#### Document of The World Bank

Report No: ICR00002642

## IMPLEMENTATION COMPLETION AND RESULTS REPORT (TF-94263)

ON A

## GRANT

#### FROM THE GLOBAL ENVIRONMENT FACILITY TRUST FUND

#### IN THE AMOUNT OF US\$ 4.8 MILLION

ТО

#### THE REPUBLIC OF SENEGAL

#### FOR A

### SUSTAINABLE LAND MANAGEMENT PROJECT

September 17, 2013

Agriculture, Rural Development and Irrigation Unit (AFTA1) Sustainable Development Department Country Department AFCF1 Africa Region

**CURRENCY EQUIVALENTS** (Exchange Rate Effective September 17, 2013)

**Currency Unit = CFA (XOF)** CFA 1.00 = US\$ 0.0020 US\$ 1.00 = CFA 491.139

FISCAL YEAR

January 1 – December 31

### ABBREVIATIONS AND ACRONYMS

ANCAR	Agence National de Conseil Agricole et Rural (National Rural and Agricultural Advisory Agency)
ASPRODEB	Association Sénégalaise pour la Promotion du Développement à la Base (Senegalese Association for Promoting Grassroots Development)
CAR	Conseiller Agricole et Rural (Agricultural and Rural Advisor)
CEA	Country Environmental Analysis
CLCOP	Cadre Local de Concertation des Organisations de Producteurs (Local Consultation Forum for Producer Organizations)
CNIS-GDT	Cadre National d'Investissement Stratégique sur la Gestion Durable des Terres (National Strategic Investment Framework for SLM)
DAPSA	Direction de l'Analyse, de la Prévision et des Statistiques Agricoles (Directorate of Agricultural Analysis, Forecasting, and Statistics)
DRSP	Document Stratégique de Réduction de la Pauvreté (Poverty Reduction Strategy Paper)
GDP	Gross domestic product
GEF	Global Environment Facility
GEF-SIP	Global Environment Facility Strategic Investment Program for SLM in Sub-Saharan Africa
GEO	Global Environment Objectives
ha	Hectare
ICR	Implementation Completion and Results Report
INP	Institut National de Pédologie (National Soil Sciences Institute)
IRR	Internal Rate of Return
ISR	Implementation Status and Results Report
ISRA	Institut Sénégalais de Recherche Agricole
	(Senegalese Agricultural Research Institute)
Μ	million
M&E	Monitoring and evaluation
NPV	Net Present Value
PAD	Project Appraisal Document
PDO	Project Development Objective
PO	Producer Organization (PO)
PSAOP	Programme de Services Agricoles et Organisations de Producteurs (Agricultural Services and Producer Organizations Program)
SENCAT	Système d'Information sur les Approches et Technique de Gestion Durable des Terres

	(Information System on the SLM Approach and Technologies)
SIF	National Strategic Investment Framework for SLM (see CNIS-GDT)
TTL	Task Team Leader
UCTF	Unité de Coordination Technique et Fiduciaire (Technical and Fiduciary Coordination Unit)
WAAPP	West Africa Agricultural Productivity Program

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## SENEGAL Sustainable Land Management Project

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## 1. Project Context, Global Environment Objectives, and Design

## 1.1 Context at Appraisal

1. *Land is a key resource in Senegal.* The livelihood of 70 percent of Senegal's rural population—about half of the total population—depends directly on land.<sup>1</sup> Agriculture still employs about 60 percent of Senegal's population, despite the sector's declining share in GDP in recent decades. Senegal's national Poverty Reduction Strategy Paper (Document Stratégique de Réduction de la Pauvreté, DRSP-II) regards agriculture as a major source of growth for the economy, because it is particularly well placed to stimulate inclusive growth and reduce poverty.

2. An increasing concern for Senegal is that the resource base for agriculture is not as robust as it once was. Almost two-thirds of the country's arable land is degraded—about 2.5 million hectares, according to the Senegal Country Environmental Assessment (CEA, FY08). This land degradation occurred primarily because of overgrazing and unsustainable agricultural practices, which sped deforestation, but ancillary causes were population growth (which extended cultivated area and increased the pressure on forest resources) and drought.

3. Land degradation has a number of negative social, economic, and environmental effects. Depleted soils cause agricultural productivity to stagnate; the lack of productivity limits the potential for economic growth. Depleted soils also create imbalances in ecosystems, which imperil waterways and the viability of wildlife habitats. For rural people in particular, land degradation increases poverty and vulnerability by reducing their options to pursue a livelihood and generate income. These circumstances cause more young people to migrate to urban centers such as Dakar, but migration comes at a high cost to society, including unemployment.

4. Sustainable land management (SLM) offers opportunities to address land degradation effectively. The Senegal CEA indicates that SLM could address land degradation in a way that enhances the productivity of rural land over the long term, yet despite isolated technical successes, the spread of SLM has remained relatively limited in Senegal for a number of reasons. The country's enabling environment for the diffusion and use of SLM practices is weak. Government policies and regulations are inconsistent, and the institutional capacity to support SLM adoption is limited. Efforts to foster SLM have been circumscribed by a single-sector, project-specific approach. These problems are compounded on the ground by unfavorable land tenure arrangements and poor incentives to adopt SLM technologies and practices.

5. Addressing land degradation and promoting the sustainable use of natural resources have been prominent objectives in all national policies and strategies since the National Action Plan for the Environment in 1993. The Senegalese Government ratified the United Nations Convention to Combat Desertification in 1995 and submitted its National Action Program to Combat Desertification in 2000. The Agro-Silvo-Pastoral

<sup>&</sup>lt;sup>1</sup> See the Country Environmental Analysis (FY08) for Senegal.

Orientation Law (Loi d'Orientation Agro-Sylvo-Pastorale, 2004) identifies the promotion of better land use practices and improved soil fertility as key strategic objectives of the national rural development policy. The Accelerated Growth Strategy (Stratégie de Croissance Accélérée, 2006) identifies "sustainable agriculture" as a key driver of Senegal's economic growth. The National Action Plan for Climate Change Adaptation (Plan d'Action National pour l'Adaptation aux Changements Climatiques, 2006) describes SLM as an effective adaptation mechanism. The DSRP-II (2006–10) regards the reduction of land degradation and promotion of sustainable agriculture and forestry as priority objectives in the fight against poverty. Increasingly, the Government of Senegal recognizes that it must scale up SLM approaches within existing institutions to address land degradation effectively. Scaling up is best done through cross-sectoral programs, as opposed to individual, stand-alone projects.

## 6. The rationale for the World Bank's involvement in the Sustainable Land Management Project was based on six considerations:

- i) The Bank has long been involved in the agricultural sector policy dialogue, starting with the sectoral adjustment programs of the 1990s. The first and second phases of the Agricultural Services and Producer Organizations Project (Programme de Services Agricoles et Organisation de Producteurs, PSAOP) have been instrumental in defining strategies and implementing reforms in the agricultural sector. The Senegal CEA provided an additional instrument to further the dialogue on natural resource management policy. The policy dialogue on agriculture and natural resources was an initial reference point for scaling up work on SLM in Senegal.
- ii) *The project's objectives complemented those of other projects in the Bank's rural portfolio.* At appraisal, the Bank's well-integrated rural portfolio in Senegal included several operations in addition to PSAOP2: the Agricultural Markets and Agribusiness Development Project (PDMAS), the Participatory Local Development Program, the Africa Emergency Locusts Project, and the West Africa Agricultural Productivity Program (WAAPP).
- iii) *The project would have strong links to previous and ongoing analytical and advisory activities.* The Senegal CEA, which was supported by the World Bank, the Royal Netherlands Embassy, and TerrAfrica, provided an in-depth analysis of the most important environmental and natural resource management issues in Senegal, along with a set of recommendations to address them. The SLM Project was intended to be one of the instruments for implementing the recommendations of the Senegal CEA and the World Bank's study on climate change in Africa.
- iv) *Technical and financial resources could be mobilized for SLM*. The Bank's convening power could be critical in leveraging support for SLM among development partners and other stakeholders.
- v) *The Bank had regional and global experience in developing and implementing SLM programs and investments.* In supporting efforts to scale up SLM in Senegal, the Bank could draw upon its extensive regional and global experience, best practices, lessons, and other knowledge generated in collaboration with others.

vi) *The operation would assist in implementing TerrAfrica.* TerrAfrica is an Africadriven World Bank partnership program for sustainable land and water management in sub-Saharan countries. The SLM operation was designed to assist the implementation of the TerrAfrica Business Plan by enabling Senegal to scale up SLM.

7. Another major consideration was that the SLM Project was consistent with the regional Global Environment Facility Strategic Investment Program for SLM in Sub-Saharan Africa (GEF-SIP). The project intended to support SIP objectives in two main ways. First, it would support Senegal's adoption of a more programmatic approach to SLM by addressing some of the weaknesses in the enabling environment that hinder SLM adoption and replication. Second, it would support Senegal in applying sustainable practices that increase land productivity while securing ecosystem services in selected priority areas. As part of GEF-SIP, the SLM operation would contribute directly to implementing the GEF Land Degradation Focal Area Goal aimed at arresting and reversing land degradation.

#### **1.2 Original Global Environment Objective (GEO) and Key Indicators**

8. The project's GEO was to contribute to the reduction of land degradation and the improvement of ecosystem functions and services in the target areas by adopting sustainable land management practices through the provision of support to the Recipient's research and agricultural and rural consultation system and to producer organizations.

9. The outcome indicators specified in the Project Appraisal Document (PAD) included:

- *i) Increase percentage of organic matter in the soil in the Target Areas* (baseline: 0.20 percent; target value: 0.23 percent). Organic matter is an indicator of soil fertility, which in turn is a proxy for land quality, agricultural productivity, and ecosystem health.
- *ii)* Increase percentage of land with SLM practices in the Target Areas (baseline: 0 percent; target value: 20 percent). The percentage of land with SLM practices is defined as the land area with SLM practices over the total land area. SLM practices include "technologies" as well as "approaches" applied to improve land quality. Technologies refer to agronomic, vegetative, structural, and management measures that reduce the effects of land degradation. Approaches are measures to introduce, apply, and implement SLM technologies.
- 10. The intermediate outcome indicators specified in the PAD were:
  - i) At least 3 new technologies have been tested and proven successful by the end of the project.
  - ii) SLM activities are integrated into the annual work plan of the Rural Advisory Agency in 30 Rural Councils within the project target area by the end of the project.

- iii) Thirty project proposals submitted by producer organizations to implement SLM technologies are implemented by the end of the project.
- iv) An SLM Investment Framework is prepared by the end of the project.

11. A new core indicator, established in 2012, is the number of beneficiaries. This indicator was not in the PAD but will be taken into consideration for this ICR.

#### 1.3 Revised GEO and Key Indicators, and Reasons/Justification

12. The GEO did not change during project implementation. During the supervision mission conducted in February 2011, however, the mission and the project implementation team reformulated three indicators (one outcome indicator and two intermediate outcome indicators). The indicators were revised to ensure better interpretation of the results framework, consistency with the main text of the PAD, and clarity in French as well as English: (i) increase of **arable** land with SLM practices in target areas; (ii) at least 3 new technologies **in farming areas** have been tested and proven successful by the end of the project; and (iii) SLM activities are integrated into the annual work plan of the Rural Advisory Agency in **8** Rural Councils within the project target area by the end of the project.<sup>2</sup>

#### 1.4 Main Beneficiaries

13. The project's primary target groups or beneficiaries were the producers and their organizations in eight rural communities<sup>3</sup> (administrative units). The project was expected to improve the access of producers (including female producers) and their organizations to SLM technologies. Leaders of producer organizations (POs) and other local institutions would be trained in natural resource management policies and in financial management, procurement, and accountability to strengthen their capacity to develop and manage SLM subprojects.

14. Aside from assisting those beneficiaries, the project would provide institutional support to four implementing agencies: the Senegal Agricultural Research Institute (Institut Sénégalais de Recherches Agricoles, ISRA), the Senegalese Association for Promoting Grassroots Development (Association Sénégalaise pour la Promotion du Développement à la Base, ASPRODEB), the National Rural and Agricultural Advisory Agency (Agence National de Conseil Agricole et Rural, ANCAR) and the National Soil Sciences Institute (Institut National de Pédologie, INP). The project was expected to create synergies among these institutions by strengthening their cross-sectoral coordination mechanisms and institutional capacity to generate and disseminate applied research and knowledge on SLM.

<sup>&</sup>lt;sup>2</sup> The change is indicated in boldface type.

<sup>&</sup>lt;sup>3</sup> Notto Djobass and Méouane in the Northern Groundnut Basin; Dealy and Touba Mosquée in the Central Groundnut Basin; and Fimela, Niakhar, Nganda, and Latmingue in the Southern Groundnut Basin.

