources required to accomplish the objectives. In addition the successful implementation of project activities required operating budgets and resources which the implementing agencies did not have and which the project's limited resources could not provide. Targets were unrealistic and more attention was needed to establish a functional monitoring and evaluation system.

2.104 **Quality at entry** is rated *moderately unsatisfactory*.

QUALITY OF SUPERVISION

2.105 Efforts were made during supervision to address some of the quality at entry shortcomings, respond to implementation problems, and make appropriate transition arrangements to transfer activities that were not completed to another project. Supervision missions were conducted at regular intervals throughout implementation. The project was restructured to revise the poorly functioning institutional arrangements and reset targets to a more realistic level but it was carried out late. Supervision reports indicate that the Bank team identified problems with the project's institutional arrangements and proposed dissolution of the PCU within six months of project start-up but the idea was initially opposed by the Ministry of Environment and Natural Resources. In the end the project was four years into implementation with little results on the ground before reaching an agreement to restructure. The Bank team was proactive in taking advantage of additional GEF funds that became available in 2006 to strengthen the project's fisheries management activities by designing a complementary project that was implemented in parallel. The new project supported the co-management pilot communities with alternative revenue activities and marketing of fisheries products, and put in place a fund to compensate for negative impacts caused by the introduction of resource management measures when the arrangement for another Bank project to administer this fund for GIRMAC did not work out as planned (see para. 2.43). This was critical for meeting the social safeguards policies. At the end of the project the team arranged to transfer the fisheries management activities that were not completed to the World Bank Financed West Africa Regional Fisheries Program. The team was also proactive in collecting additional outcome data for the fisheries management activities, beyond what the indicators called for and in spite of the weak M&E system.

2.106 However, there were also several supervision shortcomings. The Implementation Completion and Results Report indicates that while the resources and skills mix during the project preparation phase were adequate, resources were lacking for supervision to properly monitor progress after project restructuring, particularly for the ecosystem management activities. The supervision team had adequate skills to provide technical input for fisheries management when needed and a fisheries specialist on the team was based in the country office which aided in follow up. But the team lacked sufficient expertise to adequately address ecosystems and biodiversity conservation issues. Supervision reports also indicate that safeguards specialists were not always part of the mission teams. Fiduciary supervision was effective but was late in identifying the issues. The Bank team issued firm recommendations for financial management issues that arose and was diligent in following them up. But there were lags in reporting fiduciary management issues in supervision reports because the fiduciary review missions were not carried out at the same time as Bank supervision missions. There was also a need for greater attention and follow-up to M&E. The Implementation Completion and Results Report notes that “the respective Ministries never conducted the work necessary to sufficiently monitor and evaluate project progress, despite multiple Aide Memoires recording agreement to do so.” Finally, the Implementation Completion and Results Report indicates that there was scope for Bank Management to provide greater support to the project team. The report notes that supervision resources were modest for such a complex operation that was also a GEF blended project. It also notes that the mission teams could have received more guidance from management in handling some of the more difficult issues of coordination and collaboration between the ministries. Moreover, maintaining Government commitment through turnover in the ministries required a higher level policy dialogue in the context of poverty alleviation strategies and sector reviews.

2.107 **Quality of Supervision** is rated *moderately unsatisfactory*.

2.108 **Overall Bank Performance** is rated *moderately unsatisfactory*, based on moderately unsatisfactory quality of entry and moderately unsatisfactory supervision.

BORROWER PERFORMANCE

GOVERNMENT PERFORMANCE

2.109 Government commitment to the project was initially high as demonstrated by active participation in project preparation but weakened over the course of implementation. The project was prepared with full support of both Ministry of Fisheries and the Ministry of Environment. The Ministry of fisheries took a lead role in mobilizing donors around a common agenda during project preparation. Positive aspects of Government commitment were its updating of the Letter of Sector Policy in 2008, and revisions to national legislation (Fisheries Law and the Biodiversity Framework Law) that were submitted to parliament for approval in a timely manner. The government also attempt to salvage the project by formally requesting dissolution of the PCU. Government performance in terms of ensuring positive performance of national coordination bodies to support the project was mixed. The government was slow to establish functional steering committees and there was a decline in government

commitment to maintaining committee's structure and supporting their mandate. The National Biodiversity Committee, which had oversight of biodiversity monitoring and reporting the U.N. Convention on Biological Diversity, was not effective and played a passive role in promoting biodiversity monitoring called for by the project. The Operational Coordination Committee (OCC) played an important role in coordinating with the Ministry of Environment on the transmission of the Biodiversity and Protected Areas Act to parliament for approval. In addition, project implementation was adversely affected by the high turnover of ministers and interference in project activities. Government commitment improved somewhat in the last year of the project, when a newly elected Government promptly took action and removed the second Project Coordinator from the Como-Peche following allegations of misappropriation of project funds.

2.110 **Government performance** is rated *moderately unsatisfactory*.

IMPLEMENTING AGENCY PERFORMANCE

2.111 This section assesses the performance of the original project coordination unit as well as the two technical implementing units in the Department of Fisheries Management (within the Ministry of Fisheries) and the Department of National Parks (within the Ministry of Environment). At preparation, the project coordination unit within the Ministry of Environment, actively engaged in the preparation of the Project. It organized a national workshop in April 2003 to outline a management plan for fisheries and the selection of project activities and held public hearings to consult stakeholders at the three project areas with regards to environmental safeguards. However, project files indicate that as project implementation progressed, the PCU's location within the Ministry of Environment exposed it to pressure and interference and seriously affected its ability to implement the project activities effectively. Project management suffered from noncompliance with project procedures with regards to use of project vehicle and fuel, the PCU interfered with technical decisions made by the Ministry of Fisheries, key consultancies were derailed, and ineligible expenditures were incurred.

2.112 The technical implementation units' performance was satisfactory in terms of setting up appropriate support for the implementation of local level activities but was unsatisfactory at the Central level. The implementing agencies successfully employed consultation and negotiations methods and recruited qualified and experienced individuals to work with communities as facilitators, co-management experts, national parks personnel, and technical consultants. However, performance at the central level was weak. While project restructuring improved the technical implementation units' performance in terms of increasing ownership of their respective components, the capacity of each agency to manage the range of monitoring and follow-up activities across multiple project sites was limited. With the dissolution of the PCU, project coordination and monitoring activities were to be continued through the two technical implementing agencies. But these were carried out sporadically by both agencies and as a result there was insufficient data that made it difficult to assess consistently final results. The Implementation Completion and Results Report indicates that there was a lack of commitment to M&E and annual reporting of progress in general. Procurement activities were significantly behind schedule throughout implementation and the process of

clearances was slow. As a result of these implementation delays several tasks were unfinished before project closure. Project management performance for the fisheries component also deteriorated in the final year of implementation when the coordinator in the COMO-Peche refusal to implement project activities or communicate with the Bank. Finally, financial management performance of all three implementing entities was weak.

2.113 **Implementing Agency** performance is rated *unsatisfactory*.

2.114 **Overall Borrower Performance** is rated *unsatisfactory*. Based on the moderately unsatisfactory government performance and the unsatisfactory implementing agency performance.²⁸

MONITORING AND EVALUATION

2.115 Provisions for project M&E were included in project design under Component 3, and M&E procedures were spelled out in the Project Implementation manual. The PCU prepared the original monitoring plan based on a system that was already in use by the various agencies involved with the project. The M&E plan called for quarterly monitoring reports and annual progress reports. The technical implementing units were responsible for tracking implementation progress and project milestones for their respective components, and relaying this information to the PCU through Quarterly Progress Reports. The PCU was responsible for overall M&E, monitoring inputs from the technical units, compiling the annual progress reports and conducting annual workshops with key stakeholders.

2.116 Performance indicators (both key performance and intermediate outcome indicators) were identified at appraisal but some were difficult to implement because they were either difficult to measure within the project time period or insufficient data was available to provide a viable baseline. Some of the targets were also unrealistic. New indicators were established at the MTR, which were considered to be more measurable and focused on what could realistically be achieved in the project time frame. The associated key indicator for the GEO was also reformulated. However, the revised indicators are not sufficiently outcome oriented to demonstrate achievement of the project's objectives and the proxy's measured for the GEO are not clearly linked to the activities that the project funded.

2.117 M&E implementation was weak. After the PCU was dissolved, responsibility for maintaining the M&E system was transferred to two separate technical agencies, both of which lacked qualified staff, and M&E oversight for the project as a whole was lost. The Implementation Completion and Results Report indicates that "the respective Ministries never conducted the work necessary to sufficiently monitor and evaluate project progress, despite multiple Aide Memoires recording agreements to do so." Data was not collected on a regular basis and trimestral and annual progress reports were not submitted. Follow up of community level monitoring was piecemeal. The Center for Oceanography

²⁸ In accordance with the IEG/OPCS harmonized rating criteria, when one dimension of Borrower Performance is moderately unsatisfactory and one is fully unsatisfactory, the overall borrower performance rating is the lower of the two.