#### **1.5 Original Components**

15. As specified in the PAD, the project consisted of four components, similar to those in  $PSAOP2^4$  with which it was blended:

- Component A Support to the Agricultural Research System (US\$ 0.6 million): The project was expected to strengthen ISRA's capacity to generate and disseminate SLM-targeted research and knowledge. More specifically, this component aimed at: (i) supporting the implementation of demand-driven SLM research and development (R&D) activities by providing technical and financial support; (ii) financing baseline studies, including the collection of baseline information on the biophysical and socioeconomic characteristics of project sites; and (iii) strengthening ISRA's capacity to generate, disseminate, and monitor SLM-targeted research and knowledge.
- 2) Component B Strengthening Agricultural Advisory Services (US\$ 0.7 million): This component aimed at: (i) strengthening the capacity in SLM within the agricultural extension system, including the capacity of ANCAR, farmer intermediaries, and service providers to deliver SLM packages and provide adequate technical backstopping on SLM, and (ii) delivering SLM packages by developing and delivering demand-driven, customer-tailored SLM advice through the agricultural extension system.
- 3) Component C Support to Producer Organizations (US\$ 2.8 million): This component was executed by ASPRODEB and aimed at: (i) strengthening the capacity of POs to integrate SLM in their production systems through training and other kinds of capacity building in SLM, advocacy and other forms of communication and public awareness related to SLM, and other activities; (ii) strengthening the capacity of leaders of POs and local political leaders to take account of SLM in formulating sectoral policies; and (iii) supporting the adoption of SLM practices by providing financial resources to implement SLM subprojects identified by suitable POs, assessed and approved by local assemblies, and satisfying the eligibility criteria.
- 4) Component D Support to Sectoral Coordination (US\$ 0.7 million): This component had two subcomponents. The first was to enable the Government of Senegal to move toward a more cross-sectoral and programmatic approach to SLM, including institutionalization of the SLM Committee as a national multisectoral forum, the formulation and adoption of a National Strategic Investment Framework for SLM (SIF)<sup>5</sup> and the development of a national database incorporating information on SLM technologies and approaches. The second subcomponent would support the costs of managing the project, including its technical activities, fiduciary responsibilities and reporting, and M&E.

## **1.6 Revised Components**

16. The components were not revised.

<sup>&</sup>lt;sup>4</sup> PSAOP2 implementation completion and results report number: ICR1415.

<sup>&</sup>lt;sup>5</sup> Cadre National d'Investissement Stratégique sur la Gestion Durable des Terres (CNIS-GDT).

### **1.7 Other Significant Changes**

17. The major change was to extend the project's closing date from June 30, 2012 to December 31, 2012. The implementation support mission of April 2012 regarded a sixmonth extension as vital for two main reasons. First, the extension would enable the project to complete the measurement and analysis of PDO indicators. Second, it would enable a core component of the project (Component C, support for POs) to consolidate its results and achieve its objectives and targets. The extension made it possible to achieve both goals.

## 2. Key Factors Affecting Implementation and Outcomes

## 2.1 Project Preparation, Design, and Quality at Entry

18. The design of the SLM Project reflected knowledge and lessons emerging from several main sources, including other projects in Senegal, particularly PSAOP; SLM operations throughout Africa; findings and recommendations from the CEA; and results of three analytical studies related to SLM. The major lessons reflected in the project's design included:

- i) *Enabling activities are not sufficient on their own and must be accompanied by onthe-ground investments.* For that reason, the SLM Project would not only support activities to improve the enabling environment for SLM but would support on-theground investments that would generate results rapidly and add to the momentum for SLM in Senegal.
- ii) *Improved cross-sectoral coordination is critical to scaling up SLM:* The SLM Project would support cross-sectoral coordination mechanisms and provide technical and financial support to develop the National Investment Framework for SLM.
- iii) *POs foster change and promote sustainability.* PSAOP showed that institutional reforms and new relationships between clients and service providers emerge when producers are empowered and can contribute to the cost of the services they need. PSAOP2 deepened this approach by channeling more financial resources through POs to increase the accountability and client orientation of agricultural services. A central element of the SLM Project was to strengthen the capacity of POs and empower them along similar lines.
- iv) In the agricultural sector, there is a need to shift the focus from commodity production to land productivity and environmental sustainability. The impact and long-term sustainability of agricultural interventions were limited when they focused mainly on commodity production and agricultural intensification rather than on sustainable management of land and land productivity. Better integration of SLM approaches into the agricultural sector could potentially address these limitations.

19. Generally speaking, the SLM Project was prepared rigorously through a participatory approach involving all key stakeholders (including ISRA, INP, ANCAR,

and ASPRODEB), who helped to develop the components that they were to implement. This process ensured that those stakeholders shared a sound understanding and ownership of the project at entry and built on this advantage during implementation to deliver a successful project. During preparation, the team correctly identified some of the key risks, such as uncertain land tenure status for farmers, which could discourage long-term investments in practices such as SLM; institutional conflicts, which could prevent the adoption of a multisectoral approach to SLM; and risks related to financial management. The measures identified to mitigate those risks worked well. The institutional arrangements and the selection of executing agencies were sound and were based on experience with both phases of PSAOP. Other aspects of the project, such as financial management and procurement, were also well developed.

20. At entry, the project benefited from the high commitment of the Government of Senegal, which was very concerned by the negative effects of land degradation on agricultural development. At the local level, the project took advantage of institutions set up under both phases of PSAOP, especially the Local Consultation Forums for Producer Organizations (Cadres Locaux de Concertation des Organisations de Producteurs, CLCOPs). The CLCOPs—which were charged with identifying which POs would present proposals for subprojects to foster the adoption of SLM practices and technologies—had a critical role in implementing the project. As grassroots organizations, they displayed considerable commitment to the project, which they regarded as a good opportunity to move local development forward.

21. Despite these efforts, the design of the SLM Project had shortcomings. First, the limited budget envisaged at appraisal made it challenging to identify the project's target areas. Following several field visits with stakeholders during project preparation, the project finally targeted 8 rural communities out of an original target of 30. Note that the final version of the PAD was not reviewed carefully, as the results framework maintained the target value of 30 rural communities, whereas the main text indicated that the project would cover 8 rural communities. This discrepancy was later corrected through restructuring.

22. A second shortcoming was the PAD's gender-blindness. The document contained no specific arrangements or explicit targeting to reach women and youth. The word "women" appears once in the entire document, in reference to the representative of the Ministry of Women on the steering committee. Yet Senegalese women are fully involved in agriculture and well represented in the CLCOPs leadership, and the relationship between gender and land issues is a recurrent subject of debate and concern. Fortunately, the project adopted a gender-sensitive approach following guidance from the Bank as part of its implementation support.

23. Finally, the lifetime of the project was three years—a workable but fairly rigorous timeframe for implementing an environmental and agricultural project of this nature. The short implementation period heightened the urgency of successfully resolving any issues that arose during implementation (see the next section).

## 2.2 Implementation

24. The project appears to have been appropriately designed and ready for implementation (one indication is that it underwent only a slight restructuring in its final year, when the outcome indicators were reformulated). Even so, implementation required some time to gain momentum. Delays on the part of the implementing agencies, challenges in project supervision on the part of the World Bank, and the practical difficulties inherent in implementing cross-sectoral coordination of SLM affected the pace of implementation. As a result, the project's performance was rated moderately satisfactory three times during implementation, before the combined interventions of the supervision missions and implementing agencies injected new momentum into the project, which then solidly achieved (and in one instance significantly exceeded) its targets.

25. Given the location-specificity of SLM practices and the learning curve involved, ISRA's soil analysis (organic matter assessment), socioeconomic characterization, and research to develop and test SLM technologies required some time to get up to speed. ANCAR's development activities also started slowly, because the agency did not execute its budget as per the 2010 annual work plan and budget. Turnover in the implementation team (particularly the ISRA researcher leading implementation of Component A and the ANCAR accounting expert), as well as the limited capacity of ANCAR's financial management system to accommodate the SLM Project, imposed additional challenges.

26. On the World Bank side, the project's task team leadership changed twice, affecting the timing of implementation support missions and preventing the mid-term review from taking place. Even so, implementation support from the Bank remained close, and responsiveness on the part of the implementing agencies counteracted the effects of initial delays and unforeseen turnover. Each implementing agency was asked to prepare an action plan to ensure that activities were implemented and results delivered without delay, and funds were reallocated to permit ISRA to complete the socioeconomic study.

27. In implementing the cross-sectoral and institutional coordination mechanisms envisioned in the PAD, the agencies involved—ANCAR, ISRA, INP, and ASPRODEB—needed consistent, specific guidance to develop functional, synergistic partnerships and overcome established institutional barriers. Over time, and with the benefit of more continuous advice, collaboration among these agencies improved. For example, the Agricultural and Rural Advisors (Conseillers Agricoles et Ruraux, CARs) were involved in all field activities either implemented by their own institution (ANCAR) or by ASPRODEB; eventually, seamless collaboration made it difficult to differentiate which activities were implemented by which agency. INP brought stakeholders from various sectors together to develop and validate the SIF.

28. The issues that initially slowed momentum were resolved. The project achieved its objectives, with some transformative results at the community and institutional levels. The strong commitment and engagement of the POs, CLCOPs, implementing agencies, and government (which requested the extension of the closing date), as well as leadership from the implementation support missions, were critical to those achievements.

#### 2.3 Monitoring and Evaluation (M&E) Design, Implementation, and Utilization

29. The monitoring system was generally well designed. Minor shortcomings were sorted out during implementation. As noted, ambiguities that obscured the English–French translation of three indicators were resolved. A particular concern for M&E was the outdated (1990s) baseline value for the PDO indicator related to soil organic matter; a soil analysis and mapping study planned for the project's first year to update the baseline values in the PAD and measure the PDO indicators was delayed considerably. Soil samples were taken in the first year, before SLM technologies were in place, but the soil analysis was not completed until the end of the project. In the end, the baseline study more closely resembled an environmental impact study, because it measured the evolution of soil organic matter and the area covered with SLM technologies before and with the project.

30. Initially monitoring was affected by the uneven flow of information from subprojects and implementing agencies. The implementation support mission recommended that the Technical and Fiduciary Coordination Unit (Unité de Coordination Technique et Fiduciaire, UCTF) organize regular field visits to collect the data rather than waiting for data to arrive from the implementing agencies. After the M&E team implemented that recommendation, the consistent collection of field data enabled the results framework to be updated regularly. At the Bank team's request, the UCTF made every effort to disaggregate field data by gender.

31. For the impact study at the end of the project, the POs worked with ASPRODEB to evaluate their SLM subprojects and gain a bigger picture of the project's environmental and economic impacts. ANCAR organized a workshop to assess the project's main achievements and challenges (Annex 6). An economic and financial assessment of the project was also done (Annex 3).

## 2.4 Safeguards and Fiduciary Compliance

32. **Safeguards.** The project was classified as a safeguard screening Category S2 and environmental screening Category B and required a partial assessment. Two focal points were trained to deal with these issues and provide follow-up. During implementation, the focal point for environmental safeguards worked with the POs to ensure that subprojects were implemented in compliance with the Bank's safeguards. Each subproject was subject to an environmental screening; no significant negative environmental effects were found.

33. For subprojects that constructed anti-saline dams, local environmental authorities visited the sites, validated the environmental screening, and verified public compliance with safeguards. The authorities recommended the integration of all environmental and social safeguard provisions in service providers' contracts.

34. For all other subprojects, guidelines for environmental and social safeguards were developed and applied by ASPRODEB prior to approval. The guidelines, which were based on the Environmental and Social Management Framework and the Pesticide and

Pest Management Plan, specified the environmental criteria that applied when selecting subprojects, procedures for identifying potential environmental and social impacts of subprojects, and actions to be taken by POs to minimize the impacts. ASPRODEB followed up with subproject managers within POs to help them implement the actions proposed in the guidelines. These procedures ensured that the overall project complied with the Bank's safeguard policies.

35. **Procurement**. Overall, the UCTF conformed to International Development Association (IDA) procurement guidelines and procedures. The implementing agencies set up units to handle procurement and bidding procedures as required under the reform effective in Senegal as of January 2008. Despite the departure of the UCTF's procurement specialist in 2010 and difficulties in filling the position, the accounting assistant who served as acting procurement specialist did her best to handle the project procurement plan. The quality of procurement may have suffered owing to some lack of capacity in some of the implementing agencies, but this concern was addressed by capacity building organized by the Bank.

36. **Financial management.** Financial management was generally adequate, carried out by a team using appropriate management tools. Financial monitoring reports were done well and on time, and the conditions for disbursement were consistently met. Audit reports were issued with unqualified opinions. Weaknesses previously observed in the POs' management of subprojects, including deficiencies in financial auditing or oversight, were addressed by a consultant hired by ASPRODEB to conduct financial monitoring of the POs.