Research of Dakar (CRODT) was contracted to carry out participatory monitoring with communities to enhance their capacity for monitoring the impacts of co-management measures. CRODT began work on biological monitoring with the local fisher committees but there was insufficient follow up by the implementing agency to ensure that a participatory approach was followed as intended or that the data collected was validated. The Implementation Completion and Results Report indicates that the data collected by the local fisher committees was of limited use for project management decisions and evaluating the final impact of the project because it was not validated or aggregated at the central level.

2.118 The Quality of Monitoring and Evaluation is rated *negligible*.

3. Sustainable Management of Fish Resources Project

3.1 In 2006, additional funds became available through the GEF Strategic Partnership for Fisheries in Africa. At that time the GIRMAC pilots for local management of fisheries were already showing strong community ownership and demand. The Bank team took advantage of this opportunity to design a new project as a complement to the ongoing GIRMAC project, the Sustainable Management of Fisheries Resources Project (GDRH). The GDRH Project aimed to deepen support for the co-management model and replicate it in neighboring communities.

OBJECTIVES

3.2 This was a fully blended GEF / IDA financed project. It had a single combined development objective and global environment objective.

3.3 The project objectives stated in both the IDA Credit Agreement (pg. 6) and the GEF Grant Agreement (pg. 7) were: "to empower the communities to reduce fishing pressure on the fish stocks supporting the central coastal fisheries of Senegal (from the Cape Vert peninsula to the Saloum River delta)."

3.4 A similar statement of objectives is presented in the Project Appraisal Document (pg. 7): "(t)he combined development objective/global objective of the project is to empower communities to reduce fishing pressure on the fish stocks supporting the central coastal fisheries of Senegal (from the Cap Vert Peninsula to the Saloum River Delta), by (i) promoting co-management of the coastal fisheries, (ii) contributing to the rehabilitation of the essential ecosystems for the coastal fisheries, and (iii) supporting alternative livelihoods and accompanying poverty reduction measures in targeted poor fishing communities."

3.5 This review uses the formulation of objectives in the lending agreement as the basis of assessment as that is the legally binding document.

3.6 The key performance indicators for the project were:

• An increase in the average size of fish caught for targeted species in co-management sites;
• A reduction in the level of fishing effort for targeted species in co-management sites;
• Eight new co-management sub-project proposals are approved as legal agreements with the Government and successfully implemented by end-of-project (EOP);
• 70 percent of community members surveyed in participating communities are satisfied with project activities to rehabilitate coastal fish stocks (Zone de Pêches Protégées (ZPPs), artificial reefs, ecolabelling);
• Each community targeted by the project has access to a system of micro-credit, and project-supported poverty reduction measures are implemented in at least the four

3.7 The project objective key performance indicators remained the same throughout the project timeframe.

RELEVANCE OF THE OBJECTIVES

3.8 The objectives of the project were and continue to be highly relevant to country conditions and the sector priorities set forth in Senegal's government strategy documents and the World Bank's country partnership strategies.

3.9 As with the GIRMAC project, this project's objectives support the need to shift the approach towards the sector from a focus on sector development to the sustainable management of fish resources, as identified in the 2001 Strategy for Sustainable Fisheries and Aquaculture. The objectives also support the Government's 2008 Letter of Sector Policy which calls for the sustainable management of fish resources through collaborative or co-management for the coastal fisheries. The project's objectives are also relevant to helping Senegal meet its commitments to The United Nations Convention on the Law of the Sea.

3.10 The project objectives are aligned with the growth and wealth creation pillar in the World Bank's Country Assistance Strategy for Senegal in place at project appraisal (2007-2010). This pillar explicitly identifies addressing the unregulated access to fisheries by artisanal sector as a means to promote sustainable development and management of natural resources. Improved sustainable management of fishery resources is a key outcome expected under the pillar for Accelerating Growth and Generating Employment in the more recent FY2013-2017 Country Partnership Strategy.

3.11 Relevance of objectives is rated *high*.

DESIGN

Components

3.12 The project had the following four components and subcomponents:

3.13 **Component 1: Co-management of Coastal Fisheries** (appraisal estimate US\$ 2.8 million, actual costs US\$ 0.71 million)

- **Subcomponent 1 - Promotion of Local Co-Management Initiatives in the 4 initial Pilot Sites.** This sub-component would continue to support co-management in the four initial pilot sites to identify and formulate additional management measures, local level monitoring control and surveillance to ensure compliance with measures included in co-management agreements, and participatory monitoring of fish catches.
- **Subcomponent 2 - Consolidation and Strengthening of Coastal Fisheries Co-management.** This sub-component supports replication of co-management initiatives to neighboring communities. This includes confirmation of the pre-selection of the eight project sites, and awareness-raising with their communities in order to replicate the co-management model tested in the four initial Pilot Sites. This includes appointment of facilitators, establishment of Local Fishers' Committees (CLPs) and Local Artisanal Fishers' Councils (CLPAs) and provision of support for the identification, formulation, implementation and evaluation of CLP subprojects.
- **Subcomponent 3 - Institutional Support for a System of Local Fisheries Governance.** This sub-component would strengthen the capacity for consultation and decision-making mechanisms between different participatory communities to move away from individual co-management plans to larger multi-community agreements around a shared fishery.

3.14 **Component 2: Rehabilitation of Ecosystems Essential for Coastal Fisheries** (appraisal estimate US\$ 2.8 million, actual costs US\$ 0.48 million). This component supported the rehabilitation of ecosystems essential to the coastal fisheries.

3.15 This includes establishing Co-Managed Protected Fishing Zones (ZPPs) and artificial reefs to help regenerate the natural resources; registering small-scale vessels and in pilot cases introducing access rights; and, by creating market mechanisms to encourage sustainable management of the ecosystems. It included the following four sub-components:

- **Subcomponent one – Protected Fishing Zones (ZPPs).** This subcomponent supports the establishment of Co-Managed Protected Fishing Zones (ZPPs) to protect critical habitats, nursery areas and spawning grounds for coastal demersal species. This includes identification and designation of the ZPPs; carrying out awareness campaigns on the management and benefits of ZPPs; building capacity of stakeholders for the co-management of the ZPPs; and conducting baseline evaluations of sites and assessments of fish resources and fishing practices. Preparation and implementation of management plans for ZPPs. Feasibility studies on sustainable financing mechanisms for ZPPs. Capacity-building activities aimed at strengthening the capacity of stakeholders and decision makers to replicate ZPPs. Development of standards and instruments for monitoring, evaluation and surveillance of the ZPPs.

- **Subcomponent two - Artificial Reefs.** This sub-component supports the immersion of artificial reefs in targeted project areas to help regenerate the fisheries resource. Activities to be financed included feasibility studies for the selection of sites for immersion of artificial reefs and based on the findings of such studies and their inclusion in the Co- Management Agreements of the ZPP Management Plans, immersion and management of the artificial reefs in the ZPPs. Provision of technical assistance to the Ministry in charge of fisheries for implementation of the national artificial reef immersion program. Conducting feasibility studies on sustainable financing mechanisms for artificial reefs. Strengthening community-based management of artificial reefs through the development and implementation of management and surveillance plans. Development and implementation of protocols and instruments for participatory monitoring and evaluation of artificial reefs.
- **Subcomponent three - Introduction of Access Rights and Associated Management Instruments.** This sub-component would test the creation and allocation of access rights to areas and resources in appropriate sites such as the ZPPs. At the larger scale the sub-component would provide continued support to the registration of small scale fishing vessels as a necessary basis for management and development of access rights, through the Government's National Registration Program.
- **Subcomponent four - Market Incentives for Sustainable Management for Targeted Fisheries.** This sub-component would create the necessary conditions for eco-certification of one co-managed coastal fishery, according to the criteria of the Marine Stewardship Council, the internationally recognized sustainable fisheries certification body. This includes validation and pre-evaluation of selected fisheries; carrying out of a study on the prerequisites for access to eco certification markets; implementation, monitoring and coordination of action plans for eco-certification of targeted fisheries and restructuring of the sector; and certification and promotion of the targeted fisheries.

3.16 **Component 3: Poverty Alleviation Measures for Fishing Communities and Alternative Livelihoods for Fishers, Fish Processors, and Fish transporters**

(appraisal estimate US\$ 4.03 million, actual costs US\$ 0.85 million) This component supported activities to offset negative socio-economic impacts for targeted fishing communities resulting from co-management initiatives or management plans (including the introduction of instruments such as ZPPs, artificial reefs, eco-labels, etc.). It included the following sub-components:

- **Subcomponent one - Poverty Alleviation Initiatives in Project-Targeted Communities.** Piloting of initiatives designed to alleviate and reduce poverty in targeted fishing communities and compensation for the negative impacts caused by local co-management initiatives or initiatives for rehabilitation of ecosystems, through the provision of sub-grants to targeted fishing communities to develop activities to increase revenues by improving the quality of fish products. Sub-grants to members of the targeted fishing communities for development activities designed to expand alternative income-generating activities. Provision of Micro-

Credits to women, through the Micro-Finance Institution, aimed at encouraging small business development and expanded local product development.

- **Subcomponent Two- Support for Alternative Livelihoods to Fishing for Fishers, Fish Processors and Fish transporters.** This included: (i) The provision of Micro-Credits through the Micro-Finance Institution, to develop activities to support fishers, women fish processors and fish transporters in finding alternative income-generating activities outside the fishing sector, including provision of training and technical support in identifying and implementing such activities. (ii) Provision of technical assistance through the Technical Support Institution aimed at developing basic skills and small business management training for the Micro-Credit Beneficiaries. (iii) Carrying out of a program of activities through the Technical Support Institution aimed at providing on-going support to the Micro-Credit Beneficiaries, including support on organization skills, life-management skills and conflict management skills.

3.17 **Component 4: Institutional Strengthening for Fisheries Management, Project Management and Monitoring and Evaluation** (appraisal estimate US\$ 1.03 million, actual costs US\$ 0.80 million). This component financed activities to support the Ministry of Maritime Economy with project management and implementation and activities to monitor and evaluate results. It included the following sub-components:

- **Subcomponent one - Development of a marine fisheries code and support for implementation of the national fisheries management plans.** This includes support for technical assistance and consultations for Government to develop a new Fisheries Code to be passed into Law by the end of the project.
- **Subcomponent two - Project Management, Monitoring and Evaluation.** Provision of goods, technical assistance and allocation for operating costs to the DPM, and carrying out of works, for Project coordination and management, monitoring and evaluation of the Project.
- **Subcomponent three - Replication of Project Activities at the Sub-Regional and Regional Level.** Provision of technical assistance to support the replication at the regional and sub-regional level of Project activities.

IMPLEMENTATION ARRANGEMENTS

3.18 The Directorate of Marine Fisheries, within the Ministry of Maritime Economy, was responsible for overall project implementation. The project implementation unit already charged with implementing the fisheries management component under the GIRMAC project (the COMO-Peche) was expanded to implement both projects together.²⁹ The Como-peche was assisted by community level facilitators for implementation of co-management activities. The World Wildlife Fund was recruited to

²⁹ The PIU also managed the Senegal component of the World Bank financed West Africa Regional Fisheries Program, approved by the Board in 2010.

implement the ZPPs, artificial reefs, access rights and eco-labelling activities under component two. A Micro-Finance Institution and a Technical Support Institution were hired for implementation of The Alternative Livelihoods to Fishing and Poverty Reduction Fund under component three.

RELEVANCE OF DESIGN

3.19 Designed as a complement to the GIRMAC project's fisheries management activities, the GDHR project was prepared to deepen the co-management pilot experience and scale it up to additional communities. The project's objectives were clearly stated in a single combined development objective and global environment objective: *to empower communities to reduce fishing pressure on the fish stocks supporting the central coastal fisheries of Senegal.*

3.20 The link between the various activities supported by the project components and the project objectives was clear. Pressure on fish stocks would be reduced through multiple measures. The co-management model would be expanded to eight neighboring communities, and the impact of individual co-management agreements would be leveraged by expanding their geographic coverage through the preparation of consolidated local fisheries management covering multiple co-management sites in a given area. Communities in all co-management sites (4 original and 8 new) would be supported with measures to replenish fisheries stocks by piloting new tools to protect critical ecosystems within their co-management zones. Alternative livelihoods subprojects and a microcredit fund would generate revenue to support the operating costs of co-management, and encourage greater compliance with co-management measures by compensating for any negative socio-economic impacts incurred due to co-management restrictions, and encourage fishers to obtain skills to pursue alternative employment. In addition the project would contribute to completion of the national registry of small fishing vessels as a first step to limiting the number of artisanal fishing boats.

3.21 A key shortcoming in the project's design was its three-year timeframe. The design and scope of project activities were overly ambitious for such a short timeline and should have been reduced to a more realistic level. This was a significant shortcoming given that the GIRMAC experience had already shown that endorsement of co-management takes longer than originally envisaged.³⁰ It was unlikely that the project activities would be implemented within the planned timeframe given that the difficulties in meeting the dual procurement procedures, which were already affecting the GIRMAC project, had not been solved. Finally, the meeting the project's objective would require sustained longer term support.

3.22 **Relevance of design** is rated *modest*.

³⁰ The GIRMAC project planned to implement co-management agreements within the first 18 months. The community proposals were prepared in the first year but it took close to two years for sub-projects to be approved through the administrative procedures of the Government and the Bank.

Implementation

Changes to the timing and scope of activities

3.23 The projects objectives, key performance indicators and components remained unchanged throughout implementation. The project was approved in December 2008, became effective in November 2009, and was originally scheduled to close March 31, 2011. During implementation the project timeframe proved to be overambitious and an 18 month extension to the original closing date was considered to give the project time to reach its PDO. However, project files indicate that as of August 2011 implementation progress slowed considerably, coming to a virtual standstill by December 2011, due to an impasse between the project coordinator and the Bank over unacceptable clauses in a contract for consultants in the PCU. The coordinator eventually stopped communicating with the Bank team, consequently the mid-term review, scheduled for November 2011, was not carried out and the 18 month extension that had been envisaged was no longer possible. Ultimately the original closing date was extended by three months to allow for completion of ongoing contracts for community facilitators and the technical assistance firms implementing the ecosystem management activities and alternative livelihoods fund. The extension was also used to ensure that adequate transition arrangements were in place to transfer some of the activities that were not completed to the World Bank Financed West Africa Regional Fisheries Program.

Planned versus Actual Disbursements

3.24 Total project costs estimated at appraisal were US\$10.85 million. At completion actual costs were US\$ 2.84 million, an underrun of 76 percent. Costs by component are shown below in table 6.

3.25 The project was expected to be financed by a US\$3.5 million IDA credit, US\$6.0 million GEF grant and US\$1.53 million counterpart contribution from the Government of Senegal. At closure US \$ 0.76 million of the IDA credit and US \$ 2.07 million of the GEF grant disbursed. US\$.07 million of the counterpart commitment was disbursed.³¹ US\$ 2.79 million of the IDA credit and US\$ 3.93 million of the GEF grant were cancelled. The unused funds were canceled or reallocated to other projects within the portfolio.

³¹ As with the GIRMAC project, IEG could not find any information in the project documents on why the full amount of the government counterpart commitment did not disburse. Financial management staff in the implementing agency informed IEG that this was in part due delays in budget disbursement in the initial years of project implementation, coupled with Government budget rules that do not allow for budget to be allocated retroactively.

Table 6: Project Cost by Component (in USD million equivalent)			
<i>Components</i>	<i>Appraisal Estimate (USD millions)</i>	<i>Actual/Latest Estimate (USD millions)</i>	<i>Percentage of Appraisal</i>
Project Component 1: Co-management	2.8	0.71	25%
Project Component 2: Rehabilitation of Ecosystems	2.8	0.48	17%
Project Component 3: Alternative livelihoods and Accompanying Social Measures	4.03	0.85	21%
Project Component 4: Institutional Strengthening	1.03	0.80	78%
Total project costs	10.85*	2.84	26%

Source: World Bank 2013.

*total includes .19 in contingencies.

Table 7: Project Financing by Source (in USD million equivalent)			
<i>Source of Funds</i>	<i>Appraisal Estimate (USD millions)</i>	<i>Actual/Latest Estimate (USD millions)</i>	<i>Percentage of Appraisal</i>
IDA	3.50	0.76	22
Global Environment Facility (GEF)	6.00	2.07	35
Government of Senegal	1.35	0.07	52
Total:	10.85	2.84	26

Source: World Bank 2013

Implementation Experience

3.26 Project implementation was hampered by the following factors:

3.27 **The centralized procurement processes and weak procurement capacity in the implementing agency delayed the implementation of several activities.**

Procurement delays had a considerable impact on the implementation of component two and three. Project files indicate that processing of key contracts for ecosystem rehabilitation and alternative livelihoods was particularly protracted due to non-compliance with the country's Procurement Code. It took one year for the contracts to reach the signature stage, at which point both were cancelled by the national procurement agency because the implementing agency missed a step in country procurement procedure. Re-launching the contracting process added an additional 8 months to the process. The activities in both components were not completed by the end of project.