## 2.5 Post-completion Operation/Next Phase

37. The SLM was a pilot project funded under the GEF-4 replenishment cycle. In the following GEF-5 replenishment cycle (July 2010–14), a new operation, the Sustainable and Inclusive Agribusiness Project (Projet de Développement Inclusif et Durable de l'Agrobusiness au Sénégal, PDIDAS) funded by GEF at US\$ 6 million, is at an advanced stage of preparation. This new project, which targets the Ngalam Valley and Lac de Guiers areas, is being developed under a broad umbrella program—the Sahel and West Africa Program. It has been endorsed by the government and has been designed to reflect the lessons learned from the SLM Project. Under the WAAPP, efforts are also being made to build on the SLM Project's achievements. Given that its primary aim is to increase productivity, the WAAPP must give attention to restoring and sustaining soil fertility through good land management.

## 3. Assessment of Outcomes

## 3.1 Relevance of Objectives, Design, and Implementation

38. Several characteristics of the SLM Project's design and implementation made it highly relevant and fully consistent with regional and national development priorities. At the regional level, extending the area under SLM is the key objective of Pillar 1 of the Comprehensive African Agriculture Development Program under the New Partnership for Africa's Development. It is also a key objective of Program Area 1 (Degradation) of the Environmental Action Plan. The SLM Project was designed to contribute directly to those objectives.

39. At the national level, DSRP-II (2006–10) gave high priority to combating land degradation and promoting sustainable agriculture, and the Country Assistance Strategy (2007–10) recognized that enhancing land productivity on a sustainable basis was important for unlocking the potential for rural growth. The Accelerated Growth Strategy also viewed sustainable agriculture as an important driver of national economic growth. The national rural development policy emphasized the importance of improving land use and soil fertility. The National Action Plan for Climate Change Adaptation identified SLM as an effective climate adaptation activity.

40. More recently, SLM has been cited as a key objective for the agricultural sector in the new National Strategy for Economic and Social Development 2013–17 (Stratégie Nationale de Développement Economique et Social). The new Country Partnership Strategy (CPS 2013–17), which is based on strengthening the governance framework and building resilience, features specific activities to manage the risk of natural disasters and increase SLM to enhance resilience across the economy.

41. By developing and transferring SLM technologies and funding SLM subprojects identified and managed by POs, the SLM Project helped to restore and sustain local productive resources. A common failing of natural resource management projects is that they do not involve local communities. In contrast, the starting point for the SLM Project was community-driven demand. As a result, the project elicited intense interest and involvement at the community level, resulting in a high level of ownership for the SLM practices that communities eventually adopted. Among POs, the project fostered greater awareness of and commitment to the restoration and preservation of their natural resource base. This empowerment led the communities to develop and advance novel initiatives on their own behalf. Some communities, for example, signed conventions to preserve their natural resources (see Annex 6 for an example).

## 3.2 Achievement of Global Environmental Objectives

#### *Rating:* Satisfactory

42. **Overall, achievement of the GEO is Satisfactory**, based on the achievement of agreed GEO indicators and intermediate outcome indicators. The SLM Project met both agreed GEO indicators:

i) The percentage of soil organic matter in the target areas increased from 1.82 percent to 2.29 percent, an absolute increase of 0.47 percent and a relative increase of 25 percent. The baseline value for soil organic matter in the PAD was 0.20 percent and the target was 0.23 percent, corresponding to a 15 percent increase. As indicated, those values were measured in the 1990s and represented the average rate across the Groundnut Basin. An updated baseline value of 1.82 percent was derived from ISRA's soil analysis in each of the project's eight target areas.

ii) *SLM practices were used on 20,066 hectares in the target areas,* versus the target of 20,000 hectares contained in the main text of the PAD (in addition to the target of 20 percent in the results framework). Given that no baseline mapping was undertaken, a percentage increase was difficult to specify, so the project used the target of 20,000 hectares in monitoring progress.

43. Aside from achieving these SLM targets, the project was transformative at the community level, where it elicited strong commitment among producers to implement subprojects that adhered to principles of good governance and transparency. The Government of Senegal's ICR mentions that POs unanimously attested to the project's innovative approach of assigning full accountability to the POs for managing their subprojects and reinforcing their capacity (particularly in financial management and procurement) to manage effectively.

44. Training in SLM technologies was organized over 43 sessions for 3,350 producers. To improve the capacity of leaders of POs or local institutions to manage SLM subprojects, 214 received training in natural resource management and 150 received training in financial management, procurement, and accountability.

45. The number of direct beneficiaries of the different components of the project is estimated at 26,257 producers, of whom more than half (13,937, or 53 percent) were women. Throughout the project, beneficiaries expanded their natural resource management knowledge and skills by engaging in a range of activities, including agroforestry, reforestation, and tree nurseries (250,225 seedlings were produced and planted); making gabions and stone bunds; rehabilitating livestock watering ponds; building soil fertility through applications of chemical and organic fertilizer (phosphate and compost, for example); using energy-saving stoves; and making exchange visits with other communities that had adopted SLM practices.

46. Table 1 summarizes the achievement of intermediate performance indicators for the four main components of the SLM Project. Additional detail is available in Annex 2.

These video links provide more information on the SLM Project's achievements: http://www.youtube.com/watch?v=Lxtyl3tj35Q (French) http://www.youtube.com/watch?v=AelCFXW6d2s (English)

Intermediate Outcome Indicators	Baseline July 2009	End Target December 2012	Achievement at End of Project	Level of Achievement	Comments
Component A: Support for the Agricultu	ral Research	System ( <i>Satisfactory</i> )			
At least 3 new technologies in farming areas have been tested and proven successful by the end of the project	0	3	3	Achieved	The three new technologies: (i) building stone bunds and planting trees along isohyets to reduce water and wind erosion; (ii) planting multipurpose and salt-tolerant trees to restore and improve saline soils on agro-silvo-pastoral land; (iii) using ramial chipped wood ( <i>bois raméal fragmenté</i> —deciduous tree trimmings) to improve soil fertility (an organic soil amendment).
Component B: Strengthening Agricultura	al Advisory Se	rvices (Satisfactory)			
SLM activities are integrated into the annual work plan of the Rural Advisory Agency in 8 Rural Councils within the project's target areas by the end of the project	0	8	8	Achieved	In the 8 Rural Councils, SLM technologies are now part of the work program for ANCCAR's agricultural and rural advisors (CARs). Technical datasheets were developed to support dissemination of SLM technologies.
Component C: Support to Producer Orga	nizations (Hi	ghly Satisfactory)			
30 subproject proposals submitted by POs to implement SLM technologies are implemented by the end of the project	0	30	36	Overachieved	36 SLM subprojects were implemented successfully and addressed low soil fertility (13); water erosion (6); soil salinity (5); wind erosion (3); and other issues, including the high consumption of wood and charcoal for cooking (9). The innovative aspect of this component was its community-driven development approach, which gave POs full accountability for subprojects and fostered high levels of interest in, commitment to, and ownership of SLM subprojects.
Component D: Support to Sectoral Coord	dination ( <i>Sati</i>	sfactory)			
A national strategic investment framework for SLM (SIF) is approved by the end of the project	SIF non- existent	SIF developed and approved	SIF developed and approved	Achieved	The validated SIF was submitted to the Ministry of Agricultural and Rural Equipment. Other communication tools were developed based on the SIF.

#### Table 1: Achievement of intermediate results indicators by component, SLM Project

## **3.3 Efficiency**

47. An economic and financial analysis of SLM was done at project appraisal (for the PAD) and completion (for this ICR). The aim was to determine whether sustainable improvements in smallholders' agricultural production, productivity, and income, induced by the adoption of SLM technologies under the project, were economically and financially profitable in relation to the investments made.

48. The analysis for this ICR was based on a review of project documents and secondary data, as well as interviews with beneficiaries (producers) and the other main stakeholders involved in the project. The methodology assessed and compared costs (investment and production costs) and benefits. Investment costs included costs of training, building producers' awareness of SLM technologies, institutional support, and technical assistance. Production costs consisted of the costs of inputs (seed, fertilizer, and pesticide), small equipment, and in some cases labor. Data on production costs were collected from the Directorate of Agricultural Analysis, Forecasting, and Statistics (Direction de l'Analyse, de la Prévision et des Statistiques Agricoles, DAPSA). The benefits consisted of the increases in productivity, area, and production of the main crops (millet, groundnuts, rice, cowpeas, cassava, and maize) under SLM technologies over the project implementation period (2010–12). Production was valued at the observed market price. For some technologies, such as charcoal-saving stoves and biogas, the benefits were a 50 percent reduction in the cost of charcoal consumption and a reduction in the time that women spent collecting wood. The analysis was done for the overall project as well as for each type of subproject or technology.

49. Annex 3 presents detailed results of the economic and financial analysis. For the project as a whole, the economic Internal Rate of Return (IRR) was 170 percent, much higher than the opportunity cost of capital in large public investments (17–25 percent). The Net Present Value (NPV) was estimated at US\$ 1.75 million. Similarly, the financial analysis, based on observed market prices, showed an IRR of 95 percent, which is higher than the opportunity cost of capital in the agricultural sector (estimated at 12 percent). The NPV was estimated at US\$ 1.2 million. Cash flow was negative in the first year but became positive from the second year and increased much more in the third year of implementation as SLM technologies covered a greater area. The financial analysis by type of SLM subproject or technology suggests that most SLM subprojects were profitable and exhibited high financial IRRs of 30–73 percent. Only the subproject focused on planning to prevent water erosion displayed negative cash flow over the three years of implementation, but it would become profitable in year five with a financial IRR of 51 percent.

50. All of these results support the conclusion that the project was economically and financially sound. Overall, the IRRs calculated for the project at completion (ICR) are even better than those expected at appraisal (PAD)—an economic IRR of 170 percent versus 93 percent, and a financial IRR of 95 percent versus 27 percent.

51. The SLM Project is also expected to generate greater economies of scale and improve the cost-effectiveness of SLM interventions owing to its success in strategically

and incrementally fostering a more cross-sectoral and programmatic approach to SLM. This result was achieved by: (i) strengthening ISRA's capacity to generate new, proven SLM technologies; (ii) strengthening the capacity of ANCAR and ASPRODEB as service providers, which improved the transfer of SLM technologies to POs; (iii) facilitating SLM adoption by producers and their organizations, with positive impacts on soil fertility and subsequently on productivity, and production; and (iv) writing the SIF to facilitate the alignment and harmonization of current and future interventions and the sharing of experiences, thus reducing transaction costs and increasing the impact of interventions.

52. The SLM Project was blended with PSAOP2 (which closed much earlier, in June 2011) and co-financed by IDA, the International Fund for Agricultural Development (IFAD), GEF, the Government of Senegal, and POs. In PSAOP2, the Government of Senegal provided 69 percent of counterpart funds compared to what was originally envisaged (Annex 1).

## 3.4 Justification of Overall Outcome Rating *Rating:* Satisfactory

53. **Overall project outcomes are rated as Satisfactory.** Considering the relevance of the project's objectives, design, and implementation, as well as the achievement of the development objectives and efficiency, the overall project outcome is rated Satisfactory. The project's relevance is confirmed by its direct efforts to address land degradation, a fundamental constraint on agricultural development that is emphasized in numerous national and regional development strategies. The agreed GEO indicators and intermediate outcome indicators were fully achieved. The project was efficient, as indicated by the high financial and economic rates of return. Finally, the project was extremely transformative. It created new momentum at the community level by engaging coalitions of producers in developing and successfully managing SLM subprojects, and it created new momentum among the implementing agencies by engaging them in a more efficient, cross-sectoral approach to SLM.

## **3.5 Overarching Themes, Other Outcomes, and Impacts**

#### (a) Poverty Impacts, Gender Aspects, and Social Development

54. The M&E system, the financial and economic analysis, the government's ICR, and the field visits during the implementation support missions highlighted key project impacts on food security and poverty alleviation. All told, SLM practices were used on 20,066 hectares in the target areas, and SLM technologies developed and disseminated under the project restored saline and degraded soils and expanded cropped area by 647 hectares. SLM technologies adopted on cultivated land contributed to food security and generated income to better meet needs for healthcare, education, clothing, and housing, among others. In addition, SLM technologies to improve soil fertility are estimated to have increased yields in a number of ways. For example, practices to control the parasitic weed *Striga helmonthica* (witch weed), which thrives in less fertile soils and makes them even less productive, increased millet yields from 550 to 850 kilograms per hectare.

Using groundnut shells as a soil amendment in lowland rice production increased yields from 1,200 to 2,300 kilograms per hectare, and using compost as organic fertilizer for groundnut production increased yields from 600 to 1,400 kilograms per hectare. (For farmers' personal testimonials, see Box 1).

#### Box 1: Giving the microphone to the beneficiaries

- A producer from **Méouane rural community** stated: "Before the project, my agricultural production covered just about three months of my household consumption needs, but with the project, with the use of organic amendment, my yield increased by 50 percent, allowing me to cover seven to eight months of my consumption needs."
- In **Simal rural community**, the anti-saline dam built through the project helped to recover land that had been infertile and abandoned for years. Fatou Faye, a female head of household and rice producer, said: *"From November to May 2012, I managed to cover my family rice consumption with my production. In addition, while it had been difficult to get to the village in the rainy season, the dam made our village accessible."*
- In **Notto Diobass rural community**, Ndeye Fatou Ndiaye, a local female leader and president of CLCOP, observed: "With the 30,000 plants produced with the project, we hope to turn our local landscape green in the near future. Also, before, I spent FCFA 300 [US\$ 0.6] per day to buy wood for cooking. With the use of the improved charcoal-saving stoves, I spent only FCFA 100 [US\$ 0.2]. My house is cleaner, and the fire risks are reduced."
- In **Notto Diobass rural community**, a young man said: "I migrated to Thies City and was a taximan, but I came back to the village because of the project. With my agroforestry activities and the use of compost, I am earning more than in town now."

55. For some villages that were entirely isolated during the rainy season, the dams built under the project have improved access to markets, schools, and health centers. The fruit tree nurseries and other horticultural activities pursued by women promise to increase local fruit and vegetable production and improve nutrition in the local population in the short run.

56. As discussed, more than half of the project's beneficiaries were women (53 percent). Through its community demand-driven approach, the project addressed concerns of particular interest to women, and it succeeded in providing appropriate SLM technologies to address those concerns (Box 2). The Bank's emphasis on an inclusive approach with respect to gender and the strong involvement of rural women in the leadership of CLCOPs played a major role in achieving such results.

57. Young people, especially heads of households, were heavily involved in implementing the project as well, and they account for a substantial share of its beneficiaries. The development of agroforestry and other SLM approaches through the project increased agricultural yields and productivity and gave young people new options to pursue sustainable livelihoods in rural areas, reducing the likelihood of migration to urban centers in search of employment.

#### Box 2: SLM Project benefits for women

- Under the project component to support POs, 36 SLM community-driven subprojects managed by POs were financed and implemented. In developing and disseminating SLM technologies for the subprojects, the needs of women as well as men were addressed. The direct beneficiaries of the POs component numbered an estimated 17,990, of whom 9,991 (55 percent) were women (across all components of the project, women constituted 53 percent of beneficiaries).
- The SLM Project fostered positive changes in land tenure for women at the grassroots level. Women were encouraged to request ownership of land as a group from the rural community. Individually, women were encouraged to purchase land or to request an allotment from their husbands to use as owners rather than as tenants (tenancy was the prevailing custom). The introduction of some technologies that elicited great interest among women, such as the establishment of fruit orchards, led to these changes in land tenure.
- The diffusion of technologies responding to women's specific needs, such as improved charcoal-saving stoves and biogas from manure, freed women from the need to collect so much fuelwood far from the homestead and gave them more time to devote to remunerative activities. About 6,600 improved charcoal-saving stoves have been distributed to women through SLM subprojects managed by POs headed by women. The stoves reduce deforestation by reducing the pressure on natural resources. The number of beneficiaries will increase after the project ends, because some POs are subsidizing half of the price of stoves and making them available on credit to women outside the POs in the village and surrounding areas.

#### (b) Institutional Change/Strengthening

58. Because the SLM Project reinforced the positive institutional impact of PSAOP2, which closed in 2011 and with which it was integrated, the SLM Project's institutional development impact was substantial. The greatest institutional impact occurred at the local level among POs and CLCOPs. By relying upon POs and CLCOPs to manage their SLM subprojects technically and financially, the project engendered greater social cohesion, a stronger commitment to development, and increased confidence and capacity at the community level. The POs and CLCOPs successfully implemented their 36 subprojects while fully adhering to principles of good governance and transparency. They highly appreciated the capacity building in which they participated and which increased their managerial skills. They are rightfully proud of their accomplishments and eager to further their work in SLM to better protect their environment. They are well organized and meet regularly to discuss local development issues. It bears emphasizing that these people are no longer the objects of externally proposed development activities but have become the subjects of their own development. The POs and CLCOPs have learned to formulate their demands for services from the research and extension system and other government services, and they are more fully engaged in the market economy.

59. On the research and extension side, ISRA, INP, ANCAR, and ASPRODEB valued the collaborative work experience. They will keep strengthening their partnership to improve their delivery of results and increase their impact on development.

#### (c) Other Unintended Outcomes and Impacts

60. In Wellou Bell village, a subproject managed by the CLCOP (which was led by a woman) improved the water retention capacity of the pond where livestock were watered and had the unanticipated result of increasing the availability of milk and manure. Because the improved pond provided more water for a longer period, it enabled pastoralists to remain in the village with their livestock from August until November-December, instead of moving in October as they had done previously. The extended presence of livestock in the village undoubtedly had a positive impact on nutrition by making milk available for a longer period, and it probably also improved soil fertility and crop yields through the increased availability of manure. Because Wellou Bell is a crossroads village, the pond is used by pastoralists moving seasonally from other regions with about 2,000 cattle and 15,000 sheep and goats. Their presence adds to the socioeconomic activity in Wellou Bell.

#### 3.6 Summary of Findings of Beneficiary Survey and/or Stakeholder Workshops

61. The beneficiary survey was part of the Government of Senegal's ICR, which was done by a team of independent consultants who visited seven of the eight rural communities participating in the project. To improve their understanding of the project's results and impacts, the ICR team conducted focus group discussions with the main groups of beneficiaries, including producers, members of POs, local authorities, extension staff, the CARs of ANCAR, and staff of the other implementing agencies. The key findings of the government's ICR included:

- Despite its slow start, implementation of the SLM Project moved more quickly as the project continued and yielded satisfactory results, not only by achieving the results specified in the outcome indicators but by creating synergies among institutions and actors to develop and use SLM technologies.
- Because the project's direct beneficiaries were also the main actors in its implementation, the SLM Project's participatory, inclusive, and community demand-driven approach was innovative. Unanimously, the producers and their organizations appreciated the project and requested a nationally scaled-up second phase.
- The capacity building in which POs, CLCOPs, local authorities, and technicians participated has set the stage for better selection and adaptation of SLM tools and technologies as well as advocacy for SLM at the local and national levels.
- On the research side, in addition to the baseline work, which provided a better understanding of the biophysical and socioeconomic environment, ISRA was able to test and validate SLM technologies on farmers' fields, increasing the likelihood of adoption. Information on this valuable research must be disseminated more widely.
- ANCAR successfully expanded its field activities by integrating advice on SLM. It increased the effectiveness of its staff by building partnerships with other public and private institutions working on SLM.
- Improved cross-sectoral coordination resulted in the development of the SIF through a successful process managed by INP in partnership with the different stakeholders.
- The UCTF capitalized on the experience gained under both phases of PSAOP to manage the project satisfactorily. The unit created a good framework for

collaboration with the implementing agencies, and together they are responsible for the successful implementation of all four project components.

62. In its results completion report, ASPRODEB concluded that using a community demand-driven approach to increase the dissemination of SLM technologies at the national level would probably significantly reduce the overall vulnerability of rural households, improve food security, and limit the exodus of young people from rural areas.

# 4. Assessment of Risk to Development Outcome *Rating:* Low

The impacts of the SLM technologies generated and disseminated under the 63. project were consistent in terms of land recovery, fertility restoration, productivity, production, and preservation of the environment. In addition, by using a community demand-driven approach, the project reinforced commitment and ownership of the project among the beneficiaries-producers, POs, and CLCOPs, who also valued the capacity building under the project. The project's economic and financial soundness, as well as its impacts on the environment, social development, and institutional strengthening, ensure sustainability and suggest that the risk to development outcomes is low. The social capital developed from empowering the POs and CLCOPs can be expected to endure and grow. Some female managers of POs operating SLM subprojects took the initiative to make the improved charcoal-saving stoves available on credit, with half of the price subsidized, instead of distributing them for free, so that more women within the village and surrounding villages could have access to the technology. This decision powerfully illustrates their willingness to sustain their subproject and natural resources. More evidence comes from the agreements signed by community members to ensure better preservation of their natural resources (Annex 6)-an initiative that emerged spontaneously, without any intervention by the project's implementing agencies.

64. With respect to the sustainability of project outcomes among the implementing agencies, ASPRODEB's good performance in implementing the component in support of POs confirms that it has become a stronger institution that is more oriented to delivering results. The project's communication strategy, which included regular briefings with the media to provide information on the project, increased ASPRODEB's visibility and opportunities to build additional partnerships with donors interested in SLM. Similarly, INP, having led development of the investment framework, is playing a leading role in SLM and building wider partnerships. ISRA has amassed new experience, knowledge, and proven technologies ready for dissemination in partnership with ANCAR, which has fully integrated SLM in its action plan. WAAPP will build upon these achievements and reinforce partnerships among these institutions through a competitive grant mechanism to foster wider dissemination of SLM technologies with proven capacity to increase agricultural productivity.

#### 5. Assessment of Bank and Borrower Performance

## 5.1 Bank

#### (a) Bank Performance in Ensuring Quality at Entry Rating: Satisfactory

65. Quality at entry was satisfactorily ensured by the Bank team. The project was designed well, with considerable involvement of many stakeholders, especially the implementing agencies. Lessons from both phases of PSAOP were taken into account to anticipate and avoid any institutional conflicts. This proactive and participatory approach enabled each implementing agency to contribute to designing and articulating the project component for which it was responsible. The approach also fostered a sound common understanding and ownership of the project at entry. Another reason for rating quality at entry as satisfactory is that the team correctly identified the key risks during preparation and appraisal and adopted appropriate risk mitigation measures.

#### (b) Quality of Supervision Rating: Satisfactory

The Bank team should be recognized for providing supervision in the form of 66. missions, meetings, and advice focused on delivering results. Joint implementation support missions were organized with the government, and the participation of the technical advisor of the Minister of Agriculture was particularly effective. During the missions, extensive field visits were conducted to assess the technologies being tested in farmers' fields, to interact with POs and local authorities, to determine constraints, and to address them in a timely way to deliver results on schedule. Although at first the implementing agencies were not at full capacity, implementation gained momentum as a result of steady guidance, useful recommendations, and the action plan. A six-month extension of the project's closing date enabled all activities to be completed. Fiduciary and safeguard issues were also carefully and regularly supervised. Progressively, with the task team's support and guidance, the UCTF conformed to the World Bank procurement guidelines and procedures; the UCTF and implementing agencies adhered to Bank environmental and other applicable safeguard policies. Financial management improved, and appropriate management tools were used.

#### (c) Justification of Rating for Overall Bank Performance Rating: Satisfactory

67. The good quality at entry and effective implementation support justify the rating of Satisfactory for overall Bank performance. Efforts by the Bank's task team in designing a sound project and supporting its implementation paid off, with the achievement of all development outcomes and a high disbursement rate of 99.64 percent at closing.

#### 5.2 Borrower

#### (a) Government Performance Rating: Satisfactory

68. The Government of Senegal supported the satisfactory achievement of project outcomes in a number of important ways. The ministerial staff was involved in project supervision and follow-up. In particular, the agricultural program manager of the Ministry of Economy and Finance and the president of the steering committee (the technical advisor of the Minister of Agriculture) acted in a proactive manner to guarantee the project's success. All of the Bank implementation support missions were organized jointly with them on behalf of the Government of Senegal. DAPSA participated in all missions on behalf of the government. The President of Senegal visited one SLM subproject site managed by female producers and praised their achievements.

#### (b) Implementing Agency or Agencies Performance Rating: Satisfactory

69. The SLM Project was implemented by several agencies and a small coordinating unit.

70. Component A, Support to the Agricultural Research System, was implemented by ISRA. The performance of this agency is rated *Satisfactory*. ISRA accounted for a large share of the development outcomes achieved through the project. Despite the project's relatively short timeframe (particularly in light of its focus on SLM), three new SLM technologies were tested and proved successful. The field demonstrations were conclusive in terms of the technologies' impacts on soil fertility improvement and agricultural productivity.

71. Component B, Strengthening Agricultural Advisory Services, was implemented by ANCAR. Performance of this agency is rated *Satisfactory*. ANCAR made great progress over the course of implementation and achieved nearly all of its assigned outcomes. By contributing to the dissemination of proven SLM technologies and best practices at the farm level, ANCAR helped to achieve the PDO and to reach the target number of beneficiaries. Through its CARs in the field, ANCAR provided remarkable cross-institutional/component support to ISRA, ASPRODEB, and INP during the implementation of SLM subprojects and the field research (Annex 2).