3.28 Weaknesses in the budgeting and quality control function of centralized procurement impacted income generating subprojects. In Betenty, the budget for an ecotourism subproject was underestimated. The higher cost of transporting materials to the remote project site was not taken into account. As a result the budget was insufficient to cover the full construction costs. Materials were procured that were not appropriate for environmental conditions at the site. The bungalows that were constructed were in dire need of repair by the time of the IEG assessment mission. In Foundiougne the IEG mission was informed that the initial inventory procured for the housewares store established to compensate women for revenue from activities prohibited by the co-management measures, was purchased as a cost that is higher than what it could sell for on the local market. The Bank subsequently agreed to allow the women to purchase their own inventory directly. The IEG mission was also informed that the project's financial procedures have created difficulties in the reimbursement of expenditures from the more remote sites. The communities noted that they are required to travel to Dakar in order to be reimbursed for expenses incurred from hosting management meetings. This was reported to be a problem for the communities located in estuaries where the remote location adds time and cost to the reimbursement process. Implementing agency staff also informed the IEG mission that the operating costs of co-management is higher in estuary sites than in the coastal sites, because the population that needs to be mobilized for co management meetings and surveillance is spread over a larger area. Going forward, there is a need to consider revising the budget allocated for operating expenses depending on the location of the co-management site.

3.29 Project mismanagement at the central level. As noted above implementation problems arose in the final year of the project due to a disagreement between Bank and Project Coordinator over unacceptable clauses in consultant contracts in the PCU.

ENVIRONMENTAL AND SOCIAL IMPACTS

3.30 The Project was classified as "Category B" under the World Bank's Environmental and Social Safeguards. The following safeguards policies were triggered at appraisal: OP 4.01 Environmental Assessment, 4.04 Natural Habitats and 4.12 Involuntary Resettlement.

3.31 The project built upon the Environmental Management Framework prepared for the GIRMAC project. An Environmental Assessment (EA) was also conducted to identify safeguards that could be triggered by new activities introduced under the project that were not included in the earlier project. As with the GIRMAC project, the Involuntary Resettlement policy was triggered because of the potential restriction of traditional access to coastal and fish resources that might be introduced by management measures needed to rebuild the fisheries stocks. The fisheries reconversion fund under component three was established as an instrument to address such risks. The Environmental Management Plan, prepared as part of the EA, would be used to screen all subprojects financed by the reconversion fund would be screened for any potential impacts under the natural habitats safeguard.

3.32 The reconversion fund was established as expected and it funded alternative revenue generating activities for the women impacted by co-management restrictions in

the pilot sites established under the GIRMAC project. Alternative revenue activities were not developed for the eight additional co-management sites targeted by this project, because the co-management agreements had not reached a stage where sub-projects could be implemented. No other safeguards issues were mentioned in the project files. Safeguards were consistently rated satisfactory in supervision reports throughout implementation. The project's completion report does not mention safeguard compliance.

FIDUCIARY PERFORMANCE

Financial Management

3.33 Overall financial management performance for the project was unsatisfactory. Although financial management reports were received in a timely manner and of satisfactory quality, there were several financial management transgressions. Ineligible expenditures were incurred amounting to CFAF 8.7 m and an additional CFAF 68 million in expenses lacked sufficient documentation. Personnel were hired that were not budgeted under the project and without the Bank's approval. Monthly supplements to the Project Coordinators salary, amounting to CFAF 1 million, were charged to the project which were ineligible as he was civil service post. Operating costs exceeded 13 percent of the budget limit set for the project implementation period, despite delays in implementation of project activities. In addition, the equivalent of US \$ 1 million in project funds were deposited with Crédit Mutuel du Sénégal, the project's financial intermediary, for over a year without activity, owing to delays in the implementation of micro credit operations.

3.34 A preliminary financial management review of the project, carried out in August 2011, detected the ineligible expenses. The Implementation Completion and Results Report notes that after the Bank's attempts to discuss and resolve the issues with the project coordinator were ignored, the Government agreed to close the Project, reimburse the bank for ineligible expenditures, return the remaining undisbursed funds for the unutilized line of credit, provide a justification for expenses, and transfer incomplete activities and reallocate the remaining IDA funds to the ongoing West Africa Regional Fisheries Program.

Procurement

3.35 The pace of procurement was slow throughout project implementation, owing to the requirement to follow dual procurement procedures and limited procurement capacity in the implementing agency. As with the GIRMAC project, the implementing agency was required to comply with both National and Bank procurement procedures. The burden of compliance with two procurement procedures was compounded by the absence of a full-time procurement specialist. During the first year of implementation the project was staffed with a part-time procurement specialist, a deliberate decision by the Bank and Government aimed at reducing operating costs. Procurement staff were soon overwhelmed by the volume of procurement needed during the first year of implementation and the complexity of some contracts.

3.36 The Implementation Completion and Results Report indicates that procurement picked up in early 2011 when a full time procurement specialist came on board, only to slow again in August 2011 due to project management issues in the PCU. At the end of the project disbursements were 52 percent of total funding for the IDA credit and 32 percent for the GEF grant.

Achievement of the Objectives

Objective 1 -Empower the communities to reduce fishing pressure on the fish stocks supporting the central coastal fisheries of Senegal.

3.37 This objective was to be achieved by scaling up the co-management model to additional communities and strengthening co-management efforts in the original four pilot sites. Specifically the project would expand co-management agreements to neighboring communities, prepare consolidated local management plans, pilot the use of conservation tools to support rehabilitation of ecosystem in co-management, support alternative revenue generating activities and provide communities with access to a microcredit fund. The project also provided some funds that were pooled with the GIRMAC project, to complete the National Registry of Small Fishing Vessels. The output and outcomes of each activity are discussed below.

3.38 **Expansion of Co-Management Agreements.** By project closure, co-management agreements were prepared with 8 new communities and submitted to local authorities but had not been approved. The Implementation Completion and Results Report notes that the project timeline was too short to allow for full replication to the eight additional sites due to delays in the start of some activities and the project management issues that derailed the project. Local fisher committees were legally established and subproject documents were prepared and submitted to local and central level authorities for validation and were awaiting approval. This activity was transferred to the West Africa Regional Fisheries Project to support formalization of the agreements and implementation of the communities' subprojects once the management agreements were signed. As of the IEG assessment mission in June 2014, the co-management agreements had not yet been signed. There was a delay of approximately one year between the end of the GDRH project and resumption of activities under the WARFP. In the interim, many of the CLPs stopped meeting and some of their members lost interest, due to lack of project activity. The CLP's had reformed by the time of the assessment mission and were meeting on a regular basis. CLP members expressed to the IEG mission that they were eager for activities to begin anew. But both communities and local staff expressed how the implementation disruptions had demoralized many community members. They expressed that the project had raised their expectations and then nothing materialized.

3.39 **Conservation Measures.** None of the envisaged measures to rehabilitate critical ecosystems (establishment of ZPPs, immersion of artificial reefs, and obtaining eco-certification for certain fisheries species) were completed by the end of the project due to the delayed procurement of the consulting firm responsible for providing technical assistance to these activities. By the time the firm was recruited in February 2011, it was only able to carry out activities for 12 months out of a 30 month contract awarded on the

premise that the Project would be extended. Information activities to increase the awareness of communities on issues of marine ecosystems rehabilitation had been carried out and the remaining activities in the contract were transferred to the West Africa Regional Fisheries Project. As of the IEG assessment mission, activities had resumed but implementation was behind schedule. Work to obtain eco-certification was begun but could not be completed due to legal technicalities.³²

3.40 Consolidated local fisheries management plans. Developing multi-CLP consolidated management plans around shared fisheries was not completed because it depended on the ZPPs and artificial reefs were to be created first.

3.41 Alternative revenue generation activities. The project supported three distinct alternative income generating activities: (1) poverty alleviation support to compensate individuals affected by co-management restrictions as a social safeguard measure; (2) support for marketing and commercialization of fish products intended to contribute to the expenses of the CLPS and provide value added measures to increase the selling price of fish products, and (3) a microcredit fund.

3.42 Poverty alleviation support was provided to women's groups in two of the original pilot sites who were affected by co-management restrictions on harvesting juvenile shrimp, as a measure to comply with social safeguards (see para. 2.44).

3.43 Marketing and commercialization subprojects were carried out by CLPs in each of the 4 pilot sites. The Project funded the construction of stores for fishing gear and supplies (at Ngaparou and Foundiougne); the purchase of a refrigerated truck to enable women to travel to Dakar to sell fish at a higher price than at their local market (Ngaparou); a poultry farm (Ouakam); and a tourist camp at Betenty. The Implementation Completion and Results Report noted that each of the subprojects was operation by 2010 but an analysis of their profitability had not been carried out by the project's closure. In two sites a portion of the revenue from the CLP income generating activities has been used as a "social fund" to encourage compliance with co-management measures and generate greater cohesion in the community. In Foundiougne, the CLP distributes essential food items (rice and sugar) to families during imposed biological rest periods. The CLP in Ngaparou funds several social activities for their communities (assistance for the sick, payment of school fees for families in need, assistance for baptisms and funerals).