72. Component C, Support to Producer Organizations, was implemented by ASPRODEB. The performance of ASPRODEB is rated *Highly Satisfactory*. ASPRODEB's effort was outstanding. It helped to implement 36 SLM subprojects (compared to a target of 30), which addressed low soil fertility (13), water erosion (6), soil salinity (5), wind erosion (3), and other issues, including the high consumption of wood and charcoal for cooking (9). The unanimously positive feedback from producers participating in the project recognized the ASPRODEB team's high level of involvement and dedication. The success of the SLM subprojects managed by POs was not guaranteed. ASPRODEB contributed significantly to their success by mounting an awareness

campaign on SLM, managing the implementation of the community demand-driven approach, and strengthening the management capacity of the POs and CLCOP subproject managers. Despite the difficulty in managing the subprojects, no delay was observed in reporting to the UCTF. ASPRODEB also organized an effective communication program that arranged visits by television and print journalists to cover the project's achievements and that featured participation in a number of television and radio programs. The result of these efforts was that POs and CLCOPs were proud of their achievements, more confident, better engaged, and more highly motivated to preserve their natural resources (Annex 2).

73. Component D, Support to Sectoral Coordination, was implemented by INP, which supported the cross-coordination effort, and the UCTF, which was anchored in the Minister of Agriculture. The performance of INP is rated *Satisfactory*. INP successfully led development of the SIF through a cross-sectoral process based on wide consultation and involvement of diverse stakeholders. INP also developed communication materials and a knowledge-based platform to support SLM—the Information System on the SLM Approach and Technologies (Système d'Information sur les Approches et Technique de Gestion Durable des Terres, SENCAT).

74. The performance of the UCTF in implementing Component D is also rated *Satisfactory*. With an experienced and dedicated staff and sustained support from the president of the steering committee (technical advisor of the Minister of Agriculture), the UCTF coordinated and managed the project adequately, provided implementation guidance to the respective implementing agencies, and engaged Bank supervision missions in a substantive dialogue on project issues and how to deal with them. The UCTF worked proactively with the Bank task team and followed up on its recommendations. Its contribution to the project's achievements was significant (Annex 2).

#### (c) Justification of Rating for Overall Borrower Performance Rating: Satisfactory

75. Given the ratings above, and considering the achievement of the development outcome of the project, overall Borrower performance is rated as *Satisfactory*.

## 6. Lessons Learned

76. *The beneficiaries' commitment and ownership are critical to the success of any project.* While many SLM or broad environmental projects have not given local communities responsibility for managing their natural resources, the community demand-driven approach used in the SLM Project had remarkable success in stimulating high levels of commitment, ownership, participation, and motivation on the part of the POs implementing SLM subprojects—all of which have aided in achieving the development outcomes and increase the likelihood that they will be sustained.

77. The involvement of a multitude of agencies in a project can be successful if the coordination is successful. The SLM Project succeeded owing to the commitment of the

diverse institutions involved in its implementation (ISRA, ANCAR, ASPRODEB, INP, POs). All sought to deliver the best results to meet their expected outcome indicators. Strong involvement of technical staff at the ministry also contributed to the project's success.

78. *POs display high management ability when their capacity is strengthened.* To a large extent, the project's success rested on the capacity-building program for POs in financial management, accounting, and procurement. This training empowered the POs and increased their confidence and pride in implementing their activities fruitfully.

79. Using a community demand-driven approach can greatly improve the ownership, success, and sustainability of agricultural development projects that provide infrastructure or equipment. Like environmental projects, infrastructure and equipment projects can fail to establish ownership among their beneficiaries, which can limit the sustainability of results. Especially in irrigation projects, in which maintaining infrastructure is challenging, the adoption of a community demand-driven approach that gives all responsibility for managing irrigation schemes to POs and other users would contribute considerably to positive outcomes. Such accountability motivates POs to sustainably maintain the infrastructure or equipment as they would maintain their own assets.

80. **Transparency and good governance are important at the grassroots (local community) level.** Usually, high-level institutions are the main target for efforts to improve transparency and governance. Grassroots or local institutions such as POs always lag behind such efforts, even though they are key actors in changing institutional behaviors and increasing the transparency, efficiency, and impacts of development projects. The SLM Project showed that through transparency and good governance, POs convince the entire community to contribute to exceptional subproject achievements.

81. *Field visits during joint Bank and government implementation support missions are crucial to put projects on track to achieve development outcomes.* Field visits can reveal a great deal to the participants, including the Bank task team. Interactions with the primary beneficiaries can indicate the main challenges to address, provide an opportunity to offer guidance to the implementing agencies, and spur a productive policy dialogue on the best means to achieve the development objective. The project M&E unit also needs to be well connected to the field for regular data collection.

82. Much attention should be given to planning M&E to ensure that baseline studies are completed on time with the required data. The experience in the SLM Project points to the importance of giving greater attention to M&E planning, looking at the baseline data requirements at entry, and determining how to collect the data so they are available at the right time and can be used effectively.

83. *Gender-sensitive teams and strong female leadership among beneficiaries are driving forces in building the gender dimension of a project.* Sensitivity to gender issues among members of the Bank task team (men and women), the project coordination unit, and implementing agencies can focus attention on the gender dimensions of a project and

maintain awareness of the need to address beneficiaries' gender-specific needs. Initially the SLM Project mostly targeted men, but the Bank task team helped to reorient the implementing agencies to respond to the technology needs of men and women alike. The result of this effort was that more than half of the project's beneficiaries at closing were women. Strong female leadership in POs and CLCOPs was significant in this respect.

84. Well-trained focal points on environmental and other safeguard policies encourage compliance with World Bank policies without creating the need to call upon World Bank specialists. Selecting focal points from national institutions and strengthening their capacity on environmental and other safeguards can be a good option to handle such issues successfully. This option proved successful for the SLM Project, and it is highly recommended as a good way to strengthen leadership in national institutions for complying with safeguards.

## 7. Comments on Issues Raised by Borrower/Implementing Agencies/Partners

## (a) Borrower/implementing agencies

The Government's ICR is presented in Annex 7.

## (b) Co-financiers

None.

#### (c) Other partners and stakeholders

Annex 6 summarizes results from the stakeholders' workshop.

## **Annex 1. Project Costs and Financing**

Components	Appraisal Estimate (USD millions)	Actual/Latest Estimate (USD millions)	Percentage of Appraisal
Component A, Support to the Agricultural Research System	0.60	0.60	100
Component B, Strengthening Agricultural Advisory Services	0.70	0.71	101
Component C, Support to Producer Organizations	2.80	2.83	101
Component D, Support to Sectoral Coordination	0.70	0.69	99
Total Baseline Cost	4.80	4.78	99.64
Physical Contingencies			
Price Contingencies			
Total Project Costs			
Project Preparation Facility (PPF)			
Front-end fee IBRD			
Total Financing Required			

(a) Project Cost by Component (in USD Million equivalent)

## (b) Financing

Source of Funds <sup>6</sup>	Type of Co- financing	Appraisal Estimate (US\$ m)	Actual/ Latest Estimate (US\$ m)	Percentage of Appraisal
Borrower		20.00	13.86	69
IDA	Soft Loan	20.00	19.12	96
IFAD	Soft Loan	6.00	5.36	89
Local farmer organizations	In kind	1		
Total co-financing		46.4	38.34	83
Global Environment Facility (GEF)	Grant	4.80	4.78	99.64

<sup>&</sup>lt;sup>6</sup> The SLM Project was blended with PSAOP2 (closed June 30, 2011) and co-financed by IDA, IFAD, GEF, the Borrower, and local farmers' organizations.

#### Annex 2. Outputs by Component

and services in the target areas by adoptir of support to the Recipient's research a organizations	ng sustainable nd agricultur	e land managem al and rural co	nent practices throu nsultation system	igh the provision and to producer
Project Outcome Indicators	Baseline Value	Target	Actual Achievement	Level of Achievement
Indicator 1: Increase percentage of organic matter in the soil in target areas	0.2%	0.23%	2.29% <sup>7</sup>	Achieved
Indicator 2: Increase arable land with SLM practices in target areas	0%	20% (20,000 ha)	20% (20,066 ha)	Achieved
Indicator 3: Number of producers beneficiaries (men and women) <sup>8</sup>	-	-	26,257 (53% women)	Achieved

#### Table A2.1: Review of Achievement of PDO Indicators

**PDO:** To contribute to the reduction of land degradation and the improvement of ecosystem functions

The conclusions of an assessment of the achievement of intermediate performance indicators for the four main components of SLM are as follows.

Component A: Support to the Agricultural Research System (Satisfactory). For this component, implemented by ISRA, the intermediate outcome indicator was that at least three new technologies would be tested and proven successful by the end of the project. This indicator was fully achieved. The three technologies were: (i) building stone bunds and planting trees along isohyets to reduce water and wind erosion; (ii) planting multipurpose and salt-tolerant trees to restore and improve saline soils on agro-forestry-pastoral land; (iii) using ramial chipped wood (an organic amendment) to improve soil fertility. The results of the field demonstration were conclusive in terms of the technologies' impact on soil fertility improvement and yield (significant reduction of water erosion, recuperation of land, and improvement of soil productivity). The participation of producers in the development and testing of these technologies promises to encourage their adoption. The institutional support provided to ISRA allowed it to play a key role in generating and transferring SLM technologies. ISRA also conducted the biophysical characterization (mapping land degradation and classifying local flora and soils) and socioeconomic characterization of the eight rural communities participating in the project. These studies established baselines for assessing the impacts of the technologies generated or disseminated by the project. This work had some shortcomings, however. The biophysical characterization was done on time, but the soil analysis and socioeconomic study were delayed. At some field sites, demonstrations were not monitored at regular intervals, so it was more challenging to track and compare progress. Standard formats for collecting and reporting technical data from the field demonstrations should have been developed and used to facilitate wide dissemination of information about the successful technologies.

<sup>&</sup>lt;sup>7</sup> The percentage of soil organic matter in the target areas increased from 1.82 percent to 2.29 percent (an absolute increase of 0.47 percent and a relative increase of 25 percent). Although the soil organic matter values originally specified in the PAD were 0.20 percent for the baseline and 0.23 percent for the target, these values were averages derived for the groundnut basin in the 1990s. The biophysical study updated the baseline soil organic matter value in the target communities to 1.82 percent.

<sup>&</sup>lt;sup>8</sup>New core indicator added, so no target.

Component B: Strengthening Agricultural Advisory Services (Satisfactory). The intermediate outcome indicator for this component was the integration of SLM activities into the annual work plan of ANCAR in 8 Rural Councils within the project's target areas by the end of the project. This indicator was fully achieved. Overcoming the initial delay, ANCAR made strong progress, fully achieving 19 of 20 sub intermediate outcome indicators in the 2011 annual work plan and budget. The training by trainers was not fully completed (2 out of 3). For the subcomponent related to strengthening agricultural and rural services in SLM, 238 service providers were identified, classified, and included in a national database. Two SLM training sessions were organized to increase technical capacity among ANCAR staff and SLM service providers. For the subcomponent on promoting proven SLM techniques and practices at the farm level, 10 SLM technical datasheets were validated and disseminated over the project intervention area; the recommendations were related to tree nurseries, agro-forestry, live fencing, windbreaks, stone bunds, ramial chipped wood, composting (one and three pits), phosphate amendment, and fighting soil salinity. In total, 22 SLM technologies (with some variations) were demonstrated on farmers' fields, covering 382 hectares and including 1,357 producers, of whom 667 were women (49 percent). With the support of SLM service providers, ANCAR also disseminated 15 SLM technologies through a community demand-driven approach on an area of 438 hectares that included 1,377 producers, of which 446 were women (32 percent). ANCAR also organized 16 exchange visits for farmers, in addition to two study tours in Niger and Burkina Faso for 20 ANCAR agents. The agency organized 18 training sessions on SLM technologies for 2,600 producers, of whom 735 were women (28 percent). The training was much appreciated by the beneficiaries and helped the POs succeed in managing their SLM subprojects under Component C. The material support provided to the agency (5 vehicles, 5 laptop and 5 desktop computers, 3 cameras, and 3 projectors) improved staff mobility and the quality of training, in turn enabling the transfer of technologies to farmers.

The technical datasheets produced for the project urgently need to be updated and their quality improved. For wider impact, ANCAR's experience with SLM under the project should be scaled up to the national level.

**Component C - Support to Producer Organizations (Highly Satisfactory).** For this component, executed by ASPRODEB, the intermediate outcome indicator was that 30 subproject proposals submitted by POs to implement SLM technologies would be implemented by the end of the project. This target was exceeded; 36 SLM subprojects were successfully implemented. They addressed low soil fertility (13), water erosion (6), soil salinity, (5) wind erosion (3), and other issues, including the high consumption of wood and charcoal for cooking (9). The innovative aspect of this component was that it used a community demand-driven approach that made POs fully accountable for identifying their constraints, preparing SLM subprojects, and submitting them for approval and financing to ASPRODEB. This approach fostered strong motivation, commitment, and ownership of the subprojects among the POs and local authorities.

The POs had never managed such significant sums prior to the project (US\$ 60,000 on average per subproject). They took great pride in their successful and transparent management, which was the product of their own aptitude and the training provided under the project. Each subproject created a management committee; the 36 management committees (comprising 180 producers) and 8 CARs from ANCAR attended three-day capacity-building sessions organized by ASPRODEB, which covered financial management, disbursement, procurement, and accounting (justification of expenditures and classification of invoices). The participants greatly appreciated the training but expressed the wish that the training and course materials had been available in the

local language. All POs managing subprojects regretted that the SLM Project was not extended to the entire country through a second-phase.<sup>9</sup>

Under this same component, the CLCOPs organized several local workshops to increase communities' awareness of the subprojects and encourage their involvement, which had a high payoff. Thanks to the commitment and awareness induced by the project, some communities signed agreements to preserve their natural resources; the agreements included enforcement measures. A total of 216 local authorities and PO leaders, of whom 30 percent were women, participated in training on sectoral policy formulation and the local development plan. Representatives of ASPRODEB, ANCAR, INP, ISRA, the National Agricultural Credit Agency (Caisse Nationale de Crédit Agricole du Sénégal), POs, local authorities, and technical services participated in four of five planned exchange visits to Italy, Niger, Burkina Faso, and Mali. The POs particularly appreciated the opportunity and said that they had identified new technologies and practices that they tested and adopted in their communities.

Field visits revealed the great diversity, progress, and success of the SLM technologies used in the subprojects. The subprojects had a positive impact on soil fertility (soil organic matter rose by 25 percent) and extended the area available for cropping (19 hectares) through the restoration of saline soils. The technologies also increased production (millet yields rose by 300 kilograms per hectare; sorghum yields by 600 kilograms per hectare; and cowpea yields by 400 kilograms per hectare). Women valued the charcoal-saving and biogas stoves (Box A2.1), which reduced the gathering of fuelwood, giving women time to devote to more remunerative activities and alleviating the pressure on natural resources.

#### Box A2.1: Women valued the charcoal-saving and biogas stoves

Among all of the SLM technologies diffused through the project, women particularly appreciated the charcoal-saving stoves and biogas stoves. The important consideration with the biogas technology is to prevent cross-contamination between the food to be cooked and the manure used to produce the biogas.



This component of the project had other positive impacts on women, who said, for example, that they had become better informed about their land rights and as a result could take action to obtain land (see Box 2 in the main text). Women's engagement in the project was effective and much appreciated. For example, several women leaders of POs managed subprojects on SLM technologies that responded to women's specific needs, such as charcoal-saving stoves and fruit tree nurseries.

<sup>&</sup>lt;sup>9</sup> Beneficiaries' achievements are documented in the following videos: http://www.youtube.com/watch?v=Lxtyl3tj35Q (French version) and http://www.youtube.com/watch?v=AelCFXW6d2s (English version).

*Component D - Support to Sectoral Coordination (Satisfactory).* This component supported (i) INP's implementation of cross-sectoral coordination for SLM and (ii) the UCTF's coordination, management, monitoring, and evaluating of project activities. The main intermediate outcome indicator for this component was that a SIF for SLM would be approved by the end of the project. This outcome was fully achieved. A final national workshop was organized to validate the SIF in May 2012. The report was submitted to the Ministry of Agriculture and Rural Equipment and a brochure summarizing the main points was produced.

Cross-sectoral coordination improved because the project incorporated mechanisms for the implementing agencies and other stakeholders to collaborate, particularly on developing the SIF. In that process, INP worked with forestry, water management, and research institutions as well as NGOs and others. To foster greater sharing of knowledge related to SLM across sectors and institutions, INP developed SENCAT, a knowledge-based platform, and led a series of activities to expand the knowledge base for SLM and familiarize participants with the resources available. For example, INP organized workshops to test the World Overview of Conservation Approaches and Technologies<sup>10</sup> in the project areas, and INP staff received training in remote sensing at the Ecological Monitoring Center (Centre de Suivi Écologique), participated in training in project management, conducted information and awareness missions in other districts, visited the field to learn about the project's achievements, and made exchange visits to Niger and Mali. The INP developed a targeted communication plan improved awareness and information sharing among the project's stakeholders related to SLM concepts, principles, technologies, and strategies in the SIF. As part of this effort, it produced a number of flyers, brochures, and videos on SLM, in addition to other products. Work must still be done to make SENCAT more widely available through the internet. Strong ownership of the SIF by the ministries for agriculture and environment is the next challenge that INP needs to address for the SIF to be used in the crosssectoral Mid-Term Expenditure Framework.

The UCTF satisfactorily managed the flow of information between project components and with the Bank, maintained control of procurement and financial management, and managed M&E for the project. The Ministry of Agriculture chaired the project steering committee. The committee acquitted its mandated responsibilities to review the project's strategic and budgetary orientation through the annual work plan and budget of each implementing agency and the examination of the implementation status reports. Ultimately, however, the implementation support missions were the real instruments for monitoring and guiding the project, and the contribution of the president of the steering committee, the technical advisor of the Minister of Agriculture, was much appreciated.

<sup>&</sup>lt;sup>10</sup> WOCAT is an established global network of soil and water conservation specialists contributing to SLM.

#### Annex 3. Financial and Economic Analysis

The purpose of this analysis was to determine whether sustainable improvements in smallholders' agricultural production, productivity, and income, induced by the adoption of SLM technologies under the project, were financially and economically profitable in relation to the investments made.

#### **Financial Analysis**

The financial profitability of the project and of individual subprojects was determined based on the nominal costs and benefits. The **benefits** are mainly the increase in production attributed to the project, which was obtained by gathering data on the cropped area under SLM and yields for each crop (groundnuts, millet, rice, cowpeas, cassava, and maize) and year. The value of the additional production was calculated based on observed market prices for the commodities produced.

Investment costs are estimated at CFAF 306,570,673 for the first year, CFAF 906,790,079 for the second year, and CFAF 782,151,962 for the third year. They include costs related to training and sensitizing producers about SLM techniques, institutional support to implement the SIF, and technical assistance. Operating costs (obtained from DAPSA) included costs of land preparation, seed, fertilizer, plant protection products, post-harvest labor, construction, and small farm equipment. They were estimated at CFAF 30.000.988 for the first year. CFAF 1.050.713.686 for the second year, and CFAF 1,398,109,607 for the third year.

#### **Results of the financial analysis: Full project**

Net cash income was obtained by determining the difference between total revenue and total costs. A discount factor of 12 percent (based on the opportunity cost of capital) was used. The estimated NPV is CFAF 569,612,494, with an IRR of 95 percent, indicating that the project was financially profitable (Table A3.1).

Item	2010	2011	2012
Investment costs	326,570,673	906,790,079	782,151,962
Operating costs	30,000,988	1,050,713,686	1,372,641,145
Total costs	356,571,661	1,957,503,765	2,154,793,107
Total revenue	41,687,136	1,957,652,340	3,349,882,394
Cash flow	-314,884,525	148,574	1,195,089,288
NPV			569,612,494
IRR			95%

## Table A2 1. Financial profitability of the SIM Draiget

#### **Results of the financial analysis: Subprojects**

Technology: Demonstration of technology to reduce Striga helmonthica infestation. This technology, used on demonstration plots totaling 20 hectares in 2011 and 18 hectares in 2012, improves soil fertility and reduces Striga helmonthica infestations in millet, sorghum, and cowpeas. On average, millet yields increased by 300 kilograms per hectare, sorghum by 600 kilograms per hectare, and cowpeas by 400 kilograms per hectare. Costs of the technology

essentially consist of inputs (CFAF 15,000 per hectare) and labor (CFAF 10,000 per hectare). This subproject was financially viable, with an estimated NPV of CFAF 183,163 and an IRR of 30 percent (Table A3.2). The subproject helped to increase farm income and reduce poverty.

Table A5.2. Fillalicia	analysis of subproje	ct to control striga nenn	iontifica
Item	2010	2011	2012
Seed	0	13,760	10,760
Mineral fertilizer	0	550,000	450,000
Other inputs	0	550,000	270,000
Labor	0	220,000	450,000
Total cost	0	1,333,760	1,180,760
Total revenue	0	1,104,000	1,479,200
Cash flow	0	-229,760	298,440
NPV			183,163
IRR			30%

Table A3.2: Financial analysis of subproject to control Striga helmonthica

**Technology: Recovery of saline soil by using groundnut shells as a soil amendment.** The costs associated with implementing this subproject come from managing labor and acquiring equipment. The cost per hectare is estimated at CFAF 25,000. The benefits are the increase in area suitable for cropping (new cropland used) and reduced salinity. The community of Fimela used the technology on 11 hectares in 2011 and 19 hectares in 2012, and it improved cropped area and yields. The subproject was financially profitable, with an estimated NPV of CFAF 715,051 and an IRR of 50 percent (Table A3.3).

1	able AS.S. Fillalicial allalysis of su	oproject to recover same	
Item	2010	2011	2012
Seed	0	128,700	222,300
Fertilizer	0	445,500	807,500
Light equipment	0	4,950,000	
Labor	0	275,000	475,000
Total cost	0	5,799,200	1,504,800
Total revenue	0	3,162,500	5,462,500
Margin	0	-2,636,700	3,957,700
NPV			715,051
IRR			50%

Table A3.3: Financial analysis of subproject to recover saline soil

**Technology:** Assisted natural regeneration of soils and soil cover. This subproject to improve soil fertility and soil cover was implemented in the communities of Dealy, Diamagadio, Fimela, Latmingue, Méouane, Niakhar, Notto Diobass, and Touba Mosquée on more than 1,000 hectares in 2011 and 2012. The practices involved had several advantages: They diversified income sources, increased farm incomes through higher yields, increased wood production, improved food security, and increased ground cover. The costs consisted primarily of the cost of seed for reforestation and equipment (small tillers and machetes). The subproject was financially viable, with an estimated NPV of CFAF 1,780,612 and an IRR of 62 percent (Table A3.4).

Tuble ASI4. Tillallelar allarysis		cu natarar regeneration of	
Item	2010	2011	2012
Seed	0	11,264,000	11,264,000
Equipment	0	358,400	
Fertilizer	0	1,792,000	1,792,000
Total cost	0	13,414,400	13,056,000
Total revenue	0	8,448,000	21,120,000
Margin	0	-4,966,400	8,064,000
NPV			1,780,612
IRR			62%

Table A3.4: Financial analysis of subproject for assisted natural regeneration of soils and soil cover

**Technology: Application of phosphate fertilizer.** This subproject to increase soil fertility was implemented on more than 100 hectares in the communities of Dealy, Méouane, Niakhar, Notto Diobass, and Touba Mosquée. The main costs were purchased inputs (estimated at CFAF 30,000 per hectare), labor (CFAF 15,000 per hectare), and transportation (CFAF 10,000 per hectare). The application of phosphate increased yields and reduced termite and insect infestations of crops such as groundnuts. Between 2011 and 2012, on average groundnut yields increased by 800 kilograms per hectare and millet yields by 700 kilograms per hectare. The subproject was financially viable, with an estimated NPV of CFAF 388,190 and an IRR of 42 percent (Table A3.5). The subproject increased beneficiaries' incomes and contributed to poverty reduction.

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Item	2010	2011	2012
Seed	0	2,754,000	1,336,500
Other inputs	0	8,625,000	1,980,000
Fertilizer	0	3,128,000	1,518,000
Transport	0	1,150,000	660,000
Labor	0	1,725,000	990,000
Total cost	0	17,382,000	6,484,500
Total revenue	0	15,556,000	9,075,000
Margin	0	-1,826,000	2,590,500
NPV			388,190
IRR			42%

**Technology: Composting.** This subproject to increase soil fertility through composting covered about 200 hectares in 2011 and 2012 in the communities of Dealy, Méouane, Notto Diobass, and Touba Mosquée. The costs per hectare are estimated at CFAF 30,000 for small equipment, CFAF 50,000 for inputs, CFAF 25,000 for labor, and CFAF 10,000 for transportation. Yields increased on average by 450 kilograms per hectare for millet and 1,100 kilograms per hectare for groundnuts. The subproject was financially viable, with an estimated NPV of CFAF 926,630 and an IRR of 41 percent, which is well above the cost of financing investments, estimated at 12 percent (Table A3.6).

Item	2010	2011	2012
Small equipment	0	3,240,000	3,480,000
Other inputs	0	2,160,000	5,800,000
Labor	0	2,700,000	2,900,000
Seed	0	2,995,920	3,217,840
Fertilizer	0	3,393,000	406,000
Transport	0	1,080,000	1,160,000
Total cost	0	15,568,920	1,3340,000
Total revenue	0	11,097,000	19,650,400
Margin	0	-4,471,920	6,310,400
NPV			926,630
IRR			41%

Table A3.6: Financial analysis of subproject for composting

**Technology: Introduction of improved stoves.** This subproject, which provided improved stoves to reduce the use of fuelwood and women's domestic workload, involved 75 households in the community of Méouane. The implementation of the subproject halved household consumption of fuelwood, representing a savings of CFAF 7,500 per month and a 50 percent reduction in time devoted to collecting wood. The subproject was financially viable, with an estimated NPV of CFAF 1,197,916 and an IRR of 73 percent (Table A3.7).