3.44 As of the IEG assessment mission, all the alternative revenue generating activities were still in operation. In three of the four sites, the CLPs reported to the IEG mission that the income generating activities generated a small profit but that it was not sufficient to cover all of the CLPs operating expenses. In the fourth site, Betenty, the income generating project was not yet profitable. The community's "project" was to run an

³² Certification can only be obtained for species harvested by an official approved fishing method. The IEG mission was informed that the targeted species, Spiny Lobster and Seagull Lobster, cannot be certified because diving is the method used to harvest them and under current legislation scuba diving is classified as a recreational activity not a commercial activity. Eco-certification of these species would essentially be at odds with the fisheries code because it would recognize a "recreational activity" as a commercial harvesting method. The project team informed IEG that they had lobbied for scuba diving to be included as an accepted method under the new code but they were not successful.

ecotourism camp. Cabanas had been constructed but they were of poor quality. The project had not been completed as planned because the budget had been underestimated. The mission observed that the cabana doors were damaged by termites and needed to be replaced and although bathrooms were constructed they were not functional because the budget for the project was not sufficient to cover the cost of installing a water system. The community noted that in the past year only two groups of tourists had visited and neither stayed more than one night. Interviews with procurement staff indicate that the budget was insufficient because they had not factored in the higher cost for transporting materials to this remote island site.

3.45 Income-generating activities were also proposed by the fishing communities in the eight new co-management sites. Seven of the eight proposals were approved by the Bank on August 2011 but they could not be implemented by project closure due to the Project management problems which stalled project implementation at that time. These activities were subsequently transferred to the West Africa Regional Fisheries Project. As of the IEG assessment mission implementation of these activities had not yet resumed.

3.46 **Microcredit Fund.** Due to procurement issues the project did not sign a contract with the technical agency to implement this activity until July 3, 2011. By project closure 1839 proposals had been prepared by individuals the targeted fishing communities. 1690 of the proposals were approved by the project's screening committee: 1430 women, 260 men. 42 of the approved proposals were developed into Business Plans that were submitted to CMS, the financial intermediary, for financing. However, none of the loans were approved because there was insufficient time for repayment before the project closed. Following the project's closure this activity was transferred to the West Africa Regional Fisheries Project and their implementation had resumed by the time of the IEG assessment mission. Going forward there is a need to assess whether the size of the loans provided by the microcredit fund are sufficient to generate enough revenue from alternative activities to reduce the recipients' dependence on fishing, the ultimate goal of this activity.

3.47 In summary, while the project made some progress in supporting the original four pilot sites with alternative revenue generating activities and advancing the PNI program (see results under GIRMAC project paras 2.57 - 2.60), the project achieved much less than intended within its short timeframe, due to the procurement and project management difficulties. Many of activities were not completed by project closure and most had not reached a stage where they could generate the expected outcomes. None the key performance indicators were met. The values for both of the outcome indicators³³ are shown as N/A in the implementation and completion results report.

3.48 Progress towards achieving the project objective is rated *negligible*.

³³ Reduction in the level of fishing effort for targeted species in co-management sites; and Increase in the average size of fish caught for targeted species in co-management sites.

Efficiency

3.49 A quantified measure of efficiency was not calculated at appraisal or at closure because of data insufficiencies. At appraisal an indicative cost-benefit analysis was described in qualitative terms based on similar activities that had been carried out under GIRMAC, since the majority of investments were to be determined by communities during implementation. Benefits were expected to accrue from increased prices resulting from larger catches once fish stocks recovered. The project appraisal document also cited rates of return from another WB project in Indonesia but acknowledged that the conditions and assumptions behind those rates are different from Senegal. The project did not repeat a cost benefit analysis at closure because insufficient progress had been made to generate concrete data needed for such analysis.

3.50 Project efficiency suffered from a number of project management shortfalls. In addition, the many procurement delays coupled with the project coordinator's refusal to implement project activities in 2011 meant that some activities had to be cancelled or were not completed by project closure. The poor quality of materials procured reduced the benefits from some income generating projects. Mismanagement of project funds also resulted in resources being wasted on ineligible expenditures that had to be returned to the Bank. By project closure only 26 percent of committed funds were utilized and most activities had not reached a stage that they could generate expected benefits.

3.51 Efficiency is assessed as *negligible*.

Ratings

OUTCOME

3.52 The project outcome is rated *highly unsatisfactory*.³⁴ This is based on high relevance of objectives but modest relevance of design; negligible achievement of its objective and negligible efficiency.

RISK TO DEVELOPMENT OUTCOME

3.53 The fisheries sector is risky and difficult to regulate. While the project contributed to strengthening the foundation for co-management, support over a longer timeframe is required for the reforms and interventions to take hold. Challenges remain in terms of securing sustainable funding for co-management operating costs, and promotion of alternative livelihoods to alleviate overfishing and poverty. The Implementation Completion and Results Report indicates that at project closure, most of the pilot sites, except for Ngaparou, have not generated sufficient operating funds to maintain such operations over the long term, and have not sufficiently explored alternative arrangements. This was still the case as of the IEG assessment mission. Monitoring and Surveillance capacity also needs further strengthening. In addition the institutional capacity within the Ministry is weak. Implementing similar projects to cover the

³⁴ According to the OPCS/IEG Harmonized rating criteria, the project outcome rating is highly unsatisfactory when there are severe shortcomings in the achievement of its objectives, in its efficiency, or in its relevance.

geographical territory required to expand the co-management model in numerous communities along the coast will require resources, both in terms of personnel and budget. The West Africa Regional Fisheries Program continues to provide support to co-management and provides an opportunity to address some of these needs.

3.54 As with the GIRMAC project, a key risk to the gains in co-management is the need to address the constraint of open access to the resource. Creating and allocating the right to manage targeted fisheries has been a very successful first step, but the country will need to take the next step to create and allocate rights to access the fisheries, in order for this progress to be maintained. Approval of the revised Fisheries Code will be critical in this respect.

3.55 Finally, a wider regional approach is needed for sustainable impact in the sector in the long run. Community level efforts must be accompanied by regional or international initiatives. This issue is starting to be addressed through the ongoing West Africa Regional Fisheries Program, which aims to develop synergies and the maximum impact of fisheries sector reforms at both the country and regional level.

3.56 The risk to development outcome is *high*.

BANK PERFORMANCE

QUALITY AT ENTRY

3.57 Project design was backed by solid analytical work and drew on lessons from global best practices generated by the experience of other donor and Bank operations in the sector, including the experience of the GIRMAC project which was ongoing at the time. The project preparation process was carried out with active input from the Government team and close collaboration of other donors and local communities. The Project was designed to be part of a larger program of donor interventions³⁵ in the fisheries sector in order to respond to the Government's 2008 Letter of Sector Policy, and to be consistent with the Government's sector strategy. It also took into account synergies with other programs of the Bank in the country (GIRMAC, WAFRP). Design was efficient in that it used an existing institutional structure, the fisheries implementation unit of the GIRMAC project, to avoid creating or involving additional implementing agencies. Project design reflected learning from the GIRMAC experience with respect to the infeasibility of coordinating complementary agendas through two ministries, opting instead to incorporate both sustainable exploitation and conservation measures through the fisheries agenda.

3.58 However, a significant shortcoming in the project's quality at entry was the Bank and Government's decision to package the proposed scope of activities into a three-year implementation timeframe. This decision was taken even though the experience from the GIRMAC pilots had already shown that the process of establishing co-management initiatives and getting sub-projects approved, along with the supporting structure for the pilots sites took two years on average from the time the local fishermen committees were

³⁵ Other donors are supporting reforms of the industrial fisheries sector.

created to the time sub-projects are approved and validated by the authorities at the local and central levels. Project files indicate that the project was intentionally designed to coincide with the timeframe of the GIRMAC project, and possibly an EU project which was to be implemented over a 36-month period beginning in December 2008. The Bank team originally proposed a more realistic four-year implementation time frame but decided to accommodate the Government's request for a shorter period because of concern over additional counterpart funding for operating costs should the project extend beyond the GIRMAC time frame. The final decision for the shorter timeframe was made on the premise that the Project could be extended if needed. An additional shortcoming in quality at entry was the decision to delay hiring full time procurement specialist, contributing to the project's poor procurement performance and slow start up. Finally, while many critical risks were identified and appropriately mitigated, the Project did not identify the fiduciary risks (mismanagement of funds and slow procurement due to lack of capacity), nor did it anticipate project mismanagement which stalled project implementation.

3.59 Quality at entry is rated *moderately unsatisfactory*, largely due to designing a project with a timeframe that was completely unrealistic.

QUALITY OF SUPERVISION

3.60 Supervision missions were carried out at every six months and fielded by teams with an adequate mix of skills. However, although safeguards issues were appropriately managed, environmental and social safeguards specialists were not systematically included in supervision missions. A local fisheries specialist was also placed full-time in the country office to provide implementation support. The Bank team attempted to rectify the overambitious implementation timeframe by considering an extension to the closing date, until the downturn in project management in the PCU precluded this option. Documentation and reporting of supervision issues were of good quality. Supervision of fiduciary issues was also adequate but, as with the GIRMAC project, financial management missions were carried out separately from regular supervision missions and this created a lag in reporting in supervision reports. The Bank team was proactive in attempting to resolve the mismanagement issues that arose in the PCU and closed the project when their efforts yielded no results. The project closing date was appropriately extended by three months to allow for completion of local level consulting contracts, and to hold discussions to ensure that adequate arrangements were in place after the Project closed to transfer remaining activities to the West Africa Regional Fisheries Program.

3.61 Supervision could have been stronger in terms of providing timely guidance and expertise on M&E, which had already been shown to be a weak under the GIRMAC project. Even through an M&E specialist had been recruited for the project, the system was collecting data in a piecemeal manner. Guidance was needed on how to operationalize a system to track both Bank and other donor interventions. Finally, the Implementation Completion and Results Report indicates that while the Bank could not have predicted the level of ministerial interference in project activities or sudden downturn in the project's management, these issues should have been be escalated to the higher levels of dialogue between Bank management and Government once the team attempted to resolve the problems without success.

3.62 **Quality of Supervision** is rated *moderately satisfactory*.

3.63 **Overall Bank Performance** is rated *moderately unsatisfactory*. This reflects the moderately unsatisfactory quality at entry rating, the moderately satisfactory supervision and the unsatisfactory outcome rating.³⁶

BORROWER PERFORMANCE

GOVERNMENT PERFORMANCE

3.64 The Government took a leadership role in project preparation and the project's launch. Substantial input was provided from the fisheries specialists on the Government preparation team. The government team was active in deciding the content and scope of the project design, selection of target sites, timeline, the scope of project activities, and number of agencies involved in implementation, and organized a three day launch workshop. The Government also provided a conducive environment for implementing the sectoral reforms and initiatives promoted by the project through the 2008 Letter of Sector Policy. Government performance was also positive in terms of ensuring that the National Registry of Small Scale Vessels was carried out. However, a significant factor in the project not achieving its objective was the government's decision to design the project with only a three year timeframe to reduce counterpart funding for operating costs. In addition, the demands of the National Procurement Code placed a significant burden on day to day implementation of the project. The Implementation Completion and Results Report notes that delays in key contracts could have been avoided by ensuring that National and Bank procurement systems were harmonized before requiring the project team to comply with both. Moreover, the Government shares responsibility with the Bank for the decision to staff the implementing agency with a temporary rather than full time procurement specialists during the first year of implementation to reduce operating costs. The high volume of procurement in the first year of implementation overwhelmed the implementing agency and contributed to delays. The Implementation Completion and Results Report also indicates that Ministerial interference in project implementation was also a problem. Government commitment improved somewhat in the last year of the project, when a newly elected Government promptly took action and removed the Project Coordinator from the implementing agency following allegations of misappropriation of project funds.

3.65 Government performance is rated *moderately unsatisfactory*.

IMPLEMENTING AGENCY PERFORMANCE

3.66 Implementing agency performance was satisfactory at the local level but unsatisfactory at the central level. Local level implementing agency staff performed well in providing the necessary support to the communities to submit sub-project proposals through the proper recruitment and placement of qualified facilitators at project sites to enable them to work productively with the newly formed Local Fishermen Councils. The

³⁶ According to IEG/OPCS harmonized rating criteria, when one dimension of Bank Performance is in the satisfactory range and the other is in the unsatisfactory range the overall Bank Performance rating is determined by the project outcome rating.

department of fisheries management supervised the completion of studies and research works and mobilized support of local authorities for the validation process for sub-projects. Project management at the Central Level was however was problematic. The implementation unit lacked a full-time procurement specialist to assist with procurement contracts and the project experienced long start-up delays, due to the need to re-launch the procurement process for contracting two important consulting firms. The final year of implementation suffered from the disruption of poor project management when the project coordinator refused to implement project activities or communicate with the Bank. Consequently, project implementation stalled and the mismanagement eliminated the possibility of extending the closing date which could have made a difference in outcome. There was a lack of attention to M&E implementation, even after a specialist was recruited, an operational system was never designed. Annual reporting of progress was also overlooked. Moreover, there were significant financial management issues, including misuse of project funds. The Implementation Completion and Results Report notes that “actions which derailed the Project were within the control of the Ministry and the implementing agency and detracted from the efforts (technical and operational) and results achieved in the field.”

3.67 Overall the Implementing Agency’s performance is rated *unsatisfactory*.

3.68 Overall Borrower Performance is rated *unsatisfactory*, taking into account the moderately unsatisfactory government performance rating and the unsatisfactory implementing agency performance rating.³⁷

MONITORING AND EVALUATION

3.69 An M&E plan was prepared during project preparation and outlined in the project appraisal document. The plan identified M&E responsibilities and specified data collection and reporting intervals. Key performance indicators were identified for the objective as well as intermediate indicators for each component. The five were a mix of outcome, outputs and process indicators: two were true outcome level indicators, three were process level indicators. No targets were defined for the outcome indicators, only a direction of change.³⁸ The feasibility of measuring or achieving some of the indicators within a three-year period is questionable. Initial baselines were to be collected once the targeted fisheries and landing sites for each of the eight sites were identified. Data for the outcome indicators was to be collected by the project’s local level facilitators. The monitoring system was also intended to serve as a feedback mechanism to communities. Summaries of trimestral data collected at each co-management site were expected to be sent back to community facilitators, who would present them to the CLPs and the community at large.

3.70 The project implementation unit issued an initial report on baseline values for monitoring the key performance indicators and outlined training to be conducted in the

³⁷ According to the IEG/OPCS harmonized rating criteria, when one dimension of borrower rating is moderately unsatisfactory and one is fully unsatisfactory, the overall borrower performance rating is the lower of the two.

³⁸ The outcome indicators were an increase in the average size of fish caught for targeted species in co-management sites and a reduction in the level of fishing effort for targeted species in co-management sites. Without a target to specify how much of an increase or reduction is expected it would not be possible to assess whether the indicator had been met.

field, data collection techniques, and sample data collection sheets to be distributed at the local levels. But an operational M&E system was never established. The Department of Fisheries Management was inadequately staffed with qualified personnel for M&E, despite recruiting an M&E specialist for the Project. Data was not collected on a regular basis for it to be consolidated into the trimester reports needed for monitoring project results. Oversight of M&E for the Project was carried out in a piecemeal manner and there was a lack of follow up monitoring at the community level. Some data was collected locally and officially validated by the Ministry at the regional and central levels, but continued support was needed to sustain the effort. Supervision documents indicate that the project's M&E system did not provide the required data to serve as a tool for management and decision making.

3.71 The Quality of Monitoring and Evaluation is rated *Negligible*.

4. Lessons

4.1 The experience of the two projects yields the following lessons:

- ***Reforming the fisheries sector is politically sensitive and a long term pursuit, best suited to a phased programmatic approach in which sustained support is ensured over a series of operations.*** The timeframe for each stage needs to be set taking into account the capacity of the implementing agencies and the complexity of activities financed. In this case, the Bank maintained continuity in support across several operations but this was not designed upfront. Consequently, implementation was disrupted in the transfer of activities from one project to the next, as activities were put on hold while the restructuring process was carried out.
- ***Operationalizing co-management requires actions at both local and national level, lack of synchronization between the two can disrupt implementation and the motivation of key actors.*** In both cases implementation progress at the local level was bottlenecked by slow clearances at the central level, as well as delays for centrally procured materials and in processing contracts for experts to support critical activities. This slowed momentum and has frustrated local level actors. The lack of synchronization can be particularly disruptive to seasonal activities.
- ***Supporting Alternative Revenue Generating Activities can potentially reduce the poverty-conservation tradeoff by making up for lost income or subsistence opportunities that stem from reduced resource access caused by project activities.*** But realizing this potential requires more rigorous feasibility studies to ensure that the proposed activity has the potential to generate profits that are equal to revenues forgone and that adequate budgets are provided to cover the full investment costs of the alternative activity. A sustainable system to support alternative revenue generating activities beyond the project timeframe is also needed.

EPILOGUE

4.2 The Bank has continued to support Senegal in reforming its fisheries sector beyond the close of the projects through the West Africa Regional Fisheries Program (WARFP).³⁹ Under the WARFP the Bank aimed to widen its support to the sector from a focus on addressing open access issues in specific pilot sites, to addressing these constraints at the national and regional level. The WARFP was approved for Senegal in October 2009 and became effective 2010. In December 2012, the WARFP was restructured to take on several of the uncompleted fisheries management activities from the GRIMAC and GDRH projects. In addition to supporting activities that were not complete and further strengthening the capacity of the CLPs in all 12 co-management sites, the WARFP is also expanding access rights.

4.3 There was a delay of approximately one year between the end of the GRIMAC and GDRH projects and the resumption of activities under the WARFP. In the interim, many of the newly formed CLPs in the 8 sites supported by the GDRH project stopped meeting and some of their members lost interest, due to lack of project activity. At the time of the IEG assessment mission in June 2014, all of the CLP's had reformed and were meeting on a regular basis. The CLP members expressed to the IEG mission that they were eager for activities to begin anew but the implementation disruptions had demoralized many community members. The CLPs in the 4 original pilot sites continued to implement co-management activities on their own during the transition. Additional progress was reported to the IEG mission on implementation of microcredit activities and the national registration of small scale vessels.⁴⁰

³⁹ The WARFP is a series of overlapping adaptable program loans (APLs) that include national investments to strengthen the capacity of the countries to collaborate around the management of the fish resources and greater value addition locally. It also provides a regional coordination mechanism. It provides support to nine West African countries.

⁴⁰ •Microcredit activities resumed in July 2013. From July 2013 – March 2014, 500 business plans had been prepared and submitted to CMS for financing and 248 loans had been approved (213 women, 35 men). The technical firm reported anecdotally that all of the loans issued to date are being paid back as agreed. Some beneficiaries that received 6 to 8 month loan terms have completed their initial loan terms and have requested new loans. It was too soon to assess the results of the microcredit loans.

•As of April 2014, the number of boats registered had increased to 23,453, and 16,333 had been marked with the registration number.

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Annex A. Basic Data Sheet

INTEGRATED MARINE AND COASTAL RESOURCE MANAGEMENT PROJECT CREDIT NO. 3998-SE

Key Project Data (amounts in US\$ million)

	Appraisal estimate	Actual or current estimate	Actual as % of appraisal estimate
Total project costs	17.31	13.32	81%
Loan amount	10.47	9.01	86%
GEF grant	5.0	3.62	72%
Government counterpart	1.49	0.69	46%
Cancellation IDA	NA	1.46	NA
Cancellation GEF	NA	1.38	NA

Cumulative Estimated and Actual Disbursements

	<i>FY05</i>	<i>FY06</i>	<i>FY07</i>	<i>FY08</i>	<i>FY09</i>	<i>FY10</i>	<i>FY11</i>	<i>FY12</i>
Appraisal estimate (US\$M)	1.0	3.0	5.5	8.0	9.0	10.0	10.0	10.0
Actual (US\$M)	1.14	2.52	4.01	6.10	7.15	8.90	9.33	9.01
Actual as % of appraisal	114%	84%	73%	76%	79%	89%	93%	90%
Date of final disbursement: June 14, 2012								

Project Dates

	Original	Actual
Initiating memorandum	10/15/2003	12/18/2003
Negotiations	4/30/2004	4/16/2004
Board approval	8/31/2004	11/11/2004
Signing	1/28/2004	1/4/2005
Effectiveness	4/15/2005	4/15/2005
Closing date	6/1/2010	5/1/2012

Staff Inputs (staff weeks)

❖ IDA P086480

Stage	Staff Time and Cost (Bank Budget Only)	
	# Staff weeks	(\$'000)(includes labor, travel and consultant costs)
Lending		
FY04	14.24	87,485
FY05	7.48	28,330
Subtotal:	21.72	115,815
Supervision/ICR		
FY05	13.82	44,823
FY06	14.59	58,835
FY07	34.43	133,900
FY08	38.63	191,884
FY09	65.40	177,037
FY10	56.51	94,484
FY11	27.40	79,102
FY12	44.92	61,062
FY13	0	6,263
Subtotal	295.70	847,388
Grand Total	317.42	963.203

❖ GEF P058367

Stage	Staff time and Cost (Bank Budget Only)	
	# Staff Weeks	(\$'000)(Includes labor, travel and consultant costs)
Lending		
FY00	5.25	25,241
FY01	4.24	30,674
FY02	4.86	22,931
FY03	6.90	38,231
FY04	35.42	171,475
FY05	7.59	56,409
Subtotal:	64.26	344,961
Supervision/ICR		
FY05	0.00	1,297
FY06	7.03	55,270
FY07	6.60	31,922
FY08	2.28	35,090
FY09	16.39	79,243
FY10	11.50	53,391
FY11	4.21	30,282
FY12	0.00	0
Subtotal	48.01	286,495
Grand Total	112.27	631,456

Task Team Members

Names	Titles	Unit	IDA P086480	GEF P058367
Lending				
Alliali, Solange A	Senior Counsel	LEGES	✓	✓
Browning, Brantley	Consultant, Policy		✓	
Burbridge, Peter R.	Consultant, Coastal Zone Mgt		✓	✓
Carret, Jean-Christophe	Natural Resources Economist	AFTA1	✓	✓
Crepin, Christophe	Sector Leader, GEF	EASER	✓	✓
Diaite, Bourama	Senior Procurement Specialist	AFTPC	✓	✓
Diarra, Dieneba	Social Development Specialist		✓	✓
Doetinchem, Nina	Carbon Finance Specialist	ENVCF		✓
Guazzo, Caroline	Language Program Assistant	AFTCS		✓
Kotschoubey, Nicolas	Consultant, Environmental Safeguards	MNSHD	✓	✓
Ndiaye Lixi, Marie	Program Assistant	FGIDB		✓
Poirier, Lucie	Procurement Specialist	AFTPC	✓	✓
Prevost, Yves André	TTL, Environmental Advisor	PA9SS	✓	✓
Seck, Aissatou	Programs Assistant	AFTCS	✓	✓
Sissoko, Fily	Lead financial Mgmt. Specialist	AFTMW	✓	
Strengerowski-Feldblyum, Liba C.	Operations Analyst	AFTN3	✓	✓
Toure, El Hadj Adama	Senior Agricultural Economist	AFTA1	✓	
Van Santen, Gert	Consultant		✓	✓
Viridin, John	Sr Natural Resources Mgmt. Spec	ENV		✓
Wilson, Wendy	Operations Analyst	AFTA1	✓	
Supervision				
Agwe, Jonathan	Operations Officer	ARD	✓	✓
Balde, Demba	Senior Social Development Spec.	AFTCS	✓	✓
Boisrobert, Cedric	Consultant, Fisheries	AFTEN	✓	✓
Brito, Laurent Mehdi	Procurement Specialist	AFTPC	✓	✓
Cipriani, René	Consultant, Operations		✓	✓
Chu, Jingjie	Natural Resources Economist	AFTN3	✓	✓
Diaite, Bourama	Sr. Procurement Specialist	AFTPW	✓	✓
Diop, Sidy	Sr. Procurement Specialist	AFTPW	✓	✓
Faye, Mbaye Mbengue	Consultant, Env./Social Safeguards		✓	
Follea, Salimata D.	Operations Analyst	AFTN1	✓	
Hume, Andrew	JPA, Environment	GEF		✓
Ioniarilala, Radonirina	Consultant, Fisheries Specialist	AFTN3	✓	
Kanungo, Gayatri	Environmental Specialist	AFTN3		✓
Keita, Abdoulaye	Senior Procurement Specialist	MNAPC	✓	
Kristensen, Peter	Lead Environmental Specialist	ENV		✓
Lee, Marcus John Jin Sarn	Urban Economist	FEUR		✓
Ndiaye, Mademba	Senior Communications Officer	AFRSC	✓	
Page, Hawanty	Language Program Assistant		✓	✓
Prevost, Yves André	Environmental Advisor	PA9SS	✓	✓

Romao, Osva Rocha And.	Financial Management Specialist	AFTMW	✓	
Samba, Fatou	Financial Management Specialist	AFTFM	✓	✓
Sanoussi, Ibrah Rahamane	Sr Procurement Specialist	AFTPW	✓	
Santley, David John	Sr. Petroleum Specialist	SEGEI	✓	
Sarno, Francesco	Consultant, Procurement Specialist		✓	✓
Sene, Manievel	Sr. Rural Development	AFTA2	✓	
Strengerowski-Feldblyum, Liba C.	Operations Analyst	AFTN3	✓	✓
Talla, Takoukam, Patrice	Counsel		✓	✓
Tran, Huong-Giang Lucie	Consultant, ICR	AFTN1	✓	
Tynan, Ellen J.	Sr. Environmental Specialist			✓
Vaselopulos, Virginie	Language Program Assistant	AFTN1	✓	
Vincent, Xavier F.P	Senior Fisheries Specialist	AFTN1	✓	✓
Viridin, John	TTL, Sr. Natural Resources Mgt. Specialist	ENV	✓	✓
Winter, Carolyn	Sr Social development Specialist	MNSSO	✓	✓
Yoboue, Eric Jean	Sr. Procurement Specialist		✓	

Other Project Data

Borrower/Executing Agency: Direction for Maritime Fisheries, Ministry of Maritime Economy

Follow-on Operations

<i>Operation</i>	<i>Credit no.</i>	<i>Amount (US\$ million)</i>	<i>Board date</i>
West Africa Regional Fisheries Program	4662-SE	15.0	October 20, 2009

**SUSTAINABLE MANAGEMENT OF FISH RESOURCES PROJECT CREDIT NO.
4545-SE**

Key Project Data (amounts in US\$ million)

	Appraisal estimate	Actual or current estimate	Actual as % of appraisal estimate
Total project costs	10.85	2.84	26%
Loan amount	3.50	.76	22%
GEF grant amount	6.0	2.07	35%
Government Counterpart	1.35	.07*	5%
Cancellation IDA Credit	NA	2.79	NA
Cancellation GEF Grant	NA	3.93	NA

*This amount supplied to IEG directly by the implementing agency. The Implementation Completion and Results Report did not report on the government counterpart contribution.

Cumulative Estimated and Actual Disbursements

	<i>FY09</i>	<i>FY10</i>	<i>FY11</i>	<i>FY12</i>
Appraisal estimate (US\$M)	0.25	1.25	2.25	3.50
Actual (US\$M)	0	.44	1.98	.76
Actual as % of appraisal	0%	35%	88%	22%
Date of final disbursement: January 10, 2012				

Project Dates

	Original	Actual
Concept Review	3/26/2007	7/24/2006
Negotiations	5/22/2007	10/22/2008
Board approval	7/03/2007	12/16/2008
Signing	9/12/2009	9/12/2009
Effectiveness	11/12/2009	11/06/2009
Closing date	3/31/2012	6/30/2012

Staff Inputs (staff weeks)

Stage	Staff Time and Cost (Bank Budget Only)	
	# Staff weeks	USD Thousands (Including travel and consultant costs)
Lending		
FY09	2.68	19,239
Subtotal:	2.68	19,266
Supervision/ICR		
FY09	0.00	0.00
FY10	16.78	84,595
FY11	30.26	97,243
FY12	8.23	56,557
FY13	0.00	23,023
Subtotal	55.27	261,418

Task Team Members

Names	Titles	Unit	IDA P105881	GEF P092062
Lending				
Balde, Demba	Sr Social Development Spec	AFTCS	✓	✓
Kloppinger-Todd, Renate	Rural Finance Specialist	ARD	✓	✓
Elisabeth Mekonnen	Program Assistant	LCC3C	✓	✓
Prevost, Yves André	Environmental Advisor	PA9SS	✓	✓
Sarno Francesco	Procurement Specialist, (Consultant)		✓	✓
Strengerowski-Feldblyum, Liba C.	Operations Analyst	AFTN3	✓	✓
Talla, Takoukam. Patrice	Counsel		✓	✓
Vaselopoulos, Virginie	Language Program Assistant	AFTN1	✓	✓
Vincent, Xavier F.P	Senior Fisheries Specialist	AFTN1	✓	✓
Virdin, John	Sr Natural Resources Mgmt. Spec. (TTL)	ENV	✓	✓
Winter, Carolyn	Sr Social development Specialist	AFTCS	✓	✓
Supervision				
Boisrobert, Cedric	Fisheries Specialist (Consultant)	AFTEN	✓	✓
Chu, Jingjie	Natural Resources Economist	AFTN1	✓	
Follea, Salimata D.	Operations Analyst	AFTN1	✓	
Hume, Andrew Christer	Junior Professional Associate	GEFNR		✓
Fam, Mbow Maimouna	Sr. Financial Mgt Specialist	AFTFM	✓	✓
Ioniirilala, Radonirina	Fisheries Specialist (ET Consultant)	AFTN3	✓	✓
Kanungo, Gayatri	Environmental Specialist	AFTN3		✓
Monnet, Marguerite	Social Devel. Specialist (Consultant)	AFTHW	✓	✓
Romao, Osval	Financial Mgt. Specialist	AFTFM	✓	✓
Sarno Francesco	Procurement Specialist (Consultant)		✓	✓
Sanoussi, Rahamane Ibrah	Procurement Specialist	AFTPC	✓	✓
Strengerowski-Feldblyum, Liba C.	Operations Analyst	AFTN3	✓	
Tran, H.G. Lucie	Consultant, ICR	AFTN1	✓	✓
Traore, Cheick	Procurement Specialist	AFTPC	✓	✓
Tynan, Ellen J.	Sr. Environmental Specialist	AFTEN	✓	✓
Vincent, Xavier F.P	Senior Fisheries Specialist	AFTN1	✓	✓
Virdin, John	Sr. Nat. Resources Mgmt. Spec., (TTL)	ENV	✓	✓
Winter, Carolyn	Sr. Social development Specialist	AFTCS	✓	✓

Other Project Data

Borrower/Executing Agency: Direction for Maritime Fisheries, Ministry of Maritime Economy

Follow-on Operations

<i>Operation</i>	<i>Credit no.</i>	<i>Amount (US\$ million)</i>	<i>Board date</i>
West Africa Regional Fisheries Program	4662-SE	15.0	September 18, 2009

Annex B. List of Persons Interviewed

World Bank

Demba Balde, Senior Social Development Specialist

Radonirina Ioniirilala, Fisheries Specialist

Asberr Mendy, Fisheries Specialist ETC

Yves Prevost, Environmental Advisor, TTL

Berengere Prince, Senior Natural Resources Management Specialist, TTL West Africa
Regional Fisheries Program

Vera Songwe, Country Director

Lucie Tran, ICR Primary Author

Cheick Traore, Procurement Specialist

John Virdin, Senior Natural Resources Management Specialist, TTL

Government

Abdoulay Dieng, Direction of Economic and Financial Cooperation, Ministry of the
Economy and Finance

Mariama Dalanda Barry, Direction for Maritime Fisheries, National Coordinator, West
Africa Region Fisheries Program

Malick Guibril Ndiaye, Procurement Specialist, West Africa Region Fisheries Program

Malick Diange, Direction for Maritime Fisheries, West Africa Region Fisheries Program

Djiby Thiam, Direction for Maritime Fisheries, Fisheries Co management Specialist, West
Africa Regional Fisheries Program

Papa Birame Diop, Administrative and financial responsible, West Africa Regional Fisheries
Program

Adama Diop, Coordinator of the National Program of Small Fishing Vessels, Direction for
Maritime Fisheries

Modu Thiam, Fisheries Management Specialist, West Africa Regional Fisheries Program

Sidiya Diouf, Deputy Director of Marine Fisheries and Artisanal Fisheries Division, Ministry
of Fisheries and Aquaculture

Mamadou Konate, Ministry of Environment

Amadou Lamine Diagne, Director of Green Finance, Ministry of Environment

Ndeye Mariyama Diallo, Ministry of Environment

Ibra Sounkarou Ndiaye, Self-Evaluation, Ministry of Environment

Mamadou Sidibe, Chief of the Division of Self Evaluation, Direction of National Parks

Amirata Badji, Sociologist, Direction of National Parks

Mamadou Faye, Direction of National Parks

Consultant NGOs affiliated with project

Mor Thiam, Consultant Expert in Evaluation of Microfinance Projects, Sen Ingenierie
Consult, l'Institut D'appui Technique

Mouhamadou Lamine Boye, Consultant Rural Economics, Sen Ingenierie Consult, l'Institut
D'appui Technique

Dr. Mamadou Diallo, Manager of Species and Habitat Program, WWF WAMER

Dr. Ibrahima Niamadio, Sustainable Fisheries Program Manager, WWF WAMER

Beneficiary Communities of:

Ouakam
Ngararou
Foundiougne
Betenty
Yenne
Ndangane
Popenguine
Somone

Other Donors

Makoto Ikeda, Technical Advisor, JICA
Nassirou Gueye, Junior Fisheries Expert, USAID/COMFISH Project
Vaque Ndiaye, Fisheries Expert, USAID/COMFISH Project
Jim Tobey, University of Rhode Island, USAID/COMFISH Project
Najih Lazar, Department of Fisheries, University of Rhode Island, USAID/COMFISH Project