Table A3.7: Financial analysis of subproject for introducing improved stoves

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Item	2010	2011	2012
Equipment	0	5,250,000	0
Revenue	0	1,350,000	6,750,000
Margin	0	-3,900,000	6,750,000
NPV			1,197,916
IRR			73%

**Technology: Introduction of biodigester.** This subproject used biodigesters to produce biogas and organic matter. Eight biodigesters were set up during the SLM Project, including four in the community of Méouane and four others in Notto Diobass. The technology increased the purchasing power of households by removing expenses related to the purchase of wood valued at CFAF 15,000 per month, gave women more time to engage in remunerative activities, and improved the health of women and children by reducing exposure to smoke from wood and charcoal fires. The subproject was financially viable, with an estimated NPV of CFAF 259,657 and an IRR of 50 percent (Table A3.8).

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Item	2010	2011	2012
Equipment	0	2,400,000	0
Revenue	0	1,440,000	1,440,000
Margin	0	-960,000	1,440,000
NPV			259,657
IRR			50%

Table A3.8: Financial analysis of subproject for introducing the biodigester

**Technology: Planning to prevent water erosion**. This subproject to reduce water erosion was implemented in the communities of Diamagadio, Latmingue, and Notto Diobass. The most important costs were labor and equipment. The subproject helped to increase arable land, improved the mobility of people and goods (protected roads), and reduced the risk that production would be lost. Despite these advantages, the financial analysis indicates that the subproject was not profitable for the first two years, with an estimated negative NPV of CFAF 3,105,548. With a time horizon of five years, however, the subproject becomes financially viable, with an estimated NPV of CFAF 1,696,150 and an IRR of 51 percent (Table A3.9).

Item	2010	2011	2012	2013	2014
Labor	0	6,400,000	0	0	0
Equipment		9,600,000	0	0	0
Total cost	0	16,000,000	0	0	0
Total revenue	0	5,174,400	7,761,600	8,043,840	7,239,456
Margin	0	-10,825,600	7,761,600	8,043,840	7,239,456
NPV					1,696,150
IRR					51%

Table A3.9: Financial analysis of subproject for planning to prevent water erosion

#### Comparative analysis of the financial profitability of some subprojects

A comparative analysis shows that the most financially profitable subprojects were the introduction of improved stoves, assisted natural regeneration, recovery of saline soils, application of phosphate fertilizer, and composting (Table A3.10). In contrast, planning to prevent water erosion would not become profitable as rapidly, although in the medium term, it would have an IRR of 51 percent.

Table A3.10: Com	parative analy	sis of financial	profitability	of subprojects
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Subprojects	NPV (CFAF)	IRR (%)
Striga helmonthica control	183,163	30
Recovery of saline soils	715,051	50
Assisted natural regeneration of soils and soil cover	1,780,612	62
Phosphate fertilizer	388,190	42
Composting	926,630	41
Introducing improved stoves	1,197,916	73
Introducing biodigester	259,657	50
Planning to prevent water erosion	1,696,150	51

#### **Economic Analysis**

The economic analysis considers the SLM Project's costs and benefits for society as a whole. The economic **costs** are primarily the investment and operating costs. As mentioned, in the first year the nominal cost of capital was CFAF 306,570,673, and operating costs were CFAF 30,000,988. It is assumed that the value added tax was paid on the purchase of certain goods and services; subtracting the tax from the nominal costs yields the economic costs of CFAF 267,787,952 for investment and CFAF 24,600,810 for operating costs.

The financial analysis assumes that land is provided for free, but the economic analysis uses the reference price of land, which is the value of the marginal productivity of land in the absence of the project. Given that the land produced no income before the project, the reference price is zero. The economic analysis also takes the opportunity cost of labor into account—the loss incurred by a firm when the workforce shifts from other sectors to the project. Given the glut of workers in the project areas, the opportunity cost of labor is assumed to be zero.

The economic **benefits** of the project are increased timber production, reduced risks related to natural disasters, improved access to basic social services and markets, increased crop yields, reduced costs of agricultural inputs such as fertilizer, increased forage production, the elimination of costs associated with buying fuelwood, and the time saved in cooking.

Insufficient data are available to estimate certain benefits, such as the increased value of timber or the reduced risks related to natural disasters, but data on crop yields can be used to estimate some of the project's economic benefits. The value of the increased production of groundnuts, millet, cowpeas, cassava, rice, and maize was calculated based on local market prices.

#### Results of the economic analysis

The implementation of the project was profitable from the point of view of society. Indeed, during 2009–13, the economic rate of return is estimated at 170 percent and the NPV is estimated at CFAF 875,709,733 (Table A3.11).

Tuble Adia Economic promability of the bein project				
Item	2010	2011	2012	
Investment	267,787,952	743,567,865	641,364,609	
Operating costs	24,600,810	1,050,713,686	1,372,641,145	
Total costs	292,388,762	1,799,324,551	2,014,005,754	
Total revenue	43,876,413	1,968,708,590	3,366,338,644	
Cash flow	-248,512,349	169,384,039	1,352,332,891	
NPV			875,709,733	
IRR			170 %	

#### Table A3.11: Economic profitability of the SLM project

#### The economic analysis of subprojects

**Technology: Introduction of improved stoves.** The economic costs associated with this subproject consisted mainly of equipment, while the economic benefits consisted of the time saved and increased purchasing power of households. The time savings were estimated at one

hour per household per day, equivalent to an hourly wage rate of CFAF 150. The increase in purchasing power arises from the savings on purchasing fuelwood, which on the basis of project documents are estimated to be CFAF 7,500 per month. The economic analysis shows that the project was economically viable, with an estimated NPV exceeding CFAF 9,000,000 (Table A3.12).

Table A3.12: Economic analysis of the subproject for improved stoves				
Item	2010	2011	2012	
Equipment	0	615,000	0	
Revenue	0	5,456,250	10,856,250	
Margin	0	4,841,250	10,856,250	
NPV			9,644,531	

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**Technology: Introduction of biodigesters.** This subproject increased the purchasing power of households by removing expenses related to the purchase of fuelwood (valued at CFAF 15,000 per month), increased the time available to engage in income-generating and other activities, improved the health of women and children (by reducing exposure to smoke from cooking fires), and reduced cooking time. The time savings are estimated at two hours per biodigester per day, valued at the average hourly wage rate of CFAF 150. The analysis considered only the benefits related to increased household purchasing power and increased time savings. The project was economically profitable, with an estimated NPV surpassing CFAF 5,000,000 (Table A3.13).

#### Table A3.13: Economic analysis of the subproject for biodigesters

Item	2010	2011	2012
Equipment	0	1,968,000	0
Revenue	0	5,600,000	5,600,000
Margin	0	3,632,000	5,600,000
NPV			5,762,963

## Annex 4. Bank Lending and Implementation Support/Supervision Processes

Names	Title	Unit	Responsibility/ Specialty
			Lending
Matteo Marchisio	Consultant	AFTN1	
Elisabeth Mekonnen	Program Assistant	LCC3C	
Manievel Sene	Sr. Rural Development Spec.	AFTA2	TTL
Supervision/ICR			
Amadou Alassane	Sr. Agricultural Spec.	AFTA1	
Demba Balde	Sr. Social Development Spec	AFTCS	
Taoufiq Bennouna	Sr. Natural Resources Mgmt. Spec.	MNSEN	
Agadiou Dama	Consultant	AFTA1	
Anta Tall Diallo	Program Assistant	AFCF1	
Saidou Diop	Sr. Financial Management Spec.	AFTMW	
Sidy Diop	Sr. Procurement Spec.	AFTPW	
Edward Felix Dwumfour	Sr. Environmental Spec.	AFTN1	
Maimouna Mbow Fam	Sr. Financial Management Spec.	AFTMW	
Soulemane Fofana	Sr. Rural Development Spec.	AFTA1	
Marie-Claudine Fundi	Language Program Assistant	AFTA1	
Ronnie W. Hammad	Sr. Operations Officer	ECSUW	
Denis Jean-Jacques Jordy	Sr. Environmental Spec.	AFTN3	
Florence Laure Richard	Jr. Professional Associate	AFTN1	
Fatou Fall Samba	Financial Management Analyst	AFTMW	
Jean-Philippe Tré	Sr. Agricultural Economist	AFTA1	TTL
Aifa Fatimata Ndoye Niane	Agricultural Economist	AFTAI	TTL

## (a) Task Team members

## (b) Staff Time and Cost

	Staff Time and Cost (Bank Budget Only)		
Stage of Project Cycle	No. of staff weeks	US\$ Thousands (including travel and consultant costs)	
Lending			
FY08	7.55	27.01	
FY09	30.70	98.46	
Total:	38.25	125.47	
Supervision/ICR			
FY10	2.58	7.07	
FY11	11.73	48.81	
FY12	12.09	34.11	
FY13	18.93	33.51	
Total:	45.33	123.50	

## **Annex 5. Beneficiary Survey Results**

The beneficiary survey was part of the Government ICR (Annex 7).

#### Annex 6. Stakeholder Workshop Report and Results

Although exceptional time constraints prevented the UCTF from organizing a stakeholder workshop,<sup>11</sup> the UCTF organized a workshop with ANCAR to review key achievements and challenges under the SLM Project and draw lessons and conclusions. Workshop participants thoroughly examined the key activities related to the project: (i) demonstrating SLM technologies in farmers' fields; (ii) building awareness, providing information, and training producers in SLM technologies and approaches; (iii) transferring and diffusing SLM technologies; (iv) conducting exchange visits with other rural communities within Senegal and with other countries; and (v) producing supporting materials and tools, such as technical recommendations and a technology database. Figure A6.1 presents images that capture some of ANCAR's activities to transfer SLM technologies.

The participants concluded that the activities were conducted successfully and contributed to the achievement of the PDO and outcome indicators. The workshop report highlighted that the project had accumulated valuable experience and knowledge related to SLM, had changed producers' behavior in relation to the environment, heightened awareness of the environment's importance in producers' daily lives, and fostered synergy among the actors involved in SLM. ANCAR also highlighted some of the issues encountered in implementation, such as initial delays in implementing activities in 2010, in finalizing terms of reference, and disbursement; the need for more equipment to fully capture achievements (GPS, camera, camcorder, for example); the heavy work agenda for agricultural and local advisors, who also had to support other components of the project; insufficient synergy between ANCAR and ISRA in some areas; and the need for better feedback from ANCAR headquarters to the zones. ANCAR also noted the need for follow-up measures to reinforce the sustainability of the SLM achievements.



Figure A6.1: Sustainable land management technologies transferred by ANCAR

<sup>&</sup>lt;sup>11</sup> The UCTF was closing two projects (SLM and WAAPP-1A) and starting another (WAAPP-2A).



ASPRODEB organized an assessment of the community demand-driven process used in implementing the SLM subprojects. The assessment, which was done by the participants themselves, was led by the CLCOPs and Rural Councils with assistance from two undergraduate students from the Ecole Supérieure d'Economie Appliquée. The POs, CLCOPs, and local authorities expressed their appreciation for the community demand-driven approach and its impacts. Figure A6.2 presents excerpts from the report on the assessment. Figure A6.3 presents the natural resource protection agreement adopted by one of the project communities.

ASPRODEB followed up with a final assessment workshop with the POs and CLCOPs to formulate the main conclusions and recommendations for the report. The subproject process consisted of three main stages: (i) preparation, including an awareness campaign, evaluation of land degradation, prioritization of subproject proposals at the local level, identification of POs to manage subproject based on predefined criteria, and creation of a management committee; (ii) development, review, and approval of the subprojects by ASPRODEB and definition of financing conditions; and (iii) implementation, including institutional arrangements and support to local expertise. For each of these three stages, the final assessment workshop analyzed the strengths, constraints, and recommendations for sustainability of the subprojects.

## Figure A6.2: Excerpts from the report on the beneficiaries' assessment of ASPRODEB's community demand-driven approach for SLM subprojects







- The project beneficiaries stated that the yield were higher in plots amended with phosphate and organic manure than in non-amended plots in *Touba Darou Rahmane* Rural Community.
- Before 3 ha cropped in millet could not yield even 1 ton. But now the 3 ha yielded a production equivalent to that of 11 ha because of the organic fertilizer (*Touba Boggo –Rural Community of Touba Mosquée*)



- During rainy season, access of cattle to pasture area is easier; pasture area is extended; no more divagation of cattle on farmers' fields; no more loss of cattle because of drowning, weeds coverage recovered thanks to the cordons of stones (*Keur Ndiangane – Rural Community of Diamagadio*).
- Proliferation of a new species of weed well appreciated by cattle "NGOKK" because of the reforestation and spread of peanut residue (village of NDOSS MBADIOCK- Niakhar Rural Community)



improved.





- Before the project, we spent FCFA 300 (USD 0.6) per day
  to buy firewood. Now with the use of improved stoves,
  just FCFA 100 (USD 0.2) of firewood is enough per day, our
  houses are cleaner, the fire risks with kids are lower
  (Touba Belel and Touba Bogo area- Rural Community of
  Touba Mosquée, Méouane area Rural Community of
  Méouane).
- Freshwater is available for both people and cattle because of the refection of the pond (*Sanghai area- Rural Community of Niakhar*)

#### Figure A6.3: Rural community convention for natural resource preservation

Région de Fatick Département de Fatick Arrondissement de Niakhar Communauté Rurale de Niakhar

PV Nº06/2011/CRN

#### EXTRAIT DE DELIBERATION Nº017

LE CONSEIL RURAL DE NIAKHAR

Vu la constitution ;

Vu la loi nº 96-06 du 22 mars 1996 portant Code des Collectivités Locales ;

Vu la loi nº 96-07 du 22 mars 1996 portant transfert de compétences aux régions, aux communes et Communautés Rurales

Vu le décret 80-268 du 10 mars 1980 portant sur l'organisation des parcours du bétail et de l'utilisation des pâturages Vu le décret 96-1122 du 27 décembre 1996 relatif à la convention type fixant les conditions et les Modalités d'utilisation des services extérieurs de l'Etat ;

Vu le décret 96- 1134 du 27 décembre 1996 portant application de la loi portant transfert de compétences aux régions, aux communes et aux communautés rurales en matière d'environnement et de Gestion des Ressources Naturelles ; Vu le décret 98-164 du 20 février 1998 portant application du code forestier ;

Vu le procès-verbal de la session du conseil rural de Niakhar en date du 31 décembre 2011

#### DELIBERE :

Article premier : La convention locale pour la Gestion Durable des Ressources Naturelles pour la Zone de Sanghaie est adoptée.

<u>Article2</u>: Cette délibération n'est exécutoire qu'après approbation du représentant de l'Etat. <u>Article 3</u> : Elle sera enregistrée, communiquée et publiée partout où besoin sera.

Approuvée le 16/01/2018

Le Sous-Préfét 1 Alhousseynou Diallo



Fait à Niakhar, le31//12/2011

Abdou Loumsement

## Annex 7. Summary of Borrower's ICR and/or Comments on Draft ICR RESUME EXECUTIF

Le présent rapport est une évaluation finale du projet pilote SN GEF-GDT (Gestion Durable des Terres) financé par un don du Fonds Mondial de l'Environnement (FEM) à travers la Banque Mondiale. Son objectif principal est i) de lutter contre la dégradation des sols, ii) d'accroître et soutenir la productivité agricole, et iii) de protéger et remettre en état les fonctions et services éco systémiques au niveau de la zone agro-écologique du bassin arachidier grâce à une gestion durable des terres serait intégrer dans toutes les politiques et stratégies de développement.

Rattaché au PSAOP 2, les activités proposées dans le cadre de ce projet s'articulent autour de ses quatre (4) composantes que sont : i) appui au Système de Recherche Agro-sylvopastorale, ii) Renforcement des Services de Conseil Agricole, iii) Appui aux Organisations de Producteurs et iv) appui à la Coordination Sectorielle.

Doté d'une enveloppe de 4,900 millions de dollars US (2,450 milliards de FCFA), le projet, prévu pour une durée de 30 mois, a connu une prolongation de six (6) mois et s'est déroulé de janvier 2010 à décembre 2012.

#### **Composante A**

Le renforcement de capacités de l'ISRA dans la mise en œuvre du projet a permis à l'Institut de jouer son rôle de pourvoyeur de techniques et technologies à transférer en milieu rural. Les études biophysiques réalisées dans les huit (8) CR ont permis une meilleure connaissance du milieu physique (végétation, sol, facteurs de dégradation des terres) et humain (systèmes de production et typologie des exploitations agricoles). Les tests sur les technologies de GDT menés dans différents sites ont été concluants. Ils ont permis de mettre en œuvre trois technologies portant sur : (i) la lutte contre l'érosion hydrique par la mise en place de cordons pierreux renforcés par la plantation en quinconce de ligneux le long des cordons (association cordons pierreux et haies vives isohypses), (ii) la récupération des terres salées grâce à la plantation d'espèces ligneuses à usages multiples et tolérantes à la salinité (*Melaleuca sp, Acacia seyal, Acacia tortilis, Acacia senegal ; Acacia nilotica...)* et (iii) l'amélioration de la fertilisation par le biais de l'utilisation des bois et fragments de rameaux (BRF) avec des espèces comme *Piliostigma reticulatum* (Nguis guis), *Combretum glutinosum* (Rate) et *Guiera senegalensis* (Nguer).

La participation des producteurs dans la conduite des tests a contribué à renforcer leurs capacités facilitant ainsi leur appropriation.

Par ailleurs, en rapport avec les autres partenaires, l'ISRA a conduit des études pédologiques et de cartographies afin de renseigner les indicateurs du cadre de résultats du projet.

Pour une meilleure prise en compte des résultats dans le portefeuille de technologies de GDT à diffuser, il est nécessaire d'élaborer des rapports détaillés sur la conduite des tests et démonstrations (description de la situation de référence, modalités technique et organisationnelle de mise en place etc...) et de procéder à leur large diffusion.

#### Composante B

Bien que n'ayant pas pu conduire d'activités la première année, l'ANCAR a rattrapé le gap et atteint les objectifs qui lui ont été assignés à travers les indicateurs de performance. Des répertoires des prestataires de services de CAR en GDT ont été élaborés au niveau des Directions Zonales et consolidés en un répertoire national. Une dizaine de fiches techniques sur la GDT ont été établies et validées au niveau national pour servir de support dans la vulgarisation des

technologies de GDT. A la suite du renforcement de capacités de son personnel technique, l'ANCAR a réussi ainsi à intégrer des activités de GDT dans les programmes de CAR au niveau des 8 CR cibles du projet. En effet au cours des deux années 2011 et 2012, des programmes de démonstrations, diffusions/transferts et formations ont été déroulés par les CAR sur la GDT. Globalement ces activités ont touché plus de 5.000 hommes et femmes des zones cibles du projet. Elles ont permis au niveau de ces différentes zones, l'adoption de diverses technologies de GDT permettant : (i) de lutter contre l'érosion hydrique et de récupérer des terres, (ii) de relever le niveau de fertilité des sols et améliorer les productions agricoles, (iii) de réduire la pression sur les ligneux avec l'introduction des foyers améliorés, (iv) d'atténuer l'effet néfaste du vent par des mises en défens et des bois villageois.

L'ANCAR doit procéder à une capitalisation du processus et des résultats relatifs à l'élaboration de fiches techniques afin de systématiser la GDT dans ses programmes de conseils et d'appui.

#### **Composante C**

La composante C est celle à qui il a été affecté plus de 50 % du financement. Elle comporte les activités essentielles de financement des activités de GDT des OP ainsi que tout le processus de socialisation et d'inclusion des acteurs du projet à travers les renforcements de capacités (formations, voyages d'études et visites d'échange, séances d'animation, d'information, de sensibilisation, etc.).

Du point de vue de la mise en œuvre des activités elle est arrivée à atteindre voir même dépasser tous les indicateurs du cadre de résultats fixés. C'est le cas du nombre de sous projet financés qui se situe à 36 sur un objectif fixé à 30, soit 120 %. La formation des élus et leaders d'OP a compté 214 personnes formées soit un taux de 107 %. Ils sont ainsi répartis : 80 élus dont 12 femmes (22,6%), 120 responsables d'OP dont 53 femmes (26,5%) et des agents de CAR (6) et ASCOM (8).

Les 36 sous projets ont été financés à la suite d'abord d'ateliers diagnostics réalisés de manière participative par tous les acteurs à la base au sein du Comité Technique Local. Ensuite s'en est suivit une priorisation des actions et enfin une formulation des sous projets tenant en compte des actions identifiées. Une OP a été retenue pour porter le sous projet ainsi qu'un Comité de Gestion (CG). Les membres du CG ont pu acquérir avec succès les techniques de gestion financière des projets notamment des procédures de décaissement, de dépenses, de préparation des justificatifs et de passation de marchés.

Les OP ont loué unanimement le caractère innovant de l'approche développée dans le projet. Durant tout le processus de mise en œuvre, les acteurs à la base ont été entièrement responsabilisés dans un cadre unitaire d'échanges, de partages et de synergie des actions avec le CR, les autorités administratives et les services techniques.

Elles apprécient à leur juste valeur les formations reçues sur les techniques et technologies de GDT, l'approche stratégique et la gestion financière, ainsi que diverses activités d'information, de sensibilisation et de visites d'échanges. Toutes ces connaissances sont de nature à créer les conditions d'une meilleure appropriation des outils, technologies pour un plaidoyer local et national sur la GDT.

La réalisation de toutes ces actions avec beaucoup de succès a suscité auprès des OP un engouement tel qu'ils appellent de tout leur vœux à une consolidation des acquis de la phase pilote et à un passage rapide à l'échelle du Projet.

#### **Composante Coordination Sectorielle**

La mise en œuvre du projet pilote GDT suivant l'architecture du PSAOP2 a pas été un pari osé mais avec un risque calculé du simple fait que le dispositif du PSAOP2 a fait ses preuves pendant plus d'une décennie et s'est bonifié au fil du temps. Il n'y a que l'INP qui a rejoint le dispositif avec un statut d'observateur pour assurer la coordination intersectorielle.

La mise en place et la validation du Cadre National d'Investissement Stratégique en GDT (CNIS/GDT) était le seul indicateur de cette composante. Il a été entièrement satisfait par une adoption au cours d'un atelier national. Afin d'en assurer la promotion auprès des Autorités gouvernementales, une stratégie de communication est envisagée à travers la diffusion d'un film, des brochures, des brèves, des plaquettes.

Le système d'informations sur les Approches et Techniques de GDT (SENCAT) est à ce jour en cours de développement et ne pourra pas être éprouvé avant la fin du projet. Une fois opérationnel, Il constituera un référentiel d'outils, d'approches et de technologies de mise en place des actions de GDT.

Concernant l'UTCF, elle s'est renforcée d'un Spécialiste en Passation de Marchés et d'un responsable technique et attend de l'être par un Responsable Administratif et Financier. Son personnel ainsi que ceux des composantes ont pu bénéficier de renforcements de capacités qui devraient se traduire dans la qualité des rapports fournis surtout sur des aspects d'analyse qualitative.

S'agissant de la synergie d'actions entre les composantes, l'UTCF devrait renforcer son rôle d'animation et d'impulsion de la dynamique de concertation et de partage.

En termes de suivi-évaluation, l'UCTF devrait définir, en relation avec les composantes, les données qualitatives (genre, nombre de bénéficiaires directs et indirects, etc...) à renseigner régulièrement pour amener plus de valeurs ajoutées aux rapports d'activités du projet.

L'objectif de développement (OD) du projet qui est de promouvoir l'adoption de pratiques de Gestion Durable des Terres (GDT) et d'améliorer les fonctions et services éco-systémique dans les zones prioritaires choisies dans le Bassin Arachidier a pu être satisfait. Les indicateurs de résultats du projet ont pu être satisfaits à 100% et plus.

S'agissant des critères de performances, les analyses montrent que le projet est pertinent tout en restant cohérent avec les objectifs et stratégies de développement de l'Etat. Du point de vue de l'efficience et l'efficacité, le projet a été jugé performant dans la mesure où l'ensemble des activités ont pu être déroulées et tous les indicateurs de résultats intermédiaires ont été satisfaits à plus de 100% avec les ressources programmées.

Tous ces résultats militent pour un passage rapide du projet à l'échelle en consolidant les acquis du projet pilote et en procédant à une couverture du territoire national pour combattre le phénomène de dégradation des terres et jeter les bases d'un développement durable du pays.

#### **Annex 8. Comments of Co-financiers and Other Partners/Stakeholders**

None.

#### **Annex 9. List of Supporting Documents**

ASPRODEB (Association Sénégalaise pour la Promotion du Développement à la Base). 2012. "Projet de Gestion Durable des Terres, Composante Appui aux Organisations de Producteurs : Synthèse des résultats de l'auto évaluation des projets des OP." Dakar.

Ministère de l'Agriculture et de l'Equipement Rural. 2012. "Rapport d'évaluation finale du Projet Pilote de Gestion Durable des Terres." Dakar.

Banque Mondiale - Projet de Gestion Durable des Terres (GDT). 2013. "Evaluation économique et financière."

